

THE EFFECTIVENESS OF PSYCHOEDUCATIONAL INTERVENTIONS ON QUALITY OF
LIFE FOR FAMILY CAREGIVERS:
A SYSTEMATIC REVIEW AND META-ANALYSIS

A Dissertation
presented to
the Faculty of the Graduate School
at the University of Missouri-Columbia

In Partial Fulfillment
of the Requirement for the Degree
Doctor of Philosophy

by
RUNGNAPHA KHIEWCHAUM
Jo-Ana D. Chase, Ph.D., APRN-BC, Dissertation Advisor

DECEMBER 2020

The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

THE EFFECTIVENESS OF PSYCHOEDUCATIONAL INTERVENTIONS ON
QUALITY OF LIFE FOR FAMILY CAREGIVERS:
A SYSTEMATIC REVIEW AND META-ANALYSIS

Presented by Rungnapha Khiewchaum,
a candidate for the degree of Doctor of Philosophy,
and hereby certify that, in their opinion, it is worthy of acceptance.

Jo-Ana D. Chase, Ph.D., APRN-BC

Deidre D. Wipke-Tevis, Ph.D., RN

Vicki S. Conn, Ph.D., RN, FAAN

Kari R. Lane, Ph.D., RN, MOT

Jacquelyn Benson, Ph.D.

DEDICATION

*“It does not matter how slowly you go
so long as you do not stop”*

(The Chinese philosopher Confucius: 551 BC-479 BC)

My dissertation is dedicated to my family, my father and my mother who provided much needed support and understanding for my dream.

My sisters who assist me to take care my parents when I study in the U.S.

Paula Cochran who is the best American sister assisting and supporting me to survive while I encounter study challenges.

My colleagues at Rayong Hospital who support my Ph.D. journey.

ACKNOWLEDGEMENTS

I would like to thank Jo-Ana D. Chase, Ph.D., APRN-BC, Deidre D. Wipke-Tevis, Ph.D., RN, Vicki S. Conn, Ph.D., RN., FAAN, Kari R. Lane, Ph.D., RN, Sinclair School of Nursing, and Jacquelyn Benson, Ph.D., Department of Human Development and Family Science, University of Missouri, Columbia, for their support and navigation in writing this dissertation.

I would like to thank Ploypun Narindrarangkura M.D., Institute for Data Science & Informatics, University of Missouri, Columbia for her assistance in providing independent coding of the included studies in the meta-analyses; and Rebecca Graves, Health Science Library, University of Missouri, Columbia, for her assistance with supporting effective search terms and strategies for the literature searches included in the meta-analyses.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT.....	ix
CHAPTER ONE: INTRODUCTION	1
CHAPTER TWO: LITERATURE REVIEW	5
ABSTRACT.....	5
Background.....	5
Methods	7
Results	9
Discussion.....	12
References.....	18
Tables.....	25
Table 2.1. Quality Assessment: Risk of Bias	25
Table 2.2. Study Characteristics of Caregiver Interventions	27
Figure.....	37
Fig 2.1. PRISMA study selection flowchart	37
CHAPTER THREE: RESEARCH PROPOSAL	38

Specific Aims	38
Significance	40
Innovation	45
Approach.....	45
Limitations	52
CHAPTER FOUR: META-ANALYSIS	55
Abstract.....	56
Background.....	59
Methods	62
Results	65
Discussion.....	70
Conclusions.....	77
References.....	78
Table	90
Table 4.1. Study Characteristics of PEI Interventions.....	90
Figures	101
Fig 4.1. PRISMA study selection flowchart	101
Fig 4.2. Methodological quality assessment based on Jadad scale.	102
Fig 4.3. Forest plot of meta-analysis of PEIs on summary scores of QoL.....	103
Fig 4.4. Funnel plot to detect publication bias for summary scores of QoL	104

CHAPTER FIVE: SUMMARY AND CONCLUSIONS	105
Diversity of Intervention Characteristics.....	106
Meta-analysis of Quality of Life Outcomes	108
Limitations	109
Conclusions.....	110
Future Plan.....	110
COMPREHENSIVE REFERENCES	111
APPENDIX A: CODEBOOK.....	120
APPENDIX B: SUPPLEMENTARY FIGURES.....	325
Fig S1. Forest plot of meta-analysis of PEIs on summary scores of QoL (outlier)	325
Fig S2. Forest plot of meta-analysis of PEIs on physical well-being.....	326
Fig S3. Forest plot of meta-analysis of PEIs on psychological well-being (outlier) ..	327
Fig S4. Forest plot of meta-analysis of PEIs on psychological well-being	328
Fig S5. Forest plot of meta-analysis of PEIs on social well-being	329
Fig S6. Forest plot of meta-analysis of PEIs on environment well-being.....	330
VITA.....	331

LIST OF TABLES

TABLES	PAGE
Table 2.1. Quality Assessment: Risk of Bias.....	25
Table 2.2. Study Characteristics of Caregiver Interventions.....	27
Table 4.1. Study Characteristics of PEI Interventions.....	90

LIST OF FIGURES

FIGURE	PAGE
Fig 4.1. PRISMA study selection flowchart.....	101
Fig 4.2. Methodological quality assessment based on Jadad scale.....	102
Fig 4.3. Forest plot of meta-analysis of PEIs on summary scores of QoL.....	103
Fig 4.4. Funnel plot to detect publication bias for summary scores of QoL.....	104
Fig S1. Forest plot of meta-analysis of PEIs on summary scores of QoL (outlier).....	325
Fig S2. Forest plot of meta-analysis of PEIs on physical well-being.....	326
Fig S3. Forest plot of meta-analysis of PEIs on psychological well-being (outlier).....	327
Fig S4. Forest plot of meta-analysis of PEIs on psychological well-being.....	328
Fig S5. Forest plot of meta-analysis of PEIs on social well-being.....	320
Fig S6. Forest plot of meta-analysis of PEIs on environment well-being.....	330

LIST OF ABBREVIATIONS

ABBREVIATION	EXPLANATION
<i>CI</i>	confidence interval
<i>d</i>	standard mean difference
CGs.....	caregivers
I^2	I-squared
<i>k</i>	comparison
<i>LL</i>	lower limit
<i>n</i>	sample size
PEIs.....	psychoeducational interventions
PI.....	principal investigator
<i>Q</i>	Cochrane's Q
QoL.....	quality of life
RCTs.....	randomized controlled trials
<i>s</i>	studies
SD.....	standard deviation
SMD.....	Standardized mean difference
<i>UL</i>	Upper limit

THE EFFECTIVENESS OF PSYCHOEDUCATIONAL INTERVENTIONS ON QUALITY OF
LIFE FOR FAMILY CAREGIVERS:
A SYSTEMATIC REVIEW AND META-ANALYSIS

Rungnapha Khiewchaum

Jo-Ana D. Chase, Ph.D., APRN-BC, Dissertation Advisor

ABSTRACT

Background: Caregivers (CGs) of older adults with chronic illnesses often face consequences of caregiving that negatively impact their quality of life (QoL).

Objective: To examine the overall effect of psychoeducational interventions (PEIs) on QoL among CGs of older adults with chronic illnesses, including dementia, stroke, and cancer.

Design: We conducted a systematic review and meta-analysis of published or unpublished randomized controlled trials testing the effects of PEIs on QoL among CGs of older adults with chronic illnesses. We located studies using electronic databases including PubMed, CINAHL, Scopus, and PsycINFO as well as alternative search strategies including hand searches.

Data extraction and quality assessment: Two coders independently extracted data related to the study purpose, participant characteristics, intervention characteristics, and QoL outcomes, and compared their work for accuracy. The methodological quality of eligible studies was assessed by using the Jadad tool.

Data synthesis: We conducted meta-analyses on summary scores of QoL and the following QoL domains: physical, psychological, social, and environment well-being. Standardized mean difference effect sizes (d) were calculated using final post-intervention data and then synthesized using a random effects model. Heterogeneity was assessed with Cochran's Q statistic and I^2 statistic. Publication bias was evaluated by using the funnel plot and Egger's regression test.

Results: We identified 27 eligible randomized controlled trials with a total of 3,154 CGs. PEIs had significant and positive effects on summary scores of QoL ($d=0.508$, 95% CI [0.253, 0.762], $p < 0.001$) and social well-being ($d=0.306$, 95% CI [0.088, 0.525], $p = 0.006$). However, the effect sizes of PEIs showed no statistically significant improvement on physical well-being, psychological well-being, and environment well-being.

Conclusion: PEIs for CGs of older adults with chronic illness significantly improved summary scores for QoL and social well-being, but not other QoL domains. It is recommended that future studies testing the effects of PEIs on QoL should be theory-driven, should assess CGs' knowledge, skills, and needs, and should consider interdisciplinary intervention. Future meta-analyses should consider examining the overall effect size of PEIs on various consequences of caregiving, such as depression and anxiety.

CHAPTER ONE: INTRODUCTION

The number of people aged 65 or older in the U.S. is expected to reach almost 90 million by 2050 (AARP & NAC, 2020). Many older adults have chronic medical conditions and require either home-based care or institutional care. In the U.S., much home-based care of older adults with chronic conditions is provided by unpaid family members. The percentage of home-based, CGs providing unpaid care in the U.S., rose over the last five years from 22% of CGs in 2015 to 26% of CGs in 2020 (AARP & NAC, 2020). CGs often assist in caring for older adults who have suffered strokes or have chronic illnesses such as cancer or dementia. However, the decline in cognitive and physical functioning and behavioral problems among care-recipients presents caregiving challenges, especially for CGs who may be unprepared for the caregiving role (Corry, Neenan, Brabyn, Sheaf, & Smith, 2019; Rigby, Ashwill, Johnson, & Galvin, 2019). Adverse physical and emotional health issues resulting from caregiving roles have been identified (Corry et al., 2019; Rigby et al., 2019) such as depression, anxiety, exhaustion, and poor quality of life (QoL) (Li, Lin, Xu & Zhou, 2018). Numerous studies have tested the effectiveness of intervention in improving QoL when CGs care for older adults with chronic conditions. An effective intervention should address a caregiver's particular needs (e.g., their caregiving knowledge, their need for emotional support, or their need for coping strategies) (Berwig et al., 2017; Wilz, Reder, Meichsner, & Soellner, 2018).

There is a growing body of caregiver intervention research intended to inform healthcare providers to improve the outcomes of caregiver intervention. However, there are at least four barriers that healthcare providers must overcome in the search for effective CG intervention. These are 1) variety of interventions – healthcare providers do not know which ones are effective 2) limited time to review all the CG intervention possibilities; 3) limited resources for trying

several interventions. Healthcare providers need to know what is likely to be effective in advance. So, implementation of CG intervention is likely to be complex because of the diversity of available interventions, insufficient time for health care providers in reviewing individual studies, and the limitations of policy and cost (Ganeshkumar, Arun Kumar, & Rajoura, 2011). The fourth barrier for healthcare providers is the challenge of tailoring CG intervention to individual needs. Many interventions have been developed and studied, because they were based on CGs' background characteristics (e.g., ethnicity, age, gender, work, caregiving experience) (Grossman, Zak, & Zelinski, 2018).

Psychoeducational interventions (PEIs) incorporate both psychological and/or educational strategies to help CGs. For example, psychological interventions might include problem-solving or coping strategies (Boots, de Vugt, Kempen, & Verhey, 2018) and educational interventions usually include increasing caregiving knowledge (e.g., practice of nursing skills, techniques of stress management) (Belgacem et al., 2013; Berwig et al., 2017; Ekhtiari, Rezapour, Aupperle, & Paulus, 2017). PEIs combine illness-specific knowledge (e.g., information about dementia or cancer) and tools for addressing caregiving-related situations (Lukens & McFarlane, 2004). Thus, PEIs are often selected by healthcare providers to address caregiving challenges by providing proactive information (e.g., expected care issues surrounding dementia) (Kwok et al., 2013) and improving caregiver QoL.

Many PEIs have as their goal to improve QoL for CGs. QoL refers to perceived physical, psychological, social, and environmental well-being over time (WHO, 1996). Research on the impact of PEIs on QoL is extensive but it has had varied results (L. Northouse et al., 2014). Studies of PEI effects have demonstrated inconsistent results on CGs' QoL outcomes. To complicate matters even more, a wide variety of PEIs have been included in the studies. Variance

in effect on QoL outcomes for CGs may result from intervention and participant characteristics and study design. Consequently, individual study differences may account for variations in intervention effects (Cheng, Chair, & Chau, 2014; Jensen, Agbata, Canavan, & McCarthy, 2015). In addition, the context and situations in which PEIs were delivered and by whom also vary from study to study. So many variables and diverse outcomes make an efficient review of the literature very difficult for healthcare providers in the absence of systematic review and/or meta-analysis.

Systematic reviews are a type of literature review designed to systematically synthesize the information from a variety of research studies. Meta-analysis can make use of the information from systematic reviews to statistically examine the results of a large number of previous studies and derive one set of conclusions. Meta-analysis can help healthcare providers quickly determine which PEIs, for example, are most likely to be effective for their patients/CGs. The variation of intervention effects observed across studies can be addressed by using systematic review and meta-analytic approaches because of creating a pool estimate from a weighted average of the findings across individual studies (Cooper, 2017). Also, variance across studies may be statistically combined by using meta-analytic methods (Tang, Caudy, & Taxman, 2013). Thus, meta-analytic methods can also manage and further examine issues related to study-to-study variations and their effects on QoL outcomes.

Previously, some systematic reviews and meta-analyses have examined the effect of PEIs to improve QoL outcomes for CGs. However, they focused on CGs who cared for only cancer patients (Waldron, 2011; Wang et al., 2017). Other meta-analyses only emphasized specific forms of PEIs, such as online training (Sherifali et al., 2018; Zhao et al., 2019), group support (Chien et al., 2011), and cognition-based training (Leung, Orgeta, & Orrell, 2017); consequently, wide opportunity of PEIs that could impact QOL was excluded from the analysis. In addition,

between 2009 and 2019, a large number of randomized controlled trials (RCTs) of PEIs were published, and RCTs quickly increased. As a result, these recent studies have not yet been synthesized to determine PEI effects on QoL among CGs of older adults with chronic illnesses.

This dissertation describes research on the overall effect of PEIs on CGs' QoL outcomes. The scoping review in Chapter 2 describes a diversity of characteristics of PEIs designed to improve the health and well-being of CGs: use of theory, types of interventions, delivery formats, dosages of interventions, and interventionists. To address gaps identified from the literature review for Chapter 2, we conducted a systematic review and meta-analysis to capture and combine the broad possibility of available published and unpublished primary studies related to PEIs effects specifically on QoL for CGs. We statistically combined the results of several PEIs into one report. Meta-analytic methods are especially beneficial to quantitatively synthesize data, providing a direction and magnitude of PEI effects on QoL measures. Chapter 3 details the methodology of the meta-analysis and Chapter 4 describes the study results and discussion in manuscript format. Chapter 5 summarizes of how findings from this study will inform recommendations for evidence-based strategies to improve QoL of CGs for older adults with chronic illnesses.

CHAPTER TWO: LITERATURE REVIEW

INTERVENTIONS TO IMPROVE HEALTH AND WELL-BEING AMONG FAMILY CAREGIVERS OF OLDER ADULTS WITH CHRONIC ILLNESSES: A SCOPING REVIEW

Khiewchaum, R., & Chase, J.D. (2020). *Interventions to improve Health and Well-being among Family Caregivers of Older Adults with Chronic Illnesses: A Scoping review.*

ABSTRACT

Caregivers (CGs) of older adults with chronic illnesses often face challenges that harm their health and well-being. Evidence-based strategies are needed to address such outcomes. This study aims to synthesize interventions designed to improve the health and well-being of CGs of older adults with chronic illnesses. Search strategies include investigating four databases (e.g., PubMed and CINAHL), as well as conducting bibliographic, hand, and author searches. Eligible studies were randomized controlled trials conducted between 2009 and 2019 that included CGs of chronically ill adults aged 65 and older and that reported caregiver health or well-being outcomes. Data from the 24 eligible studies were extracted, analyzed, and narratively synthesized. However, intervention characteristics were diverse (e.g., strategies and interventionists), most improved health and well-being. Thus, providers have available an array of interventions to help CGs. Future caregiver research should examine theory-driven interventions among diverse samples, clearly report intervention dose, and measure physical health.

Background

In the United States, 74% of CGs provide paid care for older adults (AARP & National Alliance for Caregiving, 2020), and 60% of such CGs report being unprepared for the role

(Affinito & Louie, 2018). Twenty-three percent of CGs are more likely to have cardiovascular disease and 27% report low QoL after assuming the role due to the stress or burden of their responsibilities (Alves, Teixeira, Azevedo, Duarte, & Paúl, 2016). Low-income family caregiver health can negatively affect patient outcomes (Erlen et al., 2019). These issues are international, with the worldwide aging population projected to increase 50% to approximately 1.2 billion by 2050 (United Nations, 2019). Fortunately, healthcare providers can address family caregiver health and well-being through various interventions.

The growing body of caregiving intervention research can inform healthcare providers with up-to-date knowledge for improving outcomes. However, implementing these strategies is complicated by the diversity of existing literature, clinicians' limited time to review individual studies, and the limitations of policy and cost (Ganeshkumar et al., 2011). The complexity of caregiving makes caregiver-focused interventions diverse. Healthcare providers may need to tailor interventions to CGs' background characteristics, including experiences, needs, age, gender, and work (Grossman et al., 2018), as well as specific caregiving needs (Lund et al., 2014). According to the Committee on Family Caregiving for Older Adult (2016), interventions may include diverse components and strategies (e.g., knowledge and skill training; problem-solving strategies). Additionally, they may be delivered in varied doses (e.g., duration and number sessions) and formats (e.g., verbal, written or telephone) (Lund et al., 2014). Interventionists also vary by discipline and experience. These difficulties highlight the need for a synthesis of the literature that provides recommendations for providers regarding evidence-based solutions to address caregiving challenges (Gopalakrishnan & Ganeshkumar, 2013).

Numerous systematic reviews and meta-analyses have examined interventions to address health and well-being among CGs of older adults with particular chronic conditions such as

cancer and dementia (Li, Cooper, Austin, & Livingston, 2013; Waldron, Janke, Bechtel, Ramirez, & Cohen, 2013). Even though previous reviews examined associations between caregiver interventions and health and well-being, insufficient evidence exists describing how such interventions affect CGs' health and well-being. Furthermore, numerous randomized controlled trials (RCTs) of caregiver interventions were published between 2009 to 2019. No synthesis yet describes intervention characteristics concerning their efficacy in improving the health and well-being of CGs. Thus, this scoping review examines recent interventions designed to improve health and well-being among CGs for older adults with chronic illnesses. This study's findings will inform recommendations for evidence-based strategies. Our research question was: What are the characteristics of the current body of interventions designed to improve health and well-being among CGs of older adults with chronic illnesses?

Methods

Search Strategy

This scoping review used the Preferred Reporting Items for Systematic Review and Meta-Analysis guidelines and checklist (Moher et al., 2015). We developed the search strategy for this scoping review in consultation with an expert reference librarian to reduce the bias of narrow and limited searches (Cooper, 2017). An online search was completed of four databases (PubMed, CINAHL, PsycINFO, Scopus) for articles published from January 1, 2009, to November 30, 2019. Search terms included "chronic illness," "non-communicable diseases," "intervention," "caregiver," "carer," "well-being," "aged," "older adults," "elderly," and "trial." Other strategies included: 1) bibliographic searches; 2) hand searches; 3) author searches; and 4) conference abstract searches.

Eligibility Criteria and Study Selection

Eligible studies met the following inclusion criteria: a) intervention targeted CGs age 18 or older caring for adults age 65 or older with chronic illnesses and who live in the same or different places as the older adult; b) intervention was designed to improve CGs' physical symptoms (e.g., headache and fatigue) or psychological distress (e.g., QoL, depression, stress, and burden); c) caregiver health and well-being outcomes (e.g., physical or psychological outcomes) measured as the primary or secondary outcome; d) RCT study design; e) published in English. Excluded from the study were interventions targeting caregiver self-management of their own chronic conditions, such as hypertension and cancer.

Figure 2.1 depicts our process for screening and selecting studies. EndNoteX9.2 was used to manage citations. The initial search produced 3,396 citations. Duplicate citations were removed, leaving 3,152 citations for the title and abstract screening. Then, 263 full-text articles that were initially assessed as potentially eligible were retrieved. After further assessment, 239 articles were excluded because of nonrandomized study design (n=77), participants (care-recipient) ages <65 years (n=34), interventions focused on care recipients (n=124), not published in English (n=4). Twenty-four articles met the inclusion criteria for this scoping review.

Data Management and Analysis

A narrative approach was used to extract and synthesized information from eligible studies such as authors, published year and country, sample characteristics, study characteristics, and intervention characteristics (e.g., use of theory, types of interventions). Each study was assessed for quality to strengthen our review's validity (Jüni, Altman, & Egger, 2001). Assessing the quality of controlled clinical trials includes internal and external validity (Campbell, 1957). Thus, we employed the Cochran Collaboration tool. For each dimension's criteria for risk of

bias, we assessed studies as “Low” (e.g., having allocation concealment and blinding participants and personnel) or “High” (e.g., no allocation concealment and blinding participants and personnel) or “Unclear” (e.g., the study reported having allocation concealment but did not explain the method for it). Quality assessments of the 24 included studies are listed in Table 2.1.

Results

Sample Characteristics

Sample sizes ranged from 23 to 230 participants. Eighty-eight percent of studies had fewer than 100 participants. The mean age of participants ranged from 45 to 70 years. Most studies were conducted in North America, with other locations including South America, Europe, and Asia.

Study Characteristics

Study characteristics are summarized in Table 2.2 Publication years ranged from 2011-2019. Twelve studies showed power estimates to determine sample size, and 11 studies used intention-to-treat analysis. Five studies reported percent attrition, which ranged from 10% to 25%. Four studies reported an effect size (small (0.2) to medium (0.7) effect) with sample sizes sufficiently powered to detect differences between groups.

Intervention Characteristics

Use of theory. Only two studies used a theory-driven intervention, and both showed significant improvement in CGs’ health (Brewster et al., 2019; Chen, Huang, Yeh, Huang, & Chen, 2015). Two studies used stress-and-coping theories focusing on cognitive and behavioral responses to events affecting the participant’s well-being (Brewster et al., 2019; Chen et al., 2015). The Savvy Caregiver program, a psychoeducational intervention for CGs of dementia patients, used stress-and-coping theories focused on understanding the effects of chronic stress.

Two components of the theories were primary and secondary appraisal (cognitive processes) related to behavioral responses to stressful situations affecting a person's well-being (Brewster et al., 2019). This Savvy Caregiver program provided caregiving skills and strategies to develop positive cognitive-behavioral responses that reduced depression, anxiety, and stress while CGs cared for dementia patients. Based on a coping theory describing patterns for positive and negative coping strategies, Chen et al (2015) developed coping strategy interventions to reduce caregiver burdens. The intervention provided dementia education, support resources, emotional support, and techniques to manage disruptive behaviors. This intervention trained CGs to: 1) manage caregiving stressors by controlling or changing stressful circumstances; and 2) manage emotional responses to stressors. The study demonstrated that caregiver intervention using a coping theory can address caregiving burdens. Although some studies measured CGs' self-efficacy, the investigators did not describe how self-efficacy theory related to the intervention (Boots, de Vugt, Kempen, & Verhey, 2018; Boyacioglu & Kutlu, 2017)

Types. Intervention strategies were either psychoeducational, educational-only, or counseling-only (Table 1). Psychoeducational approaches (eight studies) included 1) education; 2) counseling; and 3) psychological support for caregiving challenges. Educational topics (nine studies) included caregiving skills, knowledge, and self-care (Dowling et al., 2014; Steffen & Gant, 2016). Counseling interventions (three studies) included providing cognitive-behavioral strategies and skills such as identifying and challenging dysfunctional thoughts, setting reasonable goals, training behavior modification, scheduling selected leisure activities, and tracking mood (Gonyea, López, & Velásquez, 2016; Moore et al., 2013). Psychological support (four studies) included problem-solving coping strategies (e.g., addressing how individuals acquire new behaviors, setting realistic goals and brainstorming solutions) (Erlen et al., 2019)

Delivery. Intervention delivery included varied formats that were sometimes combined (e.g., verbal, face-to-face, written, telephone, and online). Face-to-face delivery was the most common format. Online delivery (four studies) was used for multiple reasons: 1) tailoring to CGs' preferences for distance-mediated delivery due to geography or the care recipients' needs (Boots, de Vugt, Kempen, & Verhey, 2018); and 2) providing CGs with convenient access to resources (Duggleby et al., 2018; Jimenez, Schulz, Perdomo, Lee, & Czaja, 2019). Chen and Lee (2011) demonstrated that an intervention delivered via multiple formats (e.g., verbal, face-to-face, hands-on training, group, and individual formats) improved quality of life (QoL) among CGs. In contrast, a web-based psychoeducational intervention that included video and online formats did not significantly reduce CGs' stress (Cristancho-Lacroix et al., 2015).

Interventionists. Interventionists varied, and some studies included more than one interventionist type. The most common approach was to utilize multiple interventionists from diverse disciplines. For example, the Dementia Family Care Program (Chien & Lee, 2011) was provided by nurses, physicians, social workers, and a psychiatrist. The intervention involved assessing caregiver needs (e.g., the client's illness condition and the development of social relationships with close relatives and friends), formulating individualized education based on caregiver needs and problems, discussing caregiving challenges, and providing psychological support and problem-solving (Chien & Lee, 2011). Other research confirms that caregiver interventions delivered by interventionists from various disciplines can improve QoL among CGs. For example, PEIs delivered by nurses reduced caregiver burden when nurse interventionists facilitated identification of needed resources, engaged and mobilized the resources, and provided access to resources by CGs (Boyacioglu & Kutlu, 2017).

Dose. Intervention dose varied considerably, with sessions lasting from 10 to 180 minutes. The number of sessions ranged from 3 to 24. The frequency of sessions per week ranged from 0.125 to 4. Intervention duration ranged from 4 to 52 weeks.

Caregiver outcomes. Health and well-being were measured using various instruments. Nineteen studies indicated statistically significant improvement for CGs' health and well-being in intervention groups compared to corresponding control groups. Psychological well-being outcomes included caregiver burden, depression, anxiety and overall QoL. However, only four studies measured CGs' physical symptoms: 1) sleep quality (Cristancho-Lacroix et al., 2015; Oken et al., 2010); 2) D-dimer and Interleukin-6 (IL-6) (Moore et al., 2013); and cortisol (Waelde, Meyer, Thompson, Thompson, & Gallagher-Thompson, 2017). Data collection time points varied across studies. The most distal point of outcome data in 24 studies collected after interventions ranged from 0 (Boots et.al, 2018) to 18 months (Chien & Lee, 2011).

Discussion

This scoping review summarizes interventions designed to improve health and well-being outcomes among CGs of older adults with chronic conditions. Intervention characteristics (e.g., types of interventions, delivery formats, dosage, interventionists, and measurement tools) varied considerably across studies. Nevertheless, most of the included studies demonstrated positive health and/or well-being outcomes among CGs. Findings from this review highlight several vital areas that can inform future research and clinical practice.

When developing caregiver interventions, it is important to integrate theory (Teel & Leenerts, 2005). However, few studies in this review tested theory-driven interventions. A previous systematic review suggested that theory-driven interventions can improve intervention quality and effects (Northouse, Katapodi, Song, Zang & Mood, 2010). Theory-driven

interventions not only contribute to better caregiver outcomes (Heath, Cooke, & Cameron, 2015) but also reduce the probability of isolated findings (Northouse, Katapodi, Song, Zang & Mood, 2010). Future research should examine theory-driven interventions to increase our understanding of the mechanisms of interventions' effects. Nurses may consider targeting specific theoretical constructs (e.g., coping, stress, self-efficacy, problem-solving, and self-care) to help CGs to cope with related stress and burden.

A majority of studies combined multiple intervention strategies. Similarly, a previous systematic review indicated that targeted interventions were often combined to create multicomponent interventions addressing caregiving challenges (Cheng, Au, Losada, Thompson, & Gallagher-Thompson, 2019). Psychoeducational strategies (e.g., CGs' knowledge, resources, and coping strategies) used in eight studies showed significant improvement in health and well-being, which is consistent with prior research (Chi, Demiris, Lewis, Walker, & Langer, 2016). PEIs provide psychological and educational support that benefit CGs managing challenges of that work. Training nurses in diverse psychoeducational strategies may improve their ability to deliver such interventions. Future interventions may choose to include diverse psychoeducational strategies; however, additional research is needed to determine which strategies may be associated with greater effects.

Studies employed a variety of delivery formats and some combined multiple formats. Most studies used a verbal format and face-to-face visits consistent with a previous systematic review of intervention effects in cancer CGs. In that study, face-to-face visits were 70% of interventions, with telephone delivery representing 20%, and group formats occurring least frequently (Northouse, Katapodi, Song, Zang & Mood, 2010). Studies often combined face-to-face interventions with phone calls (Northouse, Katapodi, Song, Zang & Mood, 2010).

Telephone or other distance-mediated delivery strategies, such as the internet or mobile phone applications, are likely to increase because these formats can reduce cost and increase accessibility for CGs (Cheng et al., 2019). Thus, healthcare providers accustomed to face-to-face visits could consider using various delivery formats to supplement such encounters and enhance intervention effects. For example, healthcare providers could first take part in face-to-face sessions with patient-caregiver dyads to ensure that caregiving tasks are completed correctly (e.g., modeling and then observing a caregiver provide wound care); then use technology (e.g., telehealth (video) and telephone (audio only)) to follow up.

Intervention dose, which includes session metrics (length, number, frequency, duration), varied across studies. Dose may vary depending on the stage of patients' diseases (Elvish, Lever, Johnstone, Cawley, & Keady, 2013). The task of determining dose is complicated by the difficulty of knowing what is effective or appropriate for CGs' varied needs (Boots, de Vugt, Van Knippenberg, Kempen, & Verhey, 2014; Hudson, Remedios, & Thomas, 2010; Laver, Milte, Dyer, & Crotty, 2017). Therefore, providers should tailor intervention duration to caregiver characteristics (e.g., age, education, or availability) and to their needs for training and support. Intervention doses should be specific and adaptable to both clinical and nonclinical settings (Teel & Leenerts, 2005).

Multiple interventionists (e.g., nurses, social workers, physicians) often deliver interventions to address caregiving issues. A previous systematic review highlighted nurses as the primary providers of such interventions, with various combinations of professionals providing one-fifth of interventions (Northouse, Katapodi, Song, Zang & Mood, 2010). This review's findings showed that nurses could improve positive caregiver outcomes; however, an interdisciplinary team of healthcare providers may contribute expertise that addresses the

complex challenges CGs face as they tend to older adults with chronic conditions. Although nurses can play a central role in managing resources dealing with a range of caregiver challenges (e.g., finances, caregiving knowledge, psychological support), they should receive training for and engage in an interdisciplinary team approach to caregiver interventions.

We noted important methodological weaknesses across the studies. For example, sample sizes generally were small, leading to a lack of power to detect significant intervention effects. Power estimates and percent attrition are important for determining sample size (Jones, Carley, & Harrison, 2003). However, only one-half of studies presented power estimates, and just a few studies reported percent attrition. Thus, future research should report power estimates and percent attrition to help providers and researchers determine the number of participants needed in a study. Clear descriptions of intervention characteristics are essential to methodological rigor. However, some studies that showed significant improvement lacked detailed accounts of intervention content, doses, and delivery, and interventionists. Investigators should report details of intervention characteristics and caregiver outcomes, which are crucial for assessing and replicating intervention effects. The most distal data collection time point was 18 months (Chien & Lee, 2011). Most studies assessed caregiver outcomes soon after the intervention was completed. Short-term evaluation does not inform providers or researchers about long-term effects on CGs' health and well-being. We recommend along with Piersol (2017) that researchers should collect data at least one-year post-intervention. Even though several studies examined CGs' well-being, few reports looked at physical health outcomes. Examining intervention effects not only on CGs' physical health but also well-being would provide greater insight into associations between these important clinical outcomes.

Strength and Limitations

This scoping review has significant limitations. A majority of the included studies had small samples, resulting in insufficient power to detect significant intervention effects (Faber & Fonseca, 2014). Limitations of the generalizability of this review's findings include: 1) inclusion of RCT studies published only in English, which might exclude CGs published in other languages and in unpublished studies; 2) most included studies focused on female CGs; and 3) underrepresentation of racial and ethnic groups. Few studies collected longitudinal data, limiting the ability to determine long-term intervention effects. Most studies focused on psychological health and well-being, and little research studied physical health. However, this study had important strengths. For example, all included studies used RCT design, which produces a high level of evidence supporting the efficacy of caregiver interventions to improve caregiver health and well-being. Furthermore, the varied settings in this review (home, family health center, memory clinics, community outpatient clinics, hospital geriatric unit) increase the applicability of our results to CGs across clinical and nonclinical settings.

Conclusion

The findings of this scoping review suggest that interventions improved CGs' health and well-being. Our findings can help guide clinical practice, future research, and health policy as providers and researchers seek effective and appropriate interventions for CGs. Future research to improve CGs' health and well-being should employ theory-driven interventions, combined delivery formats, interdisciplinary teams, and appropriate measures of caregiver outcomes. Research reports should clearly describe intervention dose. It is essential to develop interventions that effectively promote the health and well-being of these vital members of the health care team.

Funding

The project was supported by the Toni and Jim Sullivan Endowed Research Fund and Philanthropic Educational Organization (P.E.O.) International Peace Scholarship.

Acknowledgments

Many thanks to Deidre D. Wipke-Tevis, Vicki S. Conn, Kari R. Lane, and Jacquelyn Benson for useful suggestions in the development of the study report.

References

- AARP and National Alliance for Caregiving. *Caregiving in the United States 2020*. Washington, DC: AARP. May 2020. <https://doi.org/10.26419/ppi.00103.001>
- Affinito, J., & Louie, K. (2018). Positive coping and self-assessed levels of health and burden in unpaid caregivers of patients with end stage renal disease receiving hemodialysis therapy. *Nephrology Nursing Journal*, *45*(4), 373-380.
<http://proxy.mul.missouri.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c9h&AN=131366620&site=eds-live&scope=site>
- Alves, S., Teixeira, L., Azevedo, M. J., Duarte, M., & Paúl, C. (2016). Effectiveness of a psychoeducational programme for informal caregivers of older adults. *Scandinavian Journal of Caring Sciences*, *30*(1), 65-73. doi:10.1111/scs.12222
- Boots, L., de Vugt, M. E., Van Knippenberg, R., Kempen, G., & Verhey, F. (2014). A systematic review of Internet-based supportive interventions for caregivers of patients with dementia. *International Journal of Geriatric Psychiatry*, *29*(4), 331-344.
- Boots, L. M., de Vugt, M. E., Kempen, G. I., & Verhey, F. R. (2018). Effectiveness of a blended care self-management program for caregivers of people with early-stage dementia (partner in balance): randomized controlled trial. *Journal of Medical Internet Research*, *20*(7), e10017. doi:10.2196/10017
- Boyacioglu, N. E., & Kutlu, Y. (2017). The effectiveness of psychoeducational interventions in reducing the care burden of family members caring for the elderly in Turkey: a randomized controlled study. *Archives of psychiatric nursing*, *31*(2), 183-189. doi:10.1016/j.apnu.2016.09.012

- Brewster, G. S., Epps, F., Dye, C. E., Hepburn, K., Higgins, M. K., & Parker, M. L. (2019). The effect of the "Great Village" on psychological outcomes, burden, and mastery in African American caregivers of persons living with dementia. *Journal of Applied Gerontology : the official journal of the Southern Gerontological Society*, 733464819874574. doi:10.1177/0733464819874574
- Campbell, D. T. (1957). Factors relevant to the validity of experiments in social settings. *Psychological Bulletin*, 54(4), 297.
- Chen, H. M., Huang, M. F., Yeh, Y. C., Huang, W. H., & Chen, C. S. (2015). Effectiveness of coping strategies intervention on caregiver burden among caregivers of elderly patients with dementia. *Psychogeriatrics*, 15(1), 20-25. doi:10.1111/psyg.12071
- Cheng, S.-T., Au, A., Losada, A., Thompson, L. W., & Gallagher-Thompson, D. (2019). Psychological interventions for dementia caregivers: What we have achieved, what we have learned. *Current Psychiatry Reports*, 21(7), 59. doi:10.1007/s11920-019-1045-9
- Chi, N.-C., Demiris, G., Lewis, F. M., Walker, A. J., & Langer, S. L. (2016). Behavioral and educational interventions to support family caregivers in end-of-life care: A systematic review. *American Journal of Hospice and Palliative Medicine®*, 33(9), 894-908.
- Chien, W. T., & Lee, I. Y. (2011). Randomized controlled trial of a dementia care programme for families of home-resided older people with dementia. *Journal of Advanced Nursing*, 67(4), 774-787. doi:10.1111/j.1365-2648.2010.05537.x
- Committee on Family Caregiving for Older Adults, Board on Health Care Services, Health and Medicine Division & National Academies of Sciences, Engineering, and Medicine. (2016). Programs and supports for family caregivers of older adults. In R. Schulz, & J.

- Eden (Eds.), *Families Caring for an Aging America*. National Academies Press (US).
<https://www.ncbi.nlm.nih.gov/books/NBK396394/#reflist5>
- Cooper, H. (2017). *Research synthesis and meta-analysis: A step-by-step approach*. Sage Publications.
- Cristancho-Lacroix, V., Wrobel, J., Cantegreil-Kallen, I., Dub, T., Rouquette, A., & Rigaud, A. S. (2015). A web-based psychoeducational program for informal caregivers of patients with Alzheimer's disease: A pilot randomized controlled trial. *Journal of Medical Internet Research, 17*(5), e117. doi:10.2196/jmir.3717
- Dowling, G. A., Merrilees, J., Mastick, J., Chang, V. Y., Hubbard, E., & Moskowitz, J. T. (2014). Life enhancing activities for family caregivers of people with frontotemporal dementia. *Alzheimer Disease and Associated Disorders, 28*(2), 175-181.
doi:10.1097/WAD.0b013e3182a6b905
- Duggleby, W., Ploeg, J., McAiney, C., Peacock, S., Fisher, K., Ghosh, S., Markle-Reid, M., Swindle, J., Williams, A., Triscott, J.A., Forbes, D., & Jovel Ruiz, K. (2018). Web-based intervention for family carers of persons with dementia and multiple chronic conditions (My Tools 4 Care): Pragmatic randomized controlled trial. *Journal of Medical Internet Research, 20*(6), e10484. doi:10.2196/10484
- Elvish, R., Lever, S.-J., Johnstone, J., Cawley, R., & Keady, J. (2013). Psychological interventions for carers of people with dementia: A systematic review of quantitative and qualitative evidence. *Counselling and Psychotherapy Research, 13*(2), 106-125.
- Erlen, J. A., Sereika, S. M., Sun, R., Tamres, L. K., Tang, F., & Lingler, J. H. (2019). Outcomes of a problem-solving medication management intervention for informal caregivers.

Western Journal of Nursing Research, 41(11), 1642-1657.

doi:10.1177/0193945919825844

Faber, J., & Fonseca, L. M. (2014). How sample size influences research outcomes. *Dental Press Journal of Orthodontics*, 19(4), 27-29. doi:10.1590/2176-9451.19.4.027-029.ebo

Ganeshkumar, P., Arun Kumar, S., & Rajoura, O. P. (2011). Evaluation of computer usage in healthcare among private practitioners of NCT Delhi. *Studies in health technology and informatics*, 169, 960-964.

Gonyea, J. G., López, L. M., & Velásquez, E. H. (2016). The effectiveness of a culturally sensitive cognitive behavioral group intervention for Latino Alzheimer's caregivers. *The Gerontologist*, 56(2), 292-302. doi:10.1093/geront/gnu045

Gopalakrishnan, S., & Ganeshkumar, P. (2013). Systematic reviews and meta-analysis: Understanding the best evidence in primary healthcare. *Journal of Family Medicine and Primary Care*, 2(1), 9-14. doi:10.4103/2249-4863.109934

Grossman, M. R., Zak, D. K., & Zelinski, E. M. (2018). Mobile apps for caregivers of older adults: Quantitative content analysis. *JMIR Mhealth Uhealth*, 6(7), e162. doi:10.2196/mhealth.9345

Heath, G., Cooke, R., & Cameron, E. (2015). A theory-based approach for developing interventions to change patient behaviours: A medication adherence example from paediatric secondary care. *Healthcare (Basel, Switzerland)*, 3(4), 1228-1242. doi:10.3390/healthcare3041228

Hudson, P. L., Remedios, C., & Thomas, K. (2010). A systematic review of psychosocial interventions for family carers of palliative care patients. *BMC Palliative Care*, 9(1), 17.

- Jimenez, D. E., Schulz, R., Perdomo, D., Lee, C. C., & Czaja, S. J. (2019). Implementation of a psychosocial intervention program for working caregivers. *Journal of Applied Gerontology : the official journal of the Southern Gerontological Society*, 38(9), 1206-1227. doi:10.1177/0733464817748777
- Jones, S. R., Carley, S., & Harrison, M. (2003). An introduction to power and sample size estimation. *Emergency Medicine Journal*, 20(5), 453. doi:10.1136/emj.20.5.453
- Jüni, P., Altman, D. G., & Egger, M. (2001). Systematic reviews in health care: Assessing the quality of controlled clinical trials. *British Medical Journal (Clinical research ed.)*, 323(7303), 42-46. doi:10.1136/bmj.323.7303.42
- Laver, K., Milte, R., Dyer, S., & Crotty, M. (2017). A systematic review and meta-analysis comparing carer focused and dyadic multicomponent interventions for carers of people with dementia. *Journal of Aging and Health*, 29(8), 1308-1349.
- Li, R., Cooper, C., Austin, A., & Livingston, G. J. I. P. (2013). Do changes in coping style explain the effectiveness of interventions for psychological morbidity in family carers of people with dementia? A systematic review and meta-analysis. *International Psychogeriatrics* 25(2), 204-214. doi:10.1017/S1041610212001755
- Lund, D. A., Utz, R. L., Caserta, M. S., Wright, S. D., Llanque, S. M., Lindfelt, C., Shon, H., Whitlatch, C. J., & Montoro-Rodriguez, J. (2014). Time for living and caring: An intervention to make respite more effective for caregivers. *International Journal of Aging & Human Development*, 79(2), 157-178. doi:10.2190/AG.79.2.d
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L. A., & PRISMA-P Group (2015). Preferred reporting items for systematic

- review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic reviews*, 4(1), 1. doi: 10.1186/2046-4053-4-1
- Moore, R. C., Chattillion, E. A., Ceglowski, J., Ho, J., von Kanel, R., Mills, P. J., Ziegler, M.G., Patterson, T.L., Grant, I., & Mausbach, B. T. (2013). A randomized clinical trial of Behavioral Activation (BA) therapy for improving psychological and physical health in dementia caregivers: Results of the Pleasant Events Program (PEP). *Behaviour Research and Therapy*, 51(10), 623-632. doi:10.1016/j.brat.2013.07.005
- Northouse, L. L., Katapodi, M. C., Song, L., Zhang, L., & Mood, D. W. (2010). Interventions with family caregivers of cancer patients: Meta-analysis of randomized trials. *CA: A Cancer Journal for Clinicians*, 60(5), 317-339.
- Oken, B. S., Fonareva, I., Haas, M., Wahbeh, H., Lane, J. B., Zajdel, D., & Amen, A. (2010). Pilot controlled trial of mindfulness meditation and education for dementia caregivers. *Journal of Alternative and Complementary Medicine*, 16(10), 1031-1038. doi:10.1089/acm.2009.0733
- Steffen, A. M., & Gant, J. R. (2016). A telehealth behavioral coaching intervention for neurocognitive disorder family carers. *International Journal of Geriatric Psychiatry*, 31(2), 195-203. doi:10.1002/gps.4312
- Teel, C. S., & Leenerts, M. H. (2005). Developing and testing a self-care intervention for older adults in caregiving roles. *Nursing Research*, 54(3).
https://journals.lww.com/nursingresearchonline/Fulltext/2005/05000/Developing_and_Testing_a_Self_Care_Intervention.7.aspx

Waelde, L. C., Meyer, H., Thompson, J. M., Thompson, L., & Gallagher-Thompson, D. (2017).

Randomized controlled trial of inner resources meditation for family dementia caregivers.

Journal of Clinical Psychology, 73(12), 1629-1641. doi:10.1002/jclp.22470

Waldron, E. A., Janke, E. A., Bechtel, C. F., Ramirez, M., & Cohen, A. (2013). A systematic

review of psychosocial interventions to improve cancer caregiver quality of life. *Psycho-*

Oncology, 22(6), 1200-1207. doi:10.1002/pon.3118

Tables

Table 2.1. Quality Assessment: Risk of Bias

Authors, year	Selection Bias		Performance Bias		Detection Bias	Attrition Bias
	Random Sequence Generation	Allocation Concealment	Blinding of Participants	Blinding of Personnel	Blinding of outcome Assessors	Complete Outcome Data
Agren et al., 2015	Low	High	High	High	High	Low
Arango-Lasprilla et al., 2014	Low	High	High	High	High	Unclear
Boots, de Vugt, Kempen, & Verhey, 2018	Low	High	High	Low	Low	High
Boyacioglu & Kutlu, 2017	Low	High	Low	High	High	Low
Brewster et al., 2019	Low	High	High	High	Low	High
Bruvik, Allore, Ranhoff, & Engedal, 2013	Low	High	High	Low	Low	Low
Chen, Huang, Yeh, Huang, & Chen, 2015	Low	Low	High	High	High	Unclear
Chien & Lee, 2011	Low	Low	High	High	High	Low
Cristancho-Lacroix et al., 2015	Low	High	High	High	High	Low
Dowling, Merrilees, Mastick, Hubbard, & Moskowitz, 2014	Low	High	High	High	High	Low
Duggleby et al., 2018	Low	Low	High	High	High	High
Erlen et al., 2019	Low	High	High	High	Low	Low
Garand et al., 2014	Low	High	High	High	High	Low
Gonyea, Lopez, & Velasquez, 2016	Low	High	High	High	High	Low
Jimenez, Schulz, Perdomo, Lee, & Czaja, 2019	Low	High	High	High	Low	Low
Joling et al., 2012	Low	High	High	High	Low	Low
Lee, Sung, & Kim, 2012	Low	High	High	High	High	Unclear
Mavandadi, Wright, Graydon, Oslin, & Wray,	Low	High	High	High	High	High

Authors, year	Selection Bias		Performance Bias		Detection Bias	Attrition Bias
	Random Sequence Generation	Allocation Concealment	Blinding of Participants	Blinding of Personnel	Blinding of outcome Assessors	Complete Outcome Data
2017						
Moore et al., 2013	Low	High	High	High	Low	High
Oken et al., 2010	Low	High	High	High	Low	Low
Steffen & Gant, 2016	Low	Low	Low	High	Low	Low
Waelde, Meyer, Thompson, & Gallagher-Thompson, 2017	Low	High	High	High	High	Low
Yilmaz, Aşiret, Çetinkaya, OludaĖ, & Kapucu, 2019	Low	High	High	High	High	High
Zabalegui, Galisteo, Navarro, & Cabrera, 2016	Low	High	High	High	High	High

“Low” = Low risk of bias; “High” = High risk of bias; “Unclea

Table 2.2. Study Characteristics of Caregiver Interventions (s=24)

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
Agren et al., 2015, Sweden	Treatment group: n=25, 84% female; mean age (SD) 67 (7) Control group: n=17, 94% female; mean age (SD) 66 (8)	Not specified	<ul style="list-style-type: none"> • Home • 12 weeks • Verbal, written, telephone, face to face, and patient-caregiver dyad • Family caregivers in the intervention group received psycho-educational support at 2-4 weeks after discharge and they were invited to share their experiences, discuss situations that caused stress, and also to talk about possible effects on their relationship and their mutual need for support. • Standard care • Physician, nurse, and physiotherapist 	Outcome measure(s): <ul style="list-style-type: none"> • Caregiver Burden Scale (CBS) • Dutch Objective Burden Inventory (DOBI)
Arango-Lasprilla et al., 2014, Colombia	Treatment group: n=39, 87.2% females, age means (SD) 59.4 (10.8) Control group: n=30, 87.2% females (%), age means (SD) 55.1 (11.2)	Not specified	<ul style="list-style-type: none"> • Classroom • Unclear • Verbal, written, face to face, and group • Cognitive-behavioral strategies is used to manage negative feeling within the context of caregiving, including relaxation, identification and challenging of dysfunctional thoughts, the use of positive self-statements, and assertiveness. These skills were created in a structured classroom format in 6-10 family caregivers per group. • Attention control (e.g., an education program of equal duration (8 weeks) and time commitment (2 hours/week) • Local outreach worker, interviewer, and class leader 	Outcome measure(s): <ul style="list-style-type: none"> • Zarit Burden Interview (ZBI) • Satisfaction With Life Scale (SWLS) • Perceived Stress Scale (PSS) • Patient Health Questionnaire 9 (PHQ-9) modified to measure caregiver depression
Boots, de Vugt, Kempen, & Verhey, 2018, Netherlands	Treatment group: n=41, 70.7% females, age means (SD) 67.8 (10.2) Control group: n=40, 60 %females, age	Not specified	<ul style="list-style-type: none"> • Home • 8 weeks • Verbal, face to face, online, group, and individual • The blended care self-management program consists of: 1) a personal coach to familiarize participants with set goals, and select preferred module themes; 2) tailored online thematic 	Outcome measure(s): <ul style="list-style-type: none"> • Centre for Epidemiological Studies Depression Scale (CES-D) • Quality of Life (ICECAP-O)

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
	means (SD) 70.2 (10.1)		<ul style="list-style-type: none"> modules, and 3) a face-to-face evaluation session with the coach evaluating previously set goals. • Waiting list group—Usual care • Psychologist and nurse 	<ul style="list-style-type: none"> • Perceived Stress Scale (PSS) • Hospital Anxiety and Depression Scale (HADS-Anxiety) • Pearlin Mastery Scale (PMS) (psychological well-being)
Boyacioglu & Kutlu, 2017, Turkey	<p>Treatment group: n=33, 97% females, age means (SD) 49.72 (10.75)</p> <p>Control group: n=33, 84.9% females, age means (SD) 52.06 (8.23)</p>	Not specified	<ul style="list-style-type: none"> • Family health center • Home • Unclear • Verbal, face to face, individual • Comprehensive psycho-educational intervention includes a structured program with continuing education and counseling, psychological support and motivation • Routine care • Nurse • Zarit Burden Interview (ZBI) • Cognitive Emotion Regulation Questionnaire (CERQ) 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Zarit Burden Interview (ZBI) • Cognitive Emotion Regulation Questionnaire (CERQ)
Brewster et al., 2019, USA	<p>Psychoeducation group: n=41, 95.1% females, age means (SD) 55.4 (9.3)</p> <p>Psychoeducation with exercise group: n=48, 79.2% females, age means (SD) 53.5 (9.7)</p> <p>Attention control: n=53, 84.9% females, age means (SD) 56.3 (10.0)</p>	Stress and Coping	<ul style="list-style-type: none"> • Home • Unclear • Written, telephone, video, face to face, individual, hand on training • Discussing how family caregivers integrate caregiving arrangement and highlighted their diverse patterns of family structure and how that dynamic may differ among families based on the structure. • Exercise program (e.g., individually prescribed aerobic and resistance exercise) • Attention control (e.g., nutrition education and flexibility and stretching exercise, and written handouts with information) • Exercise specialist and nutrition specialist 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • PROMIS Emotional Distress—Depression • PROMIS Emotional Distress—Anxiety • Zarit Burden Interview (ZBI) • Pearlin Mastery Scale (PMS)
Bruvik, Allore, Ranhoff, &	Treatment group:	Not specified	<ul style="list-style-type: none"> • Home • 52 weeks 	Outcome measure(s):

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
Engedal, 2013, Norway	n=115, 77% females, age means (SD) 64.1 (12.2) Control group: n=115, 77% females, age means (SD) 62.9 (11.4)		<ul style="list-style-type: none"> • Written, telephone, face to face, group, patient-caregiver dyad, and seminar • Three components of interventions include education program, group meetings, and workshop • Standard care • Nurse and occupational therapist 	<ul style="list-style-type: none"> • Cornell Scale for Depression in Dementia (CSDD) • Geriatric Depression Scale (GDS)
Chen, Huang, Yeh, Huang, & Chen, 2015, Taiwan	Treatment group: n=24, 62.5% females, age means (SD) 54.8 (15.1) Control group: n=22, 72.7% females, age means (SD) 55.1 (11.1)	Coping strategies	<ul style="list-style-type: none"> • Home • 12 weeks • Verbal, face to face, and individual • Six sessions (e.g., knowledge of dementia, available support resources, techniques to manage disruptive behaviors or cognitive difficulty, teaching relaxation techniques and emotional support, and establishing a caregiver self-support system) • Standard care • Nurse 	Outcome measure(s): <ul style="list-style-type: none"> • Caregiver Burden Inventory (CBI) • Revised Ways of Coping Checklist (WCCL-R)
Chien & Lee, 2011, Hong Kong	Treatment group: n=46, 67.4% females, age means (SD) 44.9 (8.5) Control group: n=46, 65.2% females, age means (SD) 45.6 (9.2)	Not specified	<ul style="list-style-type: none"> • Home • 20 weeks • Verbal, face to face, hand on training, group, and individual • Assessing caregiver needs and preparing program: 1) knowledge about client's illness condition; 2) developing social relationship; 3) sharing and adaptation of the emotional impact of caregiving; 4) learning about self-care and motivation; 5) improvement of interpersonal relationships between family members and patients; 6) establishing support from community groups and healthcare resources; and 7) improvement of home care and finance skills. • Routine care 	Outcome measure(s): <ul style="list-style-type: none"> • World Health Organisation Quality of Life Measure- Brief Version (WHOQoL-BREF) • Family Caregiving Burden Inventory (FCBI) • Neuropsychiatric Inventory Questionnaire (NPI)

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
Cristancho-Lacroix et al., 2015, France	<p>Treatment group: n=25, 64.0% females, age means (SD) 64.2 (10.3)</p> <p>Control group: n=24, 67.0% females, age means (SD) 59.0 (12.4)</p>	Cognitive theories of stress	<ul style="list-style-type: none"> • Psychiatrist, social worker, and nurse • Home • 12 weeks • Video and online • Intervention provides: 1) caregivers' beliefs about the illness and the caregiving role; 2) caregivers' skills to manage daily life difficulties; 3) caregivers' social support and help-seeking behavior to obtain respite or financial support, and to meet and discuss with peers through a forum. • Usual care • Researcher 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Perceived Stress Scale (PSS-14) • Memory and Behavior Problems Checklist (RMBPC)—Caregivers' strain • Zarit Burden Interview (ZBI) • Caregiving Self-Efficacy (RSCS)—Controlling upsetting thoughts • Beck Depression Inventory (BDI-II) • Nottingham Health Profile (NHP)—Social isolation and sleep quality • Visual Analog Scale (VAS)—Stress
Dowling, Merrilees, Mastick, Hubbard, & Moskowitz, 2013, USA	<p>Treatment group: n=12, 75.0% females, age means (SD) 59.42 (7.57)</p> <p>Control group: n=11, 63.6% females, age means (SD) 59.73 (9.12)</p>	Not specified	<ul style="list-style-type: none"> • Home • 6 weeks • Verbal, written, face to face, and hand on training • Intervention includes: 1) positive events and gratitude; 2) mindfulness; 3) positive reappraisal; 4) personal strengths and attainable goal; and 5) altruistic behavior/acts of kindness—doing for others • Interview control session and home practice include: 1) an interview and did not have any didactic portion or skills practice; and 2) each session based on a theme (e.g., life 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Differential Emotions Scale (DES) • Center for Epidemiologic Studies Depression Scale (CES-D) • Neuropsychiatric Inventory (NPI) • Perceived Stress Scale (PSS) • Zarit Burden Interview (ZBI)

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
			history, health history, diet and exercise, social networks, and meaning and spirituality)	
Duggleby et al., 2018, Canada	<p>Treatment group: n=101, 78.0% females, age means (SD) 63.4 (12.2), 92.0% Caucasian</p> <p>Control group: n=98, 84.0% females, age means (SD) 63.9 (11.1)</p>	Not specified	<ul style="list-style-type: none"> • Researcher • Home • 12 weeks • Video and online • Intervention includes six sections: 1) about me; 2) common changes to expect; 3) frequently asked questions; 4) resources; 5) important health information; and 6) calendar. • Usual care • Researcher 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Short Form-12 item (version 2)
Erlen et al., 2019, USA	<p>Report all participants and did not separate between Treatment and control group:</p> <p>Treatment and control group: n=83, 69.9% females, age means (SD) 66.9 (3.4), 85.5% Caucasian</p>	Not specified	<ul style="list-style-type: none"> • Home • 8 weeks • Patient-caregiver dyad • Intervention includes medication management and problem-solving (e.g., addressing how individuals acquire new behaviors and applying when circumstances vary) • Usual care • Nurse and social worker 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Short Form-36 • Problem Solving Inventory (PSI)
Garand et al., 2014, USA	<p>Treatment group: n=36, 77.7% females, age means (SD) 66.4 (8.0), 97.2% Caucasian</p> <p>Control group: n=37, 78.3% females, age means (SD) 63.4 (13.7), 100% Caucasian</p>	Not specified	<ul style="list-style-type: none"> • Home • 4 weeks • Verbal, written, telephone, and face to face • Intervention includes: 1) writing a clear description of the problem; 2) setting a realistic goal; 3) brainstorming solutions; 4) listing pros and cons of each solution; 5) choosing a solution; 6) developing an action plan; and 7) evaluating progress. • Attention-control condition includes: 1) information session (e.g., the structure of the sessions; MCI or dementia, an overview of the dietary guidelines; 2) discussion and education session about the major food categories, 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Center for Epidemiological Studies Depression scale (CES-D) • State Trait Anxiety Inventory (STAI) • Positive Problem Orientation (PPO) • Negative problem orientation (NPO)

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
Gonyea, Lopez, & Velasquez, 2016, USA	Treatment group: n=33, 97.0% females, age means (SD) 55.91 (12.95), 45.5% Puerto Rican Control group: n=34, 94.1% females, age means (SD) 55.5 (13.59), 47.1% Puerto Rican	Not specified	discretionary calories, and tips and resources for menu planning. <ul style="list-style-type: none"> • Social workers • Home • 12 weeks • Verbal, telephone, group, patient-caregiver dyad, and individual • Intervention includes: 1) learning setting reasonable goals and practicing behavior modification techniques to make success in their goal; 2) increasing caregivers' and care recipients' engagement in pleasant activities; 3) the use of problem-solving exercises in both groups and individual. • Attention-control condition includes: 1) educating caregivers about topics such as memory loss and the general progression of Alzheimer's disease, tips to finding community resources, strategies for working with doctors, home safety issues, and communication in the context of Alzheimer's. • Researcher and physician 	Outcome measure(s): <ul style="list-style-type: none"> • Neuropsychiatric Inventory-Severity scale (NPI-S) • Neuropsychiatric Inventory-Distress scale (NPI-D) • Revised Scale for Caregiver Self-Efficacy (RSCSE) • Center for Epidemiological Studies-Depression scale (CES-D) • State-Trait Anxiety Inventory-State scale (STAI-State)
Jimenez, Schulz, Perdomo, Lee, & Czaja, 2019, USA	Treatment group: n=35, 91.4% females, age means (SD) 47.9 (8.8), 21% Caucasian Control group: n=36, 94.3% females, age means (SD) 49.0 (8.4), 17% Caucasian	Not specified	<ul style="list-style-type: none"> • Home • 20 weeks • Verbal, written, audio, video, online, face to face, hand on training, telephone, and group • Intervention includes: 1) enhancing caregiver knowledge and understanding of caregiving issues (e.g., role strain of working caregivers, health and emotional consequences of caregiving); 2) improving physical health (e.g., nutrition and exercise); 3) promoting emotional well-being (e.g., consequences of stress and stress management techniques); 4) improving communication skills; and 5) expanding social and community support (e.g., 	Outcome measure(s): <ul style="list-style-type: none"> • Quality of Life Inventory • Zarit Burden Interview (ZBI) • Center for Epidemiological Studies-Depression Scale (CES-D)

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
			employee benefits and assistance programs) <ul style="list-style-type: none"> • Standard care • Certified interventionist 	
Joling et al., 2012, Netherland	<p>Treatment group: n=96, 69.8% females, age means (SD) 67.8 (9.8)</p> <p>Control group: n=96, 70.8% females, age means (SD) 71.2 (10.7)</p>	Not specified	<ul style="list-style-type: none"> • Memory clinics and Home • 52 weeks • Verbal, face to face, telephone, individual • Intervention includes: 1) teaching problem solving techniques; 2) mobilizing the existing family networks of the patient and primary caregiver in improving emotional and instrumental support; 3) explaining the counselor's role; 4) identifying caregiving issues (e.g., management of patient behavior problems, coping with feelings of guilt); and 5) family caregivers are motivated in delegate tasks. • Usual care • Nurse, social worker, and psychologist 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Center for Epidemiologic Studies Depression Scale (CES-D) • Hospital Anxiety and Depression Scale- Anxiety subscale (HADS-A) • Health related quality of life (SF-12) • Caregiver Reaction Assessment (CRA)
Lee, Sung, & Kim, 2012, South Korea	<p>Treatment group: n=15, 66.7% females, age means (SD) 51.4 (14.9)</p> <p>Control group: n=15, 86.7% females, age means (SD) 56.4 (16.7)</p>	Not specified	<ul style="list-style-type: none"> • Home • 7 weeks • Verbal, written, audio, face to face, hand on training, and individual • Intervention includes: 1) relaxation training (e.g., muscular techniques and deep breathing and imagery); 2) cognitive restructuring (e.g., recognizing negative self-talk and automatic thoughts, transforming caregivers into positive self-talk); 3) situational analysis with caregiving stress. • Usual care • Clinician 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Beck Depression Inventory (BDI) • Burden Interview (BI) • Satisfaction with Life Scale (SWLS)
Mavandadi, Wright, Graydon, Oslin, & Wray, 2017, USA	<p>Treatment group: n=38, 94.7% females, age means (SD) 71.97 (10.92), 50% Caucasian</p> <p>Control group:</p>	Not specified	<ul style="list-style-type: none"> • Medical Center and affiliated community outpatient clinic • 12 weeks • Verbal, written, face to face, and individual • Intervention includes two components: 1) mentoring 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Zarit Burden Interview (ZBI) • Revised Memory and

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
	n=37, 100% females, age means (SD) 67.94 (12.24), 75.7% Caucasian		<p>patients' symptoms via caregivers' report and supporting caregivers (e.g., medical and service needs for the patients); 2) providing communication skills, behavioral management techniques, stress management and coping skills, long-term planning</p> <ul style="list-style-type: none"> • Usual care • Nurse and clinician 	<p>Behavior Problems</p> <ul style="list-style-type: none"> • Neuropsychiatric Inventory (NPI) • Caregiving Appraisal Scale—Mastery
Moore et al., 2013, USA	<p>Treatment group: n=49, 81.6% females, age means (SD) 70.86 (7.57), 89.8% Caucasian</p> <p>Control group: n=51, 66.7% females, age means (SD) 71.33 (9.08), 90.2% Caucasian</p>	Not specified	<ul style="list-style-type: none"> • Home • 6 weeks • Verbal, written, and telephone • Intervention includes: 1) education on how to monitor use of time; 2) identification of leisure activities enjoyed by caregivers; 3) development of activity hierarchy to help caregivers prioritize their activities; and 4) scheduling/participating in selected leisure activities and tracking of moods. • Attention-control condition (e.g., providing problem-solving and communication skills, cognitive reframing, and behavioral management) • Nurse and clinician 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Center for Epidemiologic Studies Depression scale (CESD) • Positive Affect and Negative Affect Scale (PANAS) • D-dimer and Interleukin-6 (IL-6)
Oken et al., 2010, USA	<p>Treatment group (1): n=10, 80% females, age means (SD) 62.50 (11.61), 80% Caucasian</p> <p>Treatment group (2): n=11, 72.7% females, age means (SD) 67.09 (8.36), 90.9% Caucasian</p> <p>Control group: n=10, 90.0% females, age means (SD) 63.80</p>	Not specified	<ul style="list-style-type: none"> • Class and Home • 6-7 weeks • Verbal, written, hand on training, group • Intervention #1 includes: 1) didactic instruction and discussion concerning stress, relaxation, meditation, and mind-body interaction; 2) instruction and practice in meditation and mindfulness exercises; 3) group discussion and problem-solving regarding successes. • Intervention # 2 includes: 1) developing a wealth of self-care tools in reducing stress; 2) changing negative self-talk; 3) 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Revised Memory and Behavior Problem (RMBP)—Perceived stress • Perceived Stress Scale (PSS) • Center for Epidemiologic Studies Depression Scale (CESD) • SF-36 Fatigue

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
	(7.92), 100% Caucasian		<ul style="list-style-type: none"> communicating caregiver needs; and 4) providing caregiver help-book Attention-control condition: providing respite care once per week for 7 weeks for 3 hours. Psychologist 	<ul style="list-style-type: none"> Caregiver Appraisal (stress) Pittsburgh Sleep Quality Index (PSQI) Neuropsychiatric Inventory (NPI) Coping Responses Inventory (CRI)
Steffen & Gant, 2016, USA	Report all participants and did not separate between Treatment and control group: Treatment and control group: n=74, 100% females, age means (SD) 60.3 (10.8), 80% Caucasian	Not specified	<ul style="list-style-type: none"> Home 10 weeks Written, video, and telephone, Intervention includes: 1) behavioral activation for both the carer and patients; 2) management of disruptive behaviors; 3) relaxation during caregiving situations; and 4) caregiving self-efficacy Attention-control condition (e.g., using information on dementia and suggestions for responding to specific care challenges) Psychologist and clinician 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> Beck Depression Inventory II (BDI-II) Caregiving self-efficacy Negative mood
Waelde, Meyer, Thompson, & Gallagher-Thompson, 2017, USA	Report all participants and did not separate between Treatment and control group: Treatment and control group: n=31, age means (SD) 59.6 (11.9), 61.3% Caucasian	Not specified	<ul style="list-style-type: none"> Home 12 weeks Written, face to face, telephone, and hand on training Intervention includes: 1) mindfulness meditation, breath-focused imagery and mantra repetition, and mindfulness in daily life; 2) sitting mindfulness meditation techniques (e.g., breath awareness and nonjudgmental awareness of thoughts, feelings, and sensations) Attention-control condition (e.g., asking general issues, mentioning specific written material in addressing the caregiver's problem) Researcher Home 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> Satisfaction with Life Scale (SWLS) Center of Epidemiological Studies–Depression Scale (CES-D) Caregiving Self-Efficacy – Upsetting Thoughts (SE-UT) Cortisol level

Author, Year, Location	Sample Characteristics	Theory	Intervention	Outcome
Yilmaz, Aşiret, Çetinkaya, Oludağ, & Kapucu, 2019, Turkey	<p>Treatment group: n=23, 91.3% females, age means (SD) 47.43 (11.29)</p> <p>Control group: n=21, 76.2% females, age means (SD) 53.43 (13.51)</p>	Not specified	<ul style="list-style-type: none"> • 8 weeks • Verbal, audio, face to face, telephone, hand on training, and individual • Intervention includes: progressive muscle relaxation (PMR) exercise • Usual care • Researcher 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Zarit Caregiver Burden Scale (ZCBS) • Beck Depression Scale (BDS)
Zabalegui, Galisteo, Navarro, & Cabrera, 2016, Spain	<p>Treatment group: n=32, 81.3% females, age means (SD) 59.9 (14.3)</p> <p>Control group: n=24, 75.0% females, age means (SD) 53.6 (13.2)</p>	Not specified	<ul style="list-style-type: none"> • Geriatric hospital unit and home • 8 weeks • Verbal, hand on training, group, and workshop • Intervention includes: 1) information about caregivers' knowledge; 2) training about caring for older adults; 3) workshop (e.g., caregivers' self-care, medication in patients, nutrition for older adults, hygiene, mobility, toileting, and communication techniques). • Usual care • Nurse, physician, psychiatrists, and psychologists 	<p>Outcome measure(s):</p> <ul style="list-style-type: none"> • Zarit Burden Interview (ZBI) • General health questionnaire (GHQ-28)

Figure

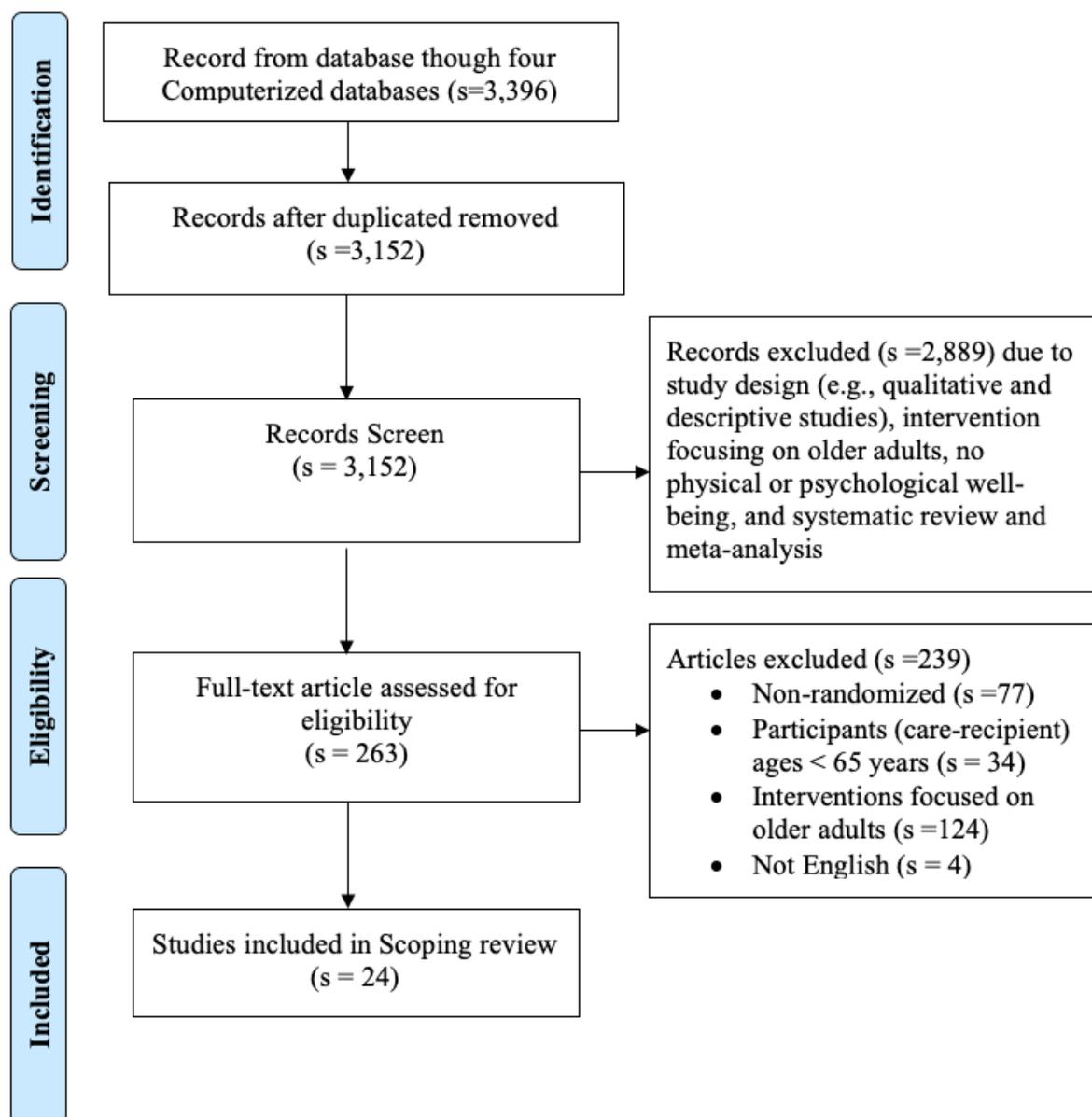


Fig 2.1. PRISMA study selection flowchart

CHAPTER THREE: RESEARCH PROPOSAL

Specific Aims

Approximately 34 million family caregivers (CGs) provide unpaid care for older adults with disabilities in the United States, and face diverse caregiving challenges (Affinito, 2018). Because of insufficient preparation for the caregiving role, CGs often experience burden and stress while caring for older adults with chronic illnesses (Roth, Perkins, Wadley, Temple, & Haley, 2009). Consequently, lack of caregiving skills can lead to negative psychological and physical health outcomes and low quality of life (QoL) among CGs; however, good QoL among CGs can facilitate provision of effective medical or nursing tasks at home and lead to reduced readmission of older adults with chronic illnesses (Belle et al., 2006). Health care providers may employ psycho-educational interventions (PEIs).

PEI may include: 1) psychological strategies that enhance CGs' coping strategies to address caregiving issues (e.g., an individualized support intervention) (Berwig et al., 2017); and/or 2) educational strategies that improves knowledge about physical and emotional conditions resulting from caregiving, and about strategies to manage the care needs of older adults with chronic illnesses (Ekhtiari, Rezapour, Aupperle, & Paulus, 2017; Kissane & Doolittle, 2011; O'Donohue & Cummings, 2011) (e.g., a home-based training program) (Kuo et al., 2013). Primary studies testing PEI have produced inconclusive results and have methodological limitations; as a result, these studies are insufficient to identify the effectiveness of the PEIs (Lee, 2018). Conducting a meta-analysis of these primary studies can increase statistical power and provide a combined, summary effect of PEI effects on caregiver QoL.

Previous meta-analyses have examined diverse family caregiver outcomes. For example, a meta-analysis study was conducted to investigate the effects of cognition-based interventions on

QoL among CGs for demented patients (Leung, Orgeta, & Orrell, 2017). However, this study did not report methodological quality assessment in the primary studies. Another meta-analysis study examined the effect of Web-Based Interventions to improve QoL among CGs of adult patients with chronic illness, but did not include older adults (Ploeg et al., 2018). A meta-analysis of internet-based interventions focused on depression and burden outcomes among CGs of older adults with chronic conditions (Martire, Lustig, Schulz, Miller, & Helgeson, 2004). However, previous meta-analysis studies may have limitations such as lack of addressing publication bias and conducting moderator analyses related to QoL outcomes. Thus, the proposed meta-analysis will address limitations prior meta-analyses in the following ways: 1) using extensive search strategies to increase possible studies; 2) expanding inclusion criteria of the meta-analysis in both hospital and community settings; 3) using the Jadad scale to evaluate quality of studies (Jadad et al., 1996); and 4) assessing publication bias by using a funnel plot and Egger's test.

Specific aims

The purpose of this meta-analysis is to synthesize the effects of PEIs on QoL for CGs of older adult patients. Therefore, the specific aims of the study are to:

Aim 1: To describe the body of PEI literature.

Research Question (RQ) 1: What are the characteristics of the current body of PEIs designed to improve QoL among CGs of older adults with chronic illnesses?

Aim 2: To examine the overall effect PEIs on QoL outcomes among CGs.

Research Question (RQ) 2: What is the overall mean effect of PEIs on QoL of CGs of older adults with chronic illnesses?

Aim 3: To explore the heterogeneity of intervention effects across studies.

Research Question (RQ) 3: Are study effects significantly heterogeneous?

The dissertation study involved conducting five meta-analyses to estimate the overall magnitude and effect of the QoL outcomes following psycho-educational interventions for CGs who care for older adults with chronic illnesses. Patients 65 years or older are considered to be older adults.

Significance

Understanding and alleviating the challenges of caregiving circumstance among CGs while they play caregiving roles can reduce caregiving issues. Healthcare providers can employ psychoeducational interventions to reduce negative consequences of caregiving and improve QoL.

Caregivers' Consequences

In 2019, approximately 690 million people or 9% of the global population or were 65 years old or older, and the increasing number of aging populations is rising to approximately 1.2 billion (50% increase) by 2050 (United Nation, 2019). A 2015 report by the AARP and the National Alliance for Caregiving, *Caregiving in the United States*, indicated that 34 million CGs are responsible for the unpaid care of older adults (Affinito, 2018). Yet about 60% of CGs reported that they are not well-prepared about caring for their loved one from hospital to home, and 40% of CGs are in high-burden situations after changing their responsibilities (Family Caregiver Alliance, 2016). Because CGs have poor support and training during caring for older adults, they have more significant burden and stress (Camak, 2015). The AARP and the National Alliance for caregiving (2015) indicated that 63% of CGs is more likely to reduce food consumption (Affinito, 2018). Sixteen percent of CGs feel emotional and financial stress due to difficulty of taking care older adults (Adelman, Tmanova, Delgado, Dion, & Lachs, 2014). These statistics showed CGs of older adults with a chronic illness had experienced substantial strain,

and CGs were more likely to have an increased risk of cardiovascular disease and mortality by 23% and 63%, respectively (Cheng, Chair, & Chau, 2014). Additionally, Coughlin (2010) found that 27% of CGs reported a reduction of QoL after caring for older adults. Furthermore, QoL of CGs of older adults returning home from a hospitalization may also decline over time (Alves, Teixeira, Azevedo, Duarte, & Paul, 2016; Grant et al., 2013). Healthcare providers can employ PEI to support CGs in coping with caregiving challenges.

PEIs for Family Caregivers of Older Adults

PEI is a program incorporating psychological and/or educational strategies in increasing CGs' abilities on coping with caregiving issues, to improve QoL among CGs of older adults (Stephanie Rennke et al., 2013). There were two components of PEI: 1) a psychological component that addresses emotions, perceptions, coping, relaxation and self-care for CGs (O'Donohue & Cummings, 2011), and it provided problem-solving techniques to CGs (e.g., a brief telephone counselling program) (Behrndt et al., 2019); 2) an educational component that educated CGs regarding physical and psychological conditions for both CGs resulting from caregiving roles and older adults with chronic illnesses and it provided caregiver strategies on how to manages the care needs of older adults with chronic illnesses (Ekhtiari et al., 2017; Kissane & Doolittle, 2011) (e.g., nursing care, welfare care, and symptom management) (Belgacem et al., 2013). The purpose of PEIs was to relieve physical and emotional challenges, to improve QoL for CGs, and to ensure safe and effective caring for older patients (S. Rennke et al., 2013). PEIs may be multi-component and contain both psychological content (e.g., problem-solving and counselling strategies) and educational components (e.g., education on diagnoses and medication management) (Shyu, Chen, Chen, Wang, & Shao, 2008; Shyu, Kuo, Chen, & Chen, 2010). PEIs may be delivered by individuals or groups and can occur in hospital or

community settings (King, Hartke, & Denby, 2007; Larson et al., 2005). Mode of delivery of PEIs can vary, including the use of booklets, videos, audiotapes, CDs, computers, telephones, and group supports. Also, Intervention dosage such as frequency and duration may have different patterns (Godwin, Mills, Anderson, & Kunik, 2013; Waller, Dilworth, Mansfield, & Sanson-Fisher, 2017).

PEIs and Caregiver QoL Outcomes

Previous research examining the effects of PEIs on improvement of CGs' QoL have produced inconsistent findings. QoL refers to perceived physical, psychological, social, and environmental well-being over time. However, PEIs of individual studies may have several differences (e.g., intervention and participant characteristics, study design, and setting characteristics), and these individual study differences can contribute to variations of intervention effects (Cheng et al., 2014; Jensen, Agbata, Canavan, & McCarthy, 2015). The difficulty of estimating intervention effects can be managed by systematic review and meta-analysis methods because meta-analytic methods result in a pooled estimate from a weighted average of the findings across individual studies (Cooper, 2017). In addition, variance across studies may be statistically aggregated by using meta-analytic approaches. Thus, meta-analytic methods can also address and further investigate issues related to study-to-study variations and their effects on QoL outcomes. For instance, a recent meta-analysis examined the effectiveness of PEIs in communities and reported that the findings of PEIs are unclear on improving CGs' well-being, but these interventions can reduce CGs' global morbidities, burden, and negative caregiving challenges (Sin et al., 2017). Jensen, Agbata, Canavan, and McCarthy (2015) indicated that effectiveness of educational interventions for CGs of community-dwelling patients with dementia had a moderate effect on burden and a small effect on depression while

effectiveness on QoL in the long-term care was unclear. Previous meta-analysis research that studied the effectiveness of PEIs among CGs of older adults only focused on patients with specific chronic disease, such as dementia, cancer, and Alzheimer's disease (Huis in het Veld, Verkaik, Mistiaen, van Meijel, & Francke, 2015; Northouse, Katapodi, Song, Zhang, & Mood, 2010).

Definitions of Domains of QoL.

Physical well-being. Physical well-being refers to physical health while caring for older adults, including exhaustion, health conditions, and self-care activities (e.g., exercise, diet, and rest), and CGs may perceive their physical health as a life satisfaction.

Psychological well-being. Psychological well-being refers to psychological conditions while CGs care for older adults, and CGs may perceive their psychological well-being as a life satisfaction.

Social well-being. Social well-being refers to CGs' perception about individual relationships, social activities, and CGs may perceive their social well-being as a life satisfaction.

Environment well-being. Environment well-being refers to CGs' perception about environmental factors such as job responsibility, physical safety and security, financial hardships, accessibility of health system, transportation, home environment, and leisure opportunities. CGs may perceive their environment well-being as a life satisfaction.

Gaps in the PEIs research

Previous systematic reviews and meta-analyses have investigated the effects of the PEIs for CGs, and they have demonstrated small and varied effects on QoL outcomes (Jensen et al., 2015; Parker, Mills, & Abbey, 2008). However, these prior meta-analyses included only community-based interventions, and few prior meta-analyses focused on PEIs on QoL among

CGs for older adults with chronic illness (e.g., Jensen et al, 2015; Parker et al., 2008). Few systematic reviews and meta-analyses exist which examine interventions to improve the QoL of CGs, but these reviews focused on only educational interventions with dementia (e.g., an internet-based intervention and a web-based intervention) (Sherifali et al., 2018; Zhao et al., 2019). Furthermore, prior meta-analyses examining the effects of PEI: 1) did not include more recent PEI research; 2) focused on patients, not CGs; and 3) outcomes of interest were caregiver burden or depression, but did not include not focus on QoL (S. Rennke et al., 2013; Wagner et al., 2001). Finally, few prior meta-analyses on PEIs have explored the characteristics of interventions which are more likely to be successful in improving QoL outcomes among CGs in caring for older adults. An analysis of moderators of intervention effectiveness can provide important information regarding the types of PEIs that are associated with greater improvements in QoL outcomes for CGs.

The Purpose of Conducting Meta-analysis Study

Synthesizing the current body of PEI research can produce important knowledge necessary to guide evidence-based practice and future research. Therefore, the purpose of this present meta-analysis was to quantitatively synthesize the result of primary research testing the effects of PEIs in QoL outcomes among CGs of older adults. Because the results of this meta-analysis generated from combining the results of a number of PEI studies into one report to create a single, they can: 1) increase statistical power; 2) address argument when independent studies disagree; 3) increase estimates of effect size; 4) answer new questions that may never be inquired in previous studies; and 5) explore heterogeneity of PEIs (Hoffman, 2015).

Innovation

The present dissertation study was to particularly assess overall effects. Findings from this research can inform the development of caregiver PEIs delivered in diverse settings that seek to improve caregiver QoL. Moreover, the results of the study can be used to create a protocol or guideline of a chronic-illness care for health care providers and stakeholders to guide treatment decisions for health care professionals, and improve the standard and quality of chronic illness care for CGs.

Approach

Design

The PI conducted a systematic review and meta-analysis of the existing body of RCT PEI research designed to improve QoL among CGs in caring for older adults. The three specific aims were to describe the body of PEI intervention literature (Aim 1); to examine the overall effect PEIs on QoL outcomes among CGs of older adults with chronic illness (Aim 2); and to explore the heterogeneity of intervention effects across studies (Aim 3).

Inclusion Criteria

Eligible PEIs use a randomized controlled trial design and tested psychological and/or educational interventions that were delivered directly to CGs who cared for older adults with chronic illness. The PEI may include other participants (e.g., patient/caregiver dyad, caregiver and family members), but the caregiver must be a target of the intervention. Additional inclusion criteria were that the PEI: 1) focused on improving of caregiver QoL outcomes resulting from caring for older adults with chronic illnesses includes counseling/ psychotherapy or educational intervention; 2) were delivered in community-based settings (e.g., senior centers), or at the patients' home; and 3) included

a combination of psychological and educational intervention, or either a psychological intervention only, or an educational intervention only. Studies could be included regardless of year of publication.

Definition of types of psycho-educational intervention

Psychological intervention. A psychological intervention is a program that provides caregiver coping strategies to address caregiving issues such as burden and strain.

Educational intervention. An educational intervention is a program that provides knowledge related to physical and emotional conditions occurring among CGs in caring for older adults, and strategies to management the care needs of older adults with chronic illnesses.

Participants

Participant that were CGs being aged 18 or older who cared for older adults with 65 years or over with chronic illnesses, and older adults live at home.

QoL outcome

QoL outcome included life satisfaction, summary scores of QoL, or multiple components of QoL: physical, psychological, social, and environmental well-being that measured directly family-caregiver outcomes.

Exclusion Criteria

Non-psychoeducational intervention

Non-psychoeducational intervention included: 1) PEIs were delivered to other people (e.g., nurses, friends, and others) rather than CGs even if the goal of PEIs was to develop ways in helping CGs in caring for older adults with chronic illnesses; 2) PEIs focused on reduction of caregiver problems resulting from only caregiver problems such as physical problems (e.g., hypertension and heart disease) but not caring for older adults with chronic illnesses.

Participants

Participants included: 1) CGs were aged below 18 years old. Older adults were below 65 years and they were admitted at only hospital or community settings but do not return home or they do not live at home; 2) target participants were both professionals (e.g., nurses, doctors, and so on) and not professionals (e.g., friends, communities, and so on) rather than CGs.

Literature Search

The systematic review used the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines and checklist (Moher et al., 2015). Sampling for this review and meta-analysis consisted of an extensive and exhaustive search of the eligible PEI studies to reduce the bias of narrow and limited searches. The PI consulted with an expert reference librarian to review search strategies (e.g., using backward and forward searching and identifying additional databases). To obtain the most comprehensive sample of primary intervention reports, the search strategies was followed by the PI: 1) online search of databases for published and unpublished literature, including CINAHL, PubMed, Scopus, and PsycINFO; 2) sample search terms, including "chronic illness," "noncommunicable diseases," "intervention," "caregiver," "spouse," "adult children," "QoL," "well-being," "life quality," "HRQoL," "aged," "elderly," "geriatric," and "older adults"; 3) an ancestry search of eligible articles from bibliographies of primary studies and review articles; 4) hand searches of relevant journals such as *the Gerontologist* and *Research in Gerontological Nursing* from the year 1980 to present because there were many PEIs that were developed to improve QoL among CGs of older adults with chronic conditions during this time period; 5) contacting experts in the area of PEI research among CGs and older adults for relevant studies; 6) search of unpublished dissertations via ProQuest/Dissertation Abstracts International databases; and 7) search of

conference abstracts from relevant organizations (e.g., Gerontological Society of America); and 8) author searches because providing multiple studies on the same topic.

Data Collection

The process of data collection consisted of: 1) developing and pilot testing a codebook to extract eligible study data; 2) extracting data from primary studies; and 3) checking accuracy of coding.

Codebook development and pilot testing

The codebook was the instrument the PI used to collect data from eligible studies for the meta-analytic dataset (Appendix A). The codebook converted vital information from eligible studies to numerical values needed to deal with the particular aims. A review and content analysis of sample, study design, and PEI characteristics of at least 5 to 10 randomly-selected primary studies has guided initial development of codeable items. Prevention of back coding was a concern because back coding may increase coding error and waste time in conducting the meta-analysis; thus, the codebook was created to be comprehensive through micro-coding. Also, the codebook was reviewed by experts in meta-analytic methods and caregiving research to check its accuracy and completeness. The codebook was pilot tested on 10 studies before starting the full coding process on primary studies to identify any potential missed themes among PEI studies.

Extracting data from primary studies

Code sheets were created to capture the possible 445 variables from the codebook (Appendix A). After that, rigorous coding of eligible studies extracted essential data that were important to address the study's specific aims based on type of extracted data.

Types of Extracted Data

Overall effect of PEIs. Data essential to calculate effect sizes were coded (e.g., sample sizes, mean QoL outcome values, and measures of variability). Studies with alternative outcome data were included if the outcome statistics can be converted to a standardized mean difference effect size (e.g., t statistic, exact p value for t statistic, and F value for two group comparison). Data were coded on QoL outcomes within studies to examine the overall effect PEI on QoL outcomes among CGs of older adults with chronic illness (Aim1).

Sample characteristics. Sample characteristics such as age, gender, educational levels, and ethnicity were coded. However, there was the small number of included studies, thus we could not examine moderator analyses.

Intervention characteristics. Intervention characteristics such as dosages, types, formats, and contents of interventions) were coded. Yet, factors which may impact on intervention effects could not be conducted because of the small number of included studies.

Checking accuracy of coding

Careful coding of primary studies extracted the significant data necessary to deal with the study's specific aims. To evaluate accuracy of coding, a second coder with meta-analysis coding experience separately coded 20% of all coded variables and 100% of all outcome data from primary studies. To ensure accuracy of data entry, coded data from eligible studies were duplicate recorded in Excel spreadsheets. Data were then be compared and cleaned to confirm the precision of data entry. Data screening detected doubtful values. All uncertain values were compared to the original primary studies to ensure the accuracy of recoded data.

Data Management: Procedure of tracking eligible studies and coding status of studies

Hundreds of potentially eligible studies were detected using the comprehensive search strategies. Tracking studies consisted of the PI: 1) using bibliographic software (EndNote) to import

citations, and track eligibility and coding status of studies using custom fields and linked terms; 2) reviewing study titles and abstracts for potential eligibility; 3) obtaining potentially eligible studies from library resources or directly from the author; and 4) extracting essential data from primary studies. Additionally, the PI exported the EndNote database of eligible primary studies to an Excel file to search for overlapping samples because individual studies may be published in multiple reports. The Excel database was used to identify any overlapping authors and publications to guarantee statistical independence across studies.

Data Analysis

Statistical analysis of data was conducted using a specialized statistical package. *Comprehensive Meta-Analysis (CMA) Software* (Borenstein, Hedges, Higgins, & Rothstein, 2009) was developed to conduct statistical analysis particular to this meta-analysis method. The PI has completed one online course using the software. An overall mean effect size across studies was calculated using QoL outcome data. To address threats of meta-analytic methods, the PI used a funnel plot to evaluate publication bias. The funnel plot presents ESs plotted against standard errors or precisions that is the inverse of standard error. The graph is more likely to have a symmetrical funnel shape that is centered in the average effect of the studies while the graph reports a lack of symmetry due to heterogeneity in the studies (Walker, Hernandez, & Kattan, 2008). Furthermore, Egger's test regression was used to assess funnel plot asymmetry in the presence of publication bias (Sterne, Egger, & Smith, 2001). Primary studies were assessed by using the Jadad scale (Jadad et al., 1996). This tool has been used in the past to evaluate the quality of psychological interventions (e.g., was the study described as double blind? and was there a description of withdrawals and dropouts?) to take components of quality recommended for systematic reviews of randomized control trials in psychological interventions (Jadad et al.,

1996; O'Toole, Zachariae, Renna, Mennin, & Applebaum, 2017). To manage the different QoL measures, if eligible studies report both summary scores of QoL and multiple components of QoL.

Aim 1: To describing the characteristics of interventions.

Similarities and differences across included PEI studies were identified to inform healthcare providers and researchers. The characteristics of PEIs were categorized according to PEI strategies (e.g., educational or counseling strategies), delivery formats, dosage of interventions, interventionists, and use of theory. The PI intended to analyze these diverse characteristics as potential moderators of intervention effects; however, she was unable to do so due to small number of studies for each QoL outcome.

Aim 2: To examine the overall effect of PEIs on QoL among family caregivers for older adults with chronic illnesses.

Conceptually, the overall mean effect size refers to the mean of the experimental group minus the mean the control group divided by the combined standard deviation (Borenstein et al., 2009; Cooper, 2017). For each primary study, the effect size (ES) was calculated using a standardized mean difference (d), which described the difference in posttest outcome means between the treatment and control groups (Cooper, 2017). ESs were weighted by the inverse of the variance to account for sample size and reduce bias. A random-effects model was used to synthesize ESs for 2-group. A random-effects model accounts for between-and within study variation to create a unitless, standardized measure of ESs across studies. For ESs of QoL, data from the final time point were used to calculate the overall mean effect of PEIs. For reasons of selecting final QoL outcomes, because CGs' QoL can change over time during caring for older adults with chronic illnesses, CGs' QoL outcome is related to behavior change with intervention

effectiveness (Williams & French, 2011). To demonstrate the effectiveness of interventions, the PI analyzed outcome data from the final timepoint.

Aim 3: To test heterogeneity of variance across studies.

The PI tested for homogeneity of variance (Q statistic and I^2 statistic) among ESs. The Q statistic quantifies overall observed heterogeneity of effects and a p-value were reported for observed value of Q . Also, I^2 reflects the proportion of heterogeneity due to real difference in ES across studies (Borenstein, Hedges, Higgins, & Rothstein, 2009). The PI intended to use moderator analyses to identify factors that may be related QoL outcomes. Meta-analysis analogs of ANOVA should be used for dichotomous moderators (e.g., gender of participants and types of interventions). Meta-analysis analogues of regression should be used to analyze continuous moderators (e.g., age of participants and doses of interventions). However, the PI was unable to conduct moderator analysis due to small sample size.

Limitations

Sampling

Searching primary intervention studies was related to achievement of this meta-analysis and it was possible that the PI needed to spend about 50% of this project time searching for and obtaining eligible studies. The PI consulted an expert reference librarian to review rigorous search strategies (e.g., using search terms and additional databases) and to reduce selection and search biases.

Publication bias

Publication bias refers to overrepresentation of published studies with positive results, and this difficulty can be managed by using comprehensive searching to include published studies with negative results and unpublished studies (e.g., thesis or doctoral dissertations). An additional sampling limitation was the insufficient studies to conduct the moderator analyses because moderator

analyses were only be conducted among variables that have been reported in 10 or more treatment versus control group studies (Borenstein et al., 2009).

Study quality

Lack of methodological quality assessment of primary studies was a threat to the validity of meta-analyses and may result in the inclusion of poor-quality studies. Study quality refers to the methodological accuracy (e.g., study design) and internal validity of research methods, and can be addressed during determination of study eligibility and data management. Determining specific inclusion criteria helped in controlling for quality of eligible studies (e.g., sample size, sufficient data that were provided in calculating effect size) (Conn & Rantz, 2003). The Jadad scale was used to evaluate study quality (e.g., Jadad scale) which captures components of study quality that was suggested for systematic reviews of randomized clinical trials in PEIs (Jadad et al., 1996).

Missing data

Studies may provide incomplete data (e.g., intervention characteristics and effect size) that lead to difficulties coding and analyzing the effects of PEIs. As a result, interpreting findings that are related to the effects of the PEI factors on the QoL outcome effect size may be limited. The PI contacted corresponding authors to obtain missing data, especially related to study effect sizes. To manage this expected difficulty, the PI only used studies with completed data to analyze data in each specific aim. For example, a study may provide sufficient information to contribute to calculation of overall effect size, but it did not report data involving specific samples or intervention or study design characteristics. Thus, this study should be excluded.

Heterogeneity

Heterogeneity refers to the degree of variability across individual studies (e.g., sample sizes, study designs, and measurements), and may be a threat to validity. This threat to validity results from

a lack of consideration of the potential confounding among substantive and methodological moderators which lead to overestimation or underestimation of the interventions (Rhodes et al., 2018). Heterogeneity may be managed by using a random-effects model when between-study heterogeneity exists (Cooper, 2017; Rhodes et al., 2018).

CHAPTER FOUR: META-ANALYSIS
THE EFFECTIVENESS OF PSYCHOEDUCATIONAL INTERVENTIONS
ON QUALITY OF LIFE FOR FAMILY CAREGIVERS:
A SYSTEMATIC REVIEW AND META-ANALYSIS

Corresponding author: Rungnapha Khiewchaum (รุ่งนภา เขียวชะอ้า)
Sinclair School of Nursing, University of Missouri
S235 School of Nursing Columbia, MO 65211 USA

Phrapokklao Nursing College, Chanthaburi, 36 Liebnearn Street,
Tumbon Wad-Mai, Amphur Muang, Chanthaburi 22000 Thailand
rungnapha@pnc.ac.th

Abstract

Background: Caregivers (CGs) of older adults with chronic illnesses often face consequences of caregiving that negatively impact their quality of life (QoL).

Objective: To examine the overall effect of psychoeducational interventions (PEIs) on QoL among CGs of older adults with chronic illnesses, including dementia, stroke, and cancer.

Design: We conducted a systematic review and meta-analysis of published or unpublished randomized controlled trials testing the effects of PEIs on QoL among CGs of older adults with chronic illnesses. We located studies using electronic databases including PubMed, CINAHL, Scopus, and PsycINFO as well as alternative search strategies including hand searches.

Data extraction and quality assessment: Two coders independently extracted data related to the study purpose, participant characteristics, intervention characteristics, and QoL outcomes, and compared their work for accuracy. Methodological quality of eligible studies was assessed by using the Jadad tool.

Data synthesis: We conducted meta-analyses on summary scores of QoL and the following QoL domains: physical, psychological, social, and environment well-being. Standardized mean difference effect sizes (d) were calculated using final post-intervention data and then synthesized using a random effects model. Heterogeneity was assessed with Cochran's Q statistic and I^2 statistic. Publication bias was evaluated by using the funnel plot and Egger's regression test.

Results: We identified 27 eligible randomized controlled trials with a total of 3,154 caregivers. PEIs had significant and positive effects on summary scores of QoL ($d=0.508$, 95% CI [0.253, 0.762], $p < 0.001$) and social well-being ($d=0.306$, 95% CI [0.088, 0.525], $p = 0.006$). However, the effect sizes of PEIs showed no statistically significant improvement on physical well-being, psychological well-being, and environment well-being.

Conclusion: PEIs for CGs of older adults with chronic illness significantly improved summary scores for QoL and social well-being, but not other QoL domains. It is recommended that future studies testing the effects of PEIs on QoL should be theory-driven, should assess CGs' knowledge, skills, and needs, and should consider interdisciplinary intervention. Future meta-analyses should consider examining the overall effect size of PEIs on various consequences of caregiving, such as depression and anxiety.

Tweetable abstract: A new meta-analysis finds that PEIs improve QoL and social well-being of CGs of older adults.

What is already known about the topic?

- PEIs generally have been delivered to improve the QoL of CGs tending to older adults with chronic illnesses.
- Numerous studies have tested the effect of such interventions, but findings have been inconclusive.
- Previous systematic reviews and meta-analyses focused on CGs of older adults with a particular chronic illness, such as cancer. However, healthcare providers need to promote well-being for CGs who care for people with a range of chronic conditions.

What this paper adds?

- PEIs can improve CGs' summary scores for QoL and social well-being.
- Certain characteristics of PEIs, including use of theory, types of interventions, delivery formats, dosages of interventions, and interventionists, can assist providers' decision-making as they select PEIs.
- To help this field advance, more randomized controlled trials are needed that possess high methodological quality and large sample sizes.

Key words: aged, caregivers, chronic diseases, education, quality of life, meta-analysis, programs, psychology, and home care

Background

The number of people in the U.S. who are 65 or older is expected to reach almost 90 million by 2050. The proportion of unpaid CGs in the U.S. has risen from 22% in 2015 to an estimated 26% in 2020 (AARP & NAC, 2020). CGs often tend to older adults with chronic illnesses (e.g., cancer, dementia, and stroke); however, recipients' decline in cognitive and physical functioning, and behavioral problems present challenges, especially for CGs who may be unprepared for this role (Corry et al., 2019; Rigby et al., 2019). Consequently, CGs can experience depression, anxiety, overall burden, and poor QoL (Li et al., 2018). These outcomes have prompted studies of interventions to improve this population's QoL. Previous studies suggest that caregiver interventions should address their needs for education, emotional support, and coping strategies to improve QoL (Berwig et al., 2017; Wilz et al., 2018).

PEIs are strategies healthcare providers can use to improve CGs' QoL. We define PEIs as programs incorporating psychological and/or educational strategies such as problem-solving, coping strategies (Erlen et al., 2019), and education on how to manage the care needs of older adults with chronic illnesses (e.g., nursing care and symptom management) (Belgacem et al., 2013; Ekhtiari et al., 2017). Providers often employ PEIs such as counseling or cognitive behavior therapy (Cheng et al., 2018) to improve CGs' health status and QoL. The flexibility of psychosocial interventions, which combine both illness-specific knowledge and tools for addressing related situations (Lukens & McFarlane, 2004), make them a good primary approach to reducing adverse consequences of caregiving (McFarlane et al., 2003).

Typically, clinicians delivering PEIs serve as information-providers, offering helpful tools (e.g., caregiving knowledge and resources) for developing coping skills and strategies (Funk et al., 2010; Ponce et al., 2011). PEIs can assist CGs in understanding, accepting, and

coping with their challenges (Sin et al., 2017). PEIs work in part by providing information proactively (e.g., predictable caring issues with dementia) (Kwok et al., 2013). CGs can address the stress, depression, or anxiety of their role and achieve a more positive view of the experience (Lee et al., 2019).

QoL, also referred to as well-being or life satisfaction, is strongly influenced by health status and mental state (WHO, 1996). It is important that providers know which PEIs best improve QoL because caregiving is challenging and often a long-term activity. Interventions that do not directly address CGs' concerns may waste time and resources (Northouse et al., 2014). Clinicians need knowledge to inform evidence-based recommendations for quality of care across diverse settings. Knowing which interventions are effective can guide future research. Prior studies have demonstrated that PEIs including counseling strategies (e.g., focusing on the positive, acceptance, and coping with stress) can improve QoL outcomes among CGs of older adults with dementia (Boots et al., 2018; Brewster et al., 2019). Similarly, CGs' QoL can be improved (Jimenez et al., 2019) by: 1) interventions providing psychological and educational strategies, such as enhancing caregiver knowledge and understanding of caregiving issues (e.g., role strain of working CGs); 2) improving physical health (e.g., nutrition and exercise); and 3) promoting emotional well-being (e.g., stress management techniques). Despite these positive results, some PEIs have not worked (Kurz et al., 2010; Mahendran et al., 2017; Martín-Carrasco et al., 2014). Taken as a whole, studies of PEIs have shown mixed results regarding QoL outcomes (Frias et al., 2020).

This systematic review and meta-analysis will move the field forward by examining the overall effects and characteristics of the most effective interventions for assisting CGs as they deal with the challenges of the role and improve their QoL. Intervention research in this area

vary in important aspects, including intervention, participant characteristics, study design, and setting. Differences across studies can contribute to variations in intervention effects (Cheng et al., 2014; Jensen et al., 2015). The difficulty of estimating intervention effects can be managed by systematic review and meta-analysis methods because meta-analytic methods result in a pooled estimate from a weighted average of the findings across individual studies (Cooper, 2017). In addition, meta-analytic approaches can statistically aggregate variance across studies. Thus, such methods can also address and further investigate issues of study-to-study variations and their associations on QoL outcomes.

Previous meta-analyses examined the relationship between PEIs and QoL among CGs of patients with single conditions (e.g., breast cancer (Waldron, 2011), or general cancer (Wang et al., 2017) or dementia (Zhao et al., 2019)). However, the negative consequences of caregiving may share commonalities across recipients' health conditions. Studies have demonstrated small and varied effects on QoL outcomes (Waldron, 2011; Wang et al., 2017; Zhao et al., 2019). Healthcare providers need to promote well-being for CGs of recipients with a range of chronic conditions. The publication of randomized controlled trials of PEIs increased dramatically. This recent research has yet to be synthesized to describe characteristics of PEIs and their efficacy in improving CGs' QoL. As a result, evidence describing the effects of PEIs on diverse CGs is difficult for providers to absorb. Thus, this meta-analysis seeks to examine the overall effect of PEIs on QoL among CGs of older adults with chronic illnesses. We combined the results of a number of PEI studies into one report to provide a direction and magnitude of the interventions' effects on QoL and assess heterogeneity across studies. Findings from this study informs recommendations for evidence-based strategies to improve QoL of CGs of older adults with

chronic illnesses. This study was guided by the following research question: What is the overall mean effect of PEIs on the QoL of CGs of older adults with chronic illnesses?

Methods

Search Strategy

This meta-analysis used the Preferred Reporting Items for Systematic Review and Meta-Analysis guidelines and checklist (Moher et al., 2015). The search strategy was developed in consultation with an expert reference librarian to reduce the bias of narrow and limited searches (Cooper, 2017). An online search was completed of four databases: — PubMed, CINAHL, PsycINFO, and Scopus. Search terms included “chronic illness,” “noncommunicable diseases,” “intervention,” “caregiver,” “spouse,” “adult children,” “quality of life,” “well-being,” “life quality,” “health related quality of life,” “aged,” “elderly,” “geriatric,” and “older adults”. Other search strategies included 1) bibliographic searching; 2) hand searching; 3) author searching; 4) conference abstract searching; and 5) dissertation searches by using ProQuest (Hartmann et al., 2010; Northouse et al., 2010).

Eligibility Criteria and Study Selection

Eligible studies met the following inclusion criteria: a) PEIs tested psychological and/or educational intervention; b) PEIs targeted CGs age 18 or older who cared for adults age 65 or older, and lived in either the same or different place as care-recipients; c) QoL outcomes including one summary scores (e.g., Adult Carer Quality of Life scale and Euro-Quality of Life) or multiple components of well-being or life satisfaction such as physical, psychological, social, and environmental well-being (e.g., WHO quality of life -BREF, Short Form 12, and the Assessment of Quality of Life scale) measured as the primary or secondary outcome; and d) study design was a randomized controlled trial (RCT). The search was limited to studies published in English. PEIs

targeting caregiver self-management of their own chronic conditions (e.g., hypertension, cancer) were excluded.

EndNote X9.2 was used to import citations and to track study eligibility and coding status. The EndNote database of included studies was exported to an Excel file to identify any overlapping authors and study reports to ensure statistical independence across studies. Study titles and abstracts were reviewed for eligibility. We obtained potentially eligible studies from library resources or directly from authors.

Figure 4.1 depicts the process of screening and selecting studies. A total of 5,536 studies were retrieved from databases and alternative search strategies. Of the 5,536 studies from database searches and the 21 studies from alternative searching strategies, 404 studies were duplicates, and 4,566 did not meet the inclusion criteria: qualitative and descriptive studies, intervention focusing on older adults, no QoL outcomes, and systematic reviews and meta-analyses. Next, a full-text examination of the potentially eligible 566 studies was conducted. After further assessment, 539 studies were excluded due to nonrandomized study design (n=235), participants (care-recipients) ages <65 years (n=98), interventions focused on care-recipients (n=163), no mean or SD of QoL outcomes (n=12), and not published in English (n=3). Twenty-seven articles met inclusion criteria for the present meta-analysis (see Figure 4.1).

Data Collection and Management

Data extraction. Rigorous coding of eligible studies was used to extract essential data to address the study's specific aims. To evaluate coding accuracy, a second coder with meta-analysis coding experience separately coded 20% of all coded variables and 100% of all outcome data from primary studies. To ensure accuracy of data entry, coded data from eligible studies

were duplicate-entered in Excel spreadsheets. Data were compared and cleaned to confirm their accuracy.

Quality assessment. The Jadad scale was used to evaluate study quality. The scale captures study quality components suggested for systematic reviews of randomized clinical trials in PEIs (Jadad et al., 1996). Study quality was treated as an empirical question by analyzing these data (e.g., randomization of subjects, type of control group) as a potential moderator intervention effect.

Data Analysis

This meta-analysis combined results across individual studies by using outcomes from eligible studies. Effect sizes were synthesized across studies for the following outcomes and separated meta-analyses were performed for each: 1) summary scores of QoL; 2) physical well-being; 3) psychological well-being; 4) social well-being; and 5) environmental well-being. The meta-analysis was performed using final post-intervention data to calculate effect sizes. Standardized mean difference effect sizes (SMD or d) were calculated based on means, standard deviations, standard errors, p - or t -value (Borenstein et al., 2011). Effect sizes were synthesized by using a random effects model to account for different sources of variation among studies beside sampling error (Lee et al., 2019). Effect sizes were interpreted using Cohen's d (small effect = 0.2-0.49, moderate effect = 0.5-0.79, and large effect = ≥ 0.8) (Cohen, 1988). Q and I^2 statistics were used to test homogeneity of variance among effect sizes. The Q statistic tests for statistically significant heterogeneity of effects, and I^2 reflects the proportion of heterogeneity due to real difference in effect sizes across studies (Borenstein et al., 2009). A Q statistic with a p -value ≤ 0.05 was selected as an indication of statistically significant heterogeneity, and I^2 statistics of 0, < 30%, 30% - 60%, and > 60% were determined as no, low, moderate, or high heterogeneity (Zhao et al., 2019). To assess for

publication bias, a funnel plot was constructed (Walker et al., 2008), and Egger's test was used to assess funnel plot asymmetry (Sterne et al., 2001). All analyses were conducted using Comprehensive Meta-Analysis (CMA) Software (Borenstein et al., 2009).

Results

Sample Characteristics

Table 4.1 summarizes key characteristics of the 27 included studies. The CGs ($n = 3,154$) were primarily female (76.4%), and 46.9 % of them were spouses or partners. CGs' mean age ranged from 44.9 to 66.9 years (mean 59.52, SD 7.05), and recipients' mean age ranged from 67.2 to 84.2 years (mean 78.26, SD 4.23). Most studies were conducted in North America, with other locations including South America, Europe, and Asia. Publication years ranged from 2009-2019.

Figure 4.2 shows the results of the evaluation of risk of bias within studies using the Jadad Scale. Only seven studies showed low risk of bias (scored 3-5). The remaining 20 studies showed high risk of bias because of the following: 1) no description of the randomization scheme; or 2) not appropriate randomization scheme; or 3) no double-blind; or 4) inappropriate method of double blinding; or 5) no description of dropouts and withdrawal.

Intervention Characteristics

PEI strategies. The 27 included studies were either PEIs (18 studies), only educational (six studies), or only counseling (three studies) (see Table 4.1). PEI strategies for caregiver issues included 1) education about caregiving knowledge; 2) counseling; and 3) physical and psychological support (e.g., relaxation training and cognitive restructuring). Education strategies provided related caregiving knowledge (e.g., using resources, providing general introduction about the illness, using leisure education approach, delivering home ergonomic programs

(Carbonneau et al., 2011; de Araujo Freitas Moreira et al., 2018; Guerra et al., 2011). Counseling interventions included exploring the most stressful problems, providing problem-solving approaches, and developing strategies for self-management (Behrndt et al., 2019; Erlen et al., 2019; Leach et al., 2015). Of the 18 studies (66.7%) that combined interventions, only nine studies (50%) showed a statistically significant improvement in CGs' QoL. In fact, six of the nine studies that did *not* combine approaches showed statistical significance for improving their QoL outcomes.

Delivery. PEI delivery included various formats that studies often combined. Delivery was categorized either as, 1) how the intervention was delivered (e.g., verbal, face-to-face); or 2) to whom it was delivered (e.g., caregiver groups or individual formats).

Verbal and face-to-face formats were the most common approaches to delivering interventions. Of the 21 studies using a face-to-face format, 16 showed statistically significant improvement in QoL. Distance-mediated delivery strategies—telephones and mobile phones—showed positive results (Cheng et al., 2019) while increasing convenience and reducing the cost of intervention (Berwig et al., 2017; Cheng et al., 2019). Nine such studies using a telephone delivery format showed statically significant improvement in QoL.

Studies typically delivered PEIs in face-to-face sessions with individual CGs rather than to groups (Berwig et al., 2017). Of 14 studies using individual delivery, 11 showed statistically significant improvement in QoL. Using different combinations of PEI delivery formats (how and to whom the intervention was delivered) were effective in increasing caregiver outcomes (Barnes & Markham, 2018; Boots et al., 2018; Chien & Lee, 2011; Tanner et al., 2015).

Dose. PEI dose varied considerably from three to 24 sessions (mean 8, SD 5.4) ranging from 30 to 120 minutes (mean 66.7, SD 28.6). The intervention duration ranged three to 540 days (mean 113, SD 104.5).

Interventionists. Interventionist types varied, with many studies including more than one. Studies commonly used multiple interventionists from a variety of disciplines (e.g., nurses, physicians, psychologists, and social workers). Twenty studies (74%) used multiple interventionists and showed significant improvement in CGs' QoL. The majority of interdisciplinary studies included nurses on the intervention team, and eight (67%) of these investigations showed statistically significant QoL improvement. Both studies using former CGs as interventionists showed significant improvement in CGs' QoL (Leow et al., 2015; Wang & Chien, 2011). Of the 18 studies describing the training of providers, 12 (67%) showed statistically significant increases in QoL.

Use of theory. Only seven studies used a theory-driven intervention, and five of these demonstrated statistically significant improvement in QoL. Four theories predominated: the stress and coping paradigm by Lazarus and Folkman (Boots, de Vugt, Kempen, & Verhey, 2018; Cheng, Chair, & Chau, 2014), social learning theory by Bandura (Barnes & Markham, 2018) self-efficacy (personal mastery, vicarious experiences, verbal persuasion, and physiologic feedback) by Bandura (Leow et al., 2015), and social problem-solving theory by D'Zurillan and Nezu (Cheng, Chair, & Chau, 2014).

Quality of life outcomes. Studies employed multiple instruments to measure CGs' QoL outcomes. These included 1) summary scores of QoL (16 studies); and 2) multiple components of QoL outcomes (11 studies). The multiple components were various combinations of 1) physical well-being; 2) psychological well-being; 3) social well-being; and 4) environmental

well-being. Studies took QoL measures from 0 to 665 days (mean 155, SD 178.7) post intervention.

Meta-Analysis of Quality-of-life Outcomes: Summary Scores

The overall effect size of 16 PEIs on summary scores of QoL outcomes showed a significant and positive medium effect ($k=16$, $n = 1,863$, $d = 0.648$, 95% CI [0.348, 0.949], $p < 0.001$) (see supplemental material Figure 1 in Appendix B). We found statistically significant heterogeneity of effects among summary scores of QoL ($Q = 131.826$, $p < 0.000$, $I^2 = 88.621$, $T^2 = 0.306$). One study demonstrated an extreme effect size ($d = 5.642$, 95% CI [4.045, 7.238], $p < 0.001$) that significantly distorted the pooled effect estimate and was therefore excluded. The outlier study by Lee et al. (2011) was the only study that examined cancer and used a cancer-specific outcome measure (Caregiver Quality of Life—Cancer Scale). The overall effect size of 15 randomized controlled trial studies after excluding the outlier study still demonstrated that PEIs had a significant and positive medium effect on improving CGs' QoL ($k=15$, $n = 1,833$, $d = 0.508$, 95% CI [0.253, 0.762], $p < 0.001$) (see Figure 4.3). Study effects were significantly heterogeneous; however, there was slight reduction of I^2 after removing the outlier ($Q = 89.830$, $p < 0.001$, $I^2 = 84.415$, $T^2 = 0.200$).

Meta-Analysis of Quality of Life Outcomes: Component Scores

Physical well-being. Data were available on physical well-being for 10 studies. PEIs showed no significant effect on physical well-being for CGs ($k= 11$, $n = 795$, $d = 0.052$, 95% CI [-0.146, 0.249], $p = 0.608$) (see supplemental material Figure 2 in Appendix B). We found no statistically significant heterogeneity of effects for physical well-being outcomes ($Q = 16.173$, $p = 0.095$, $I^2 = 38.168$, $T^2 = 0.039$).

Psychological well-being. The meta-analysis included 11 studies and showed no significant improvement for psychological well-being for CGs ($k=12$, $n=1,035$, $d = 0.263$, 95% CI [-0.037, 0.563], $p = 0.086$) (see supplemental material Figure 3 in Appendix B). Study effects were significantly heterogeneous ($Q = 52.329$, $p < 0.000$, $I^2 = 78.979$, $T^2 = 0.20$). However, Xiao et al. (2016) showed an extreme effect size, and this study was excluded because its sample differed from the other ten studies examining this outcome. Participants in 10 studies were spouses or partners while participants of the outlier study were children. The meta-analysis of 10 studies, excluding the outlier, showed a small nonsignificant effect size ($k= 11$, $n = 974$, $d = 0.105$, 95% CI [-0.076, 0.285], $p = 0.255$) (see supplemental material Figure 4 in Appendix B). Removing the outlier also resulted in reduced heterogeneity of effects across studies ($Q = 16.076$, $p = 0.097$, $I^2 = 37.795$, $T^2 = 0.031$).

Social well-being. The meta-analysis of six studies with seven comparison groups showed a significant improvement of social well-being after the interventions ($k=7$, $n = 475$, $d = 0.306$, 95% CI [0.088, 0.525], $p = 0.006$) (see supplemental material Figure 5 in Appendix B). Study effects were not significantly heterogeneous ($Q = 8.128$, $p = 0.229$, $I^2 = 26.179$, $T^2 = 0.022$).

Environmental well-being. The meta-analysis of three studies on environmental well-being outcomes had poor precision due to the small number of studies. A fixed-effect model was used for this analysis as recommended by Borenstein et al. (2009). The fixed-effect analysis can address poor precision of the estimate of between-studies variance (T^2) (Borenstein et al., 2009). The overall effect size of three studies on environmental well-being showed a very small, nonsignificant effect ($k=4$, $n = 153$, $d = 0.013$, 95% CI [-0.336, 0.309], $p = 0.935$) (see

supplemental material Figure 6 in Appendix B), and study effects were significantly heterogenous ($Q = 10.026$, $p = 0.018$, $I^2 = 70.077$, $T^2 = 0.271$).

Publication Bias

Publication bias was assessed by using funnel plots. The funnel plot for the meta-analysis of QoL summary scores showed asymmetry, suggesting the presence of publication bias (see Figure 4.4). Egger's test also demonstrated possible publication bias ($p = 0.03$).

Discussion

The present systematic review and meta-analysis examined the overall effects of PEIs on diverse QoL outcomes. Findings suggest PEIs are effective in improving overall QoL for CGs of older adults with chronic conditions. The intervention characteristics (e.g., delivery formats, dose, interventionists, and QoL measurement tools) and participant characteristics (e.g., age and types of CGs) varied substantially across studies. Findings from this work could inform future research to develop and tailor effective interventions for improving QoL in clinical and nonclinical settings.

The effects of caregiver-focused psychoeducational interventions on QoL were examined in two ways: 1) summary scores of QoL; and 2) multiple domains of QoL (physical, psychological, social, and environmental well-being). Findings demonstrated significant effects of PEIs on caregiver summary scores of QoL and social well-being, but no effect on the components of physical, psychological, and environmental well-being. Previous research has demonstrated that PEIs often provide caregiving knowledge, useful services, and referral to other resources (e.g., support groups, hospital services, community rehabilitation, or physical therapy groups), which may contribute to improvements in overall QoL (Hong et al., 2017; Oupra et al., 2010). PEIs may improve CGs' social well-being by giving them reason to believe they are not

alone in their efforts to care for their loved one. Providers' assistance reassures CGs and improves their feelings of social well-being, possibly regardless of the intervention's content (Otis-Green & Juarez, 2012).

Evidence in the present review also demonstrated that PEIs may not significantly improve CGs' psychological well-being and environmental well-being. However, a previous review of CGs who looked after *only* cancer patients found that CGs' physical functioning could improve three to six months post intervention (Northouse et al., 2010). In previous reviews and meta-analyses, caregiver interventions improved psychological well-being among CGs who cared for only cancer patients (e.g., relieving stress, anxiety, and depression) (Northouse et al., 2010; Verkaik et al., 2015). Our review included studies with CGs of patients with various chronic illnesses (e.g., dementia, stroke, and cancer), which may account for the lack of evidence for a significant effect on some outcomes. Another possible reason for our findings is that few included studies employed theory-driven interventions targeting theoretical constructs and pathways related to other QoL domains. A previous systematic review suggested that using theory to drive interventions could improve their quality and effects (Northouse et al., 2010). Diverse theories describe mechanisms to increase caregiver self-efficacy and coping skills, and to reduce caregiver stress and burden that may also influence QoL domains (Barnes & Markham, 2018; Boot et al., 2018; Cheng et al., 2018; Leow et al., 2015). Designing and testing theory-driven interventions could also increase our understanding of the mechanisms of interventions' effects. Thus, future research could test theory-driven interventions and focus on particular QoL domains (e.g., physical or psychological well-being).

In the present review, few studies addressed CGs' environmental well-being. This QoL domain refers to CGs' access to green areas, safety, and comfortable homes for CGs and

patients, which can increase positive mental health and reduce CGs' stress (Parra et al., 2010). Greater environmental well-being is associated with improvement in QoL (Wong et al., 2018). More psychoeducational intervention research is needed to address environmental issues and incorporate measures of environmental well-being to evaluate intervention effects. One example may be testing a program to teach CGs about achievable home adaptations (such as installing ramps, transfer benches, grab-bars, or raised toilet seats) to facilitate patient and caregiver activities.

Significant heterogeneity existed across included reports. The studies recruited CGs of a variety of patients (e.g., dementia or cancer or stroke). These CGs had different needs, so interventions tailored to them also differed, as did measures of QoL and QoL domains. Although we had intended to conduct analyses to determine moderators of intervention effects, we were unable to do so because of the limited number of studies in each meta-analysis.

Most PEIs in the current review combined *both* psychological and educational strategies. Previous research suggests that interventions combining psychological and educational strategies effectively addressed caregiving difficulties (Cheng et al., 2019). However, only one-half of such interventions in the present review improved specific multiple components of QoL: physical, psychological, social, and environmental well-being. Some evidence found in this study showed how providers may tailor interventions. Psychological strategies included strategies for coping with stress, focusing on positive ideas, and cognitive behavioral restructuring strategies to modify negative emotional responses (Berwig et al., 2017; Boots et al., 2018). Effective educational strategies included improving caregiver's understanding of older adults' conditions (e.g., dementia) (Barnes & Markham, 2018), training them in nursing skills (e.g., personal hygiene, dressing), providing generic counseling, and helping them identify other resources for

care (Guerra et al., 2011). Assessing CGs' needs before choosing or tailoring instruction to them may result in more effective PEIs (Chien & Lee, 2011). Further research is needed to examine the specific components of combined interventions to confirm their effectiveness.

PEIs employed several delivery formats (e.g., verbal, face-to-face, telephone (cell phone and mobile phone), written, or online). Although we could not conduct moderator analyses due to the small number of studies for each format outcome, significant effects were observed for individual studies that employed verbal, face-to-face, and telephone formats. This is consistent with previous systematic reviews and meta-analyses that found the delivery format and content of interventions impacted their effectiveness (Adelman et al., 2014; Pinquart & Sörensen, 2006). Although verbal and face-to-face were the most common delivery formats, telephone format may have advantages for future research due to convenience and reduced intervention cost (Meichsner et al., 2019). Providers usually choose between caregiver-only formats or group delivery (e.g., to a group of CGs). Most studies in this review used individual instruction formats. Previous research has recommended individual delivery formats as more effective than group delivery (Berwig et al., 2017). However, a previous meta-analysis found the group format more effective than a caregiver-only format because group interactions promoted the exchange of experiences and strategies in caring for older adults (Sörensen et al., 2002). Individual formats allow CGs to express their needs and concerns privately, which is an advantage. Also, caregiver-only instruction can be more intensive and focused on particular needs and skills (Gitlin et al., 2003). Therefore, we recommend that providers base psychoeducational intervention delivery formats on a caregiver needs assessment and the health care team's capacity. Future research could compare the effects of PEIs delivered in varied formats to determine their impact on caregiver QoL.

Determining an appropriate dosage is among the most essential decisions healthcare providers or researchers must make when designing a psychoeducational intervention. Dosage, which includes session metrics (length, number of sessions, frequency, and duration), varied across studies. We were unable to determine optimal intervention dosage to significantly improve QoL because small sample sizes prevented us from performing moderator analyses. However, providers should consider tailoring dosage to caregiver characteristics (e.g., age, education, needs, or availability). Previous research suggests that dosage should be specific but adapted to the clinical or community situation (Teel & Leenerts, 2005).

Multiple interdisciplinary providers (e.g., nurses, psychologists, social workers) often deliver interventions to address caregiving challenges. Having multiple interventionists can help CGs address complex problems (e.g., lack of nursing knowledge, insufficient caregiving experience, psychological problems, or financial challenges). Also, preparation and training of providers who become psychoeducational interventionists can be an important factor in success (Robbins-Welty et al., 2018). In the current review, nurses were common interventionists, often providing nursing knowledge or teaching nursing skills to improve both care for the patient and QoL for the caregiver. A previous systematic review found nurses performed most of this work, with various combinations of professionals providing one-fifth of interventions (Northouse et al., 2010). Previous research established that nurses could contribute to each intervention phase: assessing caregiver needs (Chien & Lee, 2011; Mahendran et al., 2017), designing individualized interventions (Beinart et al., 2012), establishing the intervention team (Martín-Carrasco et al., 2009), and providing caregiver-only and/or group intervention, depending on the needs assessment (Frias et al., 2020). Former CGs may also be a potential resource to assist current CGs in coping with their situations (Leow et al., 2015; Wang & Chien, 2011). Perhaps the most

effective intervention is delivered by multiple interventionists (e.g., nurses, social workers, and former CGs) as a team trained beforehand.

All of the studies included in the present review were randomized controlled trials, but few showed high methodological quality (low risk of bias). This may limit the application of this study's results to a general population. Future randomized controlled trials should strive to achieve methodological quality and report key information, including description of appropriate randomization and using a double-blind method to assign intervention (Jadad et al., 1996). We found several studies that met inclusion criteria but were excluded because they did not provide essential data (e.g., mean, SD, or SE) for synthesizing the overall effect size. Few corresponding authors responded to our emailed requests for the necessary data. Further studies with larger sample sizes and high methodological quality are required to increase the reliability of future meta-analyses. Characteristics influencing quality include describing appropriate randomization, using a double-blind approach, and incorporating theory into the intervention's design and implementation.

PEIs could address and improve life for CGs and patients in many ways. However, included studies did not consistently report key outcomes such as depression, anxiety, and overall burden. Future systematic reviews and meta-analyses could examine the moderator analyses to identify factors (e.g., caregiver characteristics or intervention characteristics) impacting the effect of interventions.

Strengths and Limitations of the Review

This study has important limitations. Factors limiting generalizability of its findings include: 1) only RCTs (published and unpublished) in English were included, which excluded eligible research in other languages; 2) the participants in most included studies were female

spouses or partners, with very few males or adult children. Consequently, this review may not apply to all caregiver groups. The presence and characteristics of caregiver interventions varies greatly across countries; thus, studies included in this review may not address issues CGs face in other parts of the world. One included study looked only at male participants or only adult children CGs. Although male and/or adult children CGs are less common, they may have unique caregiving problems that should be addressed. Therefore, future psychoeducational intervention research should study male participants and adult children to cover all possible caregiver groups. Additionally, few included studies had theory-driven interventions. PEIs that are not based on theoretical constructs run a greater risk of using time and resources on ineffective interventions.

This review's results indicate the presence of publication bias in the included studies, despite comprehensive search strategies. This may have affected the observed effect size. Twenty of the 27 studies obtained a low score for methodological quality, which may lead to inconsistency of evidence (Zhao et al., 2019). Due to the small number of studies included and the variation in how researchers measured QoL, we could not conduct moderator analyses to investigate how a variety of intervention components may have impacted intervention effects.

Despite these limitations, the present systematic review and meta-analysis has important strengths. All included studies: 1) used RCT design; 2) were identified by using comprehensive search strategies such as an online search (e.g., PubMed, CINAHL, PsycINFO, and Scopus) and alternative search strategies (e.g., bibliographic searching, hand searching, author searching, conference abstract searching, and dissertations indexed by ProQuest.); and 3) were duplicate coded by trained, an independent researcher to enhance the rigor of data extraction.

Conclusions

PEIs could significantly improve overall QoL and social well-being. However, included studies lacked evidence that PEIs improved physical, psychological, and environmental well-being among CGs of older adults with chronic illness. This study provided important information about the characteristics of effective PEIs, which can assist providers and researchers as they tailor such interventions. The development of effective PEIs could incorporate assessments of CGs' needs and preferred delivery format, and may involve multiple interventionists. Future research should strive for high methodological quality, incorporate diverse participants, study more male and/or adult children CGs, and test theory-driven interventions. Furthermore, future systematic reviews and meta-analyses are needed to examine PEIs' effects on other negative consequences of caregiving (e.g., environmental challenges, burden, or anxiety) related to caring for older adults with chronic illnesses.

Acknowledgements: Many thanks to Dr. Jo-Ana D. Chase, Dr. Vicki S. Conn, Dr. Deidre D. Wipke-Tevis, Dr. Kari R. Lane, and Dr. Jacquelyn Benson, University of Missouri, Columbia, Missouri, U.S.A., for useful suggestions in the design, data collection, analysis and reporting of this study.

Conflicts of interest: None

Funding sources: The project was supported by the Toni and Jim Sullivan Endowed Research Fund and the Philanthropic Educational Organization (P.E.O.) International Peace Scholarship, and these funding sources had no involvement in the planning or implementation of the research.

Ethical approval: No ethical permission was needed.

References

- AARP and National Alliance for Caregiving. *Caregiving in the United States 2020*. Washington, DC: AARP. Retrieved from <https://doi.org/10.26419/ppi.00103.001>
- Adelman, R. D., Tmanova, L. L., Delgado, D., Dion, S., & Lachs, M. S. (2014). Caregiver burden: a clinical review. *The Journal of the American Medical Association, 311*(10), 1052-1060. <https://doi.org/10.1001/jama.2014.304>
- Barnes, C. J., & Markham, C. (2018). A pilot study to evaluate the effectiveness of an individualized and cognitive behavioural communication intervention for informal carers of people with dementia: The Talking Sense programme. *The International Journal of Language & Communication Disorders, 53*(3), 615-627. <https://doi.org/10.1111/1460-6984.12375>
- Behrnt, E. M., Straubmeier, M., Seidl, H., Vetter, C., Luttenberger, K., & Graessel, E. (2019). Brief telephone counselling is effective for caregivers who do not experience any major life events - caregiver-related outcomes of the German day-care study. *BMC Health Services Research, 19*(1), 20. <https://doi.org/10.1186/s12913-018-3853-8>
- Beinart, N., Weinman, J., Wade, D., & Brady, R. (2012). Caregiver Burden and Psychoeducational Interventions in Alzheimer's Disease: A Review. *Dementia and geriatric cognitive disorders extra, 2*, 638-648. <https://doi.org/10.1159/000345777>
- Belgacem, B., Auclair, C., Fedor, M. C., Brugnon, D., Blanquet, M., Tournilhac, O., & Gerbaud, L. (2013). A caregiver educational program improves quality of life and burden for cancer patients and their caregivers: a randomised clinical trial. *European Journal of Oncology Nursing, 17*(6), 870-876. <https://doi.org/10.1016/j.ejon.2013.04.006>

- Berwig, M., Dichter, M. N., Albers, B., Wermke, K., Trutschel, D., Seismann-Petersen, S., & Halek, M. (2017). Feasibility and effectiveness of a telephone-based social support intervention for informal caregivers of people with dementia: Study protocol of the TALKING TIME project. *BMC Health Services Research*, *17*(1), 280-280. <https://doi:10.1186/s12913-017-2231-2>
- Berwig, M., Heinrich, S., Spahlholz, J., Hallensleben, N., Brahler, E., & Gertz, H. J. (2017). Individualized support for informal caregivers of people with dementia - effectiveness of the German adaptation of REACH II. *BMC Geriatrics*, *17*(1), 286. <https://doi:10.1186/s12877-017-0678-y>
- Boots, L. M., de Vugt, M. E., Kempen, G. I., & Verhey, F. R. (2018). Effectiveness of a Blended Care Self-Management Program for Caregivers of People With Early-Stage Dementia (Partner in Balance): Randomized Controlled Trial. *The Journal of Medical Internet Research*, *20*(7), e10017. <https://doi:10.2196/10017>
- Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2009). *Introduction to Meta-Analysis*: John Wiley & Sons.
- Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2011). *Introduction to meta-analysis*: John Wiley & Sons.
- Brewster, G. S., Epps, F., Dye, C. E., Hepburn, K., Higgins, M. K., & Parker, M. L. (2019). The Effect of the "Great Village" on Psychological Outcomes, Burden, and Mastery in African American Caregivers of Persons Living With Dementia. *The Journal of Applied Gerontology*, 733464819874574. <https://doi:10.1177/0733464819874574>

- Carbonneau, H., Caron, C. D., & Desrosiers, J. (2011). Effects of an adapted leisure education program as a means of support for caregivers of people with dementia. *Archives of Gerontology and Geriatrics*, 53(1), 31-39. <https://doi:10.1016/j.archger.2010.06.009>
- Cheng, H. Y., Chair, S. Y., & Chau, J. P. (2014). The effectiveness of psychosocial interventions for stroke family caregivers and stroke survivors: a systematic review and meta-analysis. *Patient Education and Counseling*, 95(1), 30-44. <https://doi:10.1016/j.pec.2014.01.005>
- Cheng, H. Y., Chair, S. Y., & Chau, J. P. C. (2018). Effectiveness of a strength-oriented psychoeducation on caregiving competence, problem-solving abilities, psychosocial outcomes and physical health among family caregiver of stroke survivors: A randomised controlled trial. *International Journal of Nursing Studies*, 87, 84-93. <https://doi.org/10.1016/j.ijnurstu.2018.07.005>
- Cheng, S.-T., Au, A., Losada, A., Thompson, L. W., & Gallagher-Thompson, D. (2019). Psychological Interventions for Dementia Caregivers: What We Have Achieved, What We Have Learned. *Current psychiatry reports*, 21(7), 59-59. <https://doi:10.1007/s11920-019-1045-9>
- Chien, W. T., & Lee, I. Y. M. (2011). Randomized controlled trial of a dementia care programme for families of home-resided older people with dementia. *Journal of Advanced Nursing*, 67(4), 774-787. <https://doi:10.1111/j.1365-2648.2010.05537.x>
- Cohen, J. (1988). Statistical power analysis for the social sciences. *Hillsdale, NJ: Lawrence Erlbaum Associates*.
- Cooper, H. (2017). Cooper, Harris, Research Synthesis and Meta-Analysis: A Step-by-Step Approach, Los Angeles: Sage Publications.

- Corry, M., Neenan, K., Brabyn, S., Sheaf, G., & Smith, V. (2019). Telephone interventions, delivered by healthcare professionals, for providing education and psychosocial support for informal caregivers of adults with diagnosed illnesses. *The Cochrane database of systematic reviews*, 5(5), CD012533-CD012533.
<https://doi:10.1002/14651858.CD012533.pub2>
- de Araujo Freitas Moreira, K. L., Abalos-Medina, G. M., Villaverde-Gutierrez, C., Gomes de Lucena, N. M., Belmont Correia de Oliveira, A., & Perez-Marmol, J. M. (2018). Effectiveness of two home ergonomic programs in reducing pain and enhancing quality of life in informal caregivers of post-stroke patients: A pilot randomized controlled clinical trial. *Disability and Health Journal*, 11(3), 471-477.
<https://doi:10.1016/j.dhjo.2018.01.003>
- Ekhtiari, H., Rezapour, T., Aupperle, R. L., & Paulus, M. P. (2017). Neuroscience-informed psychoeducation for addiction medicine: A neurocognitive perspective. *Progress in Brain Research*, 235, 239-264. <https://doi.org/10.1016/bs.pbr.2017.08.013>
- Erlen, J. A., Sereika, S. M., Sun, R., Tamres, L. K., Tang, F., & Lingler, J. H. (2019). Outcomes of a Problem-Solving Medication Management Intervention for Informal Caregivers. *Western Journal of Nursing Research*, 41(11), 1642-1657.
<https://doi:10.1177/0193945919825844>
- Frias, C. E., Garcia-Pascual, M., Montoro, M., Ribas, N., Risco, E., & Zabalegui, A. (2020). Effectiveness of a psychoeducational intervention for caregivers of People With Dementia with regard to burden, anxiety and depression: A systematic review. *Journal of Advanced Nursing*, 76(3), 787-802. <https://doi:10.1111/jan.14286>

- Funk, L., Stajduhar, K. I., Toyne, C., Aoun, S., Grande, G., & Todd, C. J. (2010). Part 2: Home-based family caregiving at the end of life: a comprehensive review of published qualitative research (1998-2008). *Palliative Medicine, 24*(6), 594-607. [https://doi: 10.1177/0269216310371411](https://doi.org/10.1177/0269216310371411).
- Gitlin, L. N., Belle, S. H., Burgio, L. D., Czaja, S. J., Mahoney, D., Gallagher-Thompson, D., . . . Investigators, R. (2003). Effect of multicomponent interventions on caregiver burden and depression: the REACH multisite initiative at 6-month follow-up. *Psychology and Aging, 18*(3), 361-374. [https://doi:10.1037/0882-7974.18.3.361](https://doi.org/10.1037/0882-7974.18.3.361)
- Guerra, M., Ferri, C. P., Fonseca, M., Banerjee, S., & Prince, M. (2011). Helping carers to care: the 10/66 dementia research group's randomized control trial of a caregiver intervention in Peru. *Brazilian Journal Psychiatry, 33*(1), 47-54. [https://doi: 10.1590/s1516-44462010005000017](https://doi.org/10.1590/s1516-44462010005000017).
- Hartmann, M., Bänzner, E., Wild, B., Eisler, I., & Herzog, W. (2010). Effects of interventions involving the family in the treatment of adult patients with chronic physical diseases: a meta-analysis. *Psychotherapy and Psychosomatics, 79*(3), 136-148. [https://doi:10.1159/000286958](https://doi.org/10.1159/000286958)
- Hong, S. E., Kim, C. H., Kim, E. J., Joa, K. L., Kim, T. H., Kim, S. K., . . . Jung, H. Y. (2017). Effect of a Caregiver's Education Program on Stroke Rehabilitation. *Annals of Rehabilitation Medicine, 41*(1), 16-24. [https://doi:10.5535/arm.2017.41.1.16](https://doi.org/10.5535/arm.2017.41.1.16)
- Jadad, A. R., Moore, R. A., Carroll, D., Jenkinson, C., Reynolds, D. J. M., Gavaghan, D. J., & McQuay, H. J. (1996). Assessing the quality of reports of randomized clinical trials: is blinding necessary? *Controlled clinical trials, 17*(1), 1-12. [https://doi.org/10.1016/0197-2456\(95\)00134-4](https://doi.org/10.1016/0197-2456(95)00134-4)

- Jensen, M., Agbata, I. N., Canavan, M., & McCarthy, G. (2015). Effectiveness of educational interventions for informal caregivers of individuals with dementia residing in the community: systematic review and meta-analysis of randomised controlled trials. *The International Journal of Geriatric Psychiatry, 30*(2), 130-143.
<https://doi:10.1002/gps.4208>
- Jimenez, D. E., Schulz, R., Perdomo, D., Lee, C. C., & Czaja, S. J. (2019). Implementation of a Psychosocial Intervention Program for Working Caregivers. *The Journal of Applied Gerontology, 38*(9), 1206-1227. <https://doi:10.1177/0733464817748777>
- Kurz, A., Wagenpfeil, S., Hallauer, J., Schneider-Schelte, H., Jansen, S., & for the, A. S. G. (2010). Evaluation of a brief educational program for dementia carers: The AENEAS Study. *The International Journal of Geriatric Psychiatry, 25*(8), 861-869.
<https://doi:10.1002/gps.2428>
- Kwok, T., Wong, B., Ip, I., Chui, K., Young, D., & Ho, F. (2013). Telephone-delivered psychoeducational intervention for Hong Kong Chinese dementia caregivers: a single-blinded randomized controlled trial. *Clinical Interventions in Aging, 8*, 1191-1197.
<https://doi:10.2147/CIA.S48264>
- Leach, M. J., Francis, A., & Ziaian, T. (2015). Transcendental Meditation for the improvement of health and wellbeing in community-dwelling dementia caregivers [TRANSCENDENT]: a randomised wait-list controlled trial. *BMC Complementary Alternative Medicine, 15*, 145. <https://doi:10.1186/s12906-015-0666-8>
- Lee, M., Ryoo, J. H., Chung, M., Anderson, J. G., Rose, K., & Williams, I. C. (2019). Effective interventions for depressive symptoms among caregivers of people with dementia: A

systematic review and meta-analysis. *Dementia*, 1471301218822640.

<https://doi:10.1177/1471301218822640>

Leow, M., Chan, S., & Chan, M. (2015). A pilot randomized, controlled trial of the effectiveness of a psychoeducational intervention on family caregivers of patients with advanced cancer. *Oncology Nursing Forum*, 42(2), E63-72. <https://doi:10.1188/15.Onf.E63-e72>

Li, Q., Lin, Y., Xu, Y., & Zhou, H. (2018). The impact of depression and anxiety on quality of life in Chinese cancer patient-family caregiver dyads, a cross-sectional study. *Health and Quality of Life Outcomes*, 16(1), 230-230. <https://doi:10.1186/s12955-018-1051-3>

Lukens, E. P., & McFarlane, W. R. (2004). Psychoeducation as Evidence-Based Practice: Considerations for Practice, Research, and Policy. *Brief Treatment & Crisis Intervention*, 4(3). <https://doi:10.1093/brief-treatment/mhh019>

Mahendran, R., Lim, H. A., Tan, J. Y. S., Ng, H. Y., Chua, J., Lim, S. E., . . . Griva, K. (2017). Evaluation of a brief pilot psychoeducational support group intervention for family caregivers of cancer patients: a quasi-experimental mixed-methods study. *Health and Quality of Life Outcomes*, 15(1), 17-17. <https://doi:10.1186/s12955-017-0595-y>

Martín-Carrasco, M., Domínguez-Panchón, A. I., González-Fraile, E., Muñoz-Hermoso, P., Ballesteros, J., & The, E. G. (2014). Effectiveness of a Psychoeducational Intervention Group Program in the Reduction of the Burden Experienced by Caregivers of Patients With Dementia: The EDUCA-II Randomized Trial. *Alzheimer Disease & Associated Disorders*, 28(1), 79-87. <https://doi:10.1097/WAD.0000000000000003>.

Martín-Carrasco, M., Franco, M., Valero, P., Millán, P., Iglesias-García, C., Montalbán, S., . . . Vilanova, M. (2009). Effectiveness of a psychoeducation intervention program in the

- reduction of caregiver burden in Alzheimer's Disease patients' caregivers. *International Journal of Geriatric Psychiatry*, 24, 489-499. <https://doi:10.1002/gps.2142>
- McFarlane, W. R., Dixon, L., Lukens, E., & Lucksted, A. (2003). Family psychoeducation and schizophrenia: A review of the literature. *Journal of Marital and Family Therapy*, 29(2), 223-245. <https://doi:10.1111/j.1752-0606.2003.tb01202.x>.
- Meichsner, F., Töpfer, N. F., Reder, M., Soellner, R., & Wilz, G. (2019). Telephone-based cognitive behavioral intervention improves dementia caregivers' quality of life. *The American Journal of Alzheimer's Disease & Other Dementias®*, 34(4), 236-246. <https://doi:10.1177/1533317518822100>
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., . . . Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Review*, 4(1), 1. <https://doi:10.1186/2046-4053-4-1>
- Northouse, L., Schafenacker, A., Barr, K. L. C., Katapodi, M., Yoon, H., Brittain, K., . . . An, L. (2014). A tailored Web-based psychoeducational intervention for cancer patients and their family caregivers. *Cancer nursing*, 37(5), 321-330. <https://doi:10.1097/NCC.000000000000159>
- Northouse, L. L., Katapodi, M. C., Song, L., Zhang, L., & Mood, D. W. (2010). Interventions with family caregivers of cancer patients: meta-analysis of randomized trials. *CA: A Cancer Journal for Clinicians*, 60(5), 317-339. <https://doi:10.3322/caac.20081>
- Otis-Green, S., & Juarez, G. (2012). Enhancing the social well-being of family caregivers. *Seminars in Oncology Nursing*, 28(4), 246-255. <https://doi:10.1016/j.soncn.2012.09.007>

- Oupra, R., Griffiths, R., Pryor, J., & Mott, S. (2010). Effectiveness of Supportive Educative Learning programme on the level of strain experienced by caregivers of stroke patients in Thailand. *Health & social care in the community, 18*(1), 10-20.
<https://doi:10.1111/j.1365-2524.2009.00865.x>
- Parra, D. C., Gomez, L. F., Sarmiento, O. L., Buchner, D., Brownson, R., Schimd, T., . . . Lobelo, F. (2010). Perceived and objective neighborhood environment attributes and health related quality of life among the elderly in Bogotá, Colombia. *Social Science & Medicine, 70*(7), 1070-1076. <https://doi:10.1016/j.socscimed.2009.12.024>
- Pinquart, M., & Sörensen, S. (2006). Helping caregivers of persons with dementia: which interventions work and how large are their effects? *International Psychogeriatrics, 18*(4), 577-595. <https://doi:10.1017/s1041610206003462>
- Ponce, C. C., Ordonez, T. N., Lima-Silva, T. B., Dos Santos, G. D., Viola, L. d. F., Nunes, P. V., . . . Cachioni, M. (2011). Effects of a psychoeducational intervention in family caregivers of people with Alzheimer's disease. *Dementia & neuropsychologia, 5*(3), 226-237.
<https://doi:10.1590/S1980-57642011DN05030011>
- Rigby, T., Ashwill, R. T., Johnson, D. K., & Galvin, J. E. (2019). Differences in the Experience of Caregiving Between Spouse and Adult Child Caregivers in Dementia With Lewy Bodies. *Innovation in aging, 3*(3), igz027-igz027. <https://doi:10.1093/geroni/igz027>
- Robbins-Welty, G. A., Mueser, L., Mitchell, C., Pope, N., Arnold, R., Park, S., . . . Schenker, Y. (2018). Interventionist training and intervention fidelity monitoring and maintenance for CONNECT, a nurse-led primary palliative care in oncology trial. *Contemporary clinical trials communications, 10*, 57-61. <https://doi:10.1016/j.conctc.2018.03.006>

- Sin, J., Gillard, S., Spain, D., Cornelius, V., Chen, T., & Henderson, C. (2017). Effectiveness of psychoeducational interventions for family carers of people with psychosis: A systematic review and meta-analysis. *Clinical Psychology Review, 56*, 13-24.
<https://doi.org/10.1016/j.cpr.2017.05.002>
- Sörensen, S., Pinquart, M., & Duberstein, P. (2002). How Effective Are Interventions With Caregivers? An Updated Meta-Analysis. *The Gerontologist, 42*(3), 356-372.
<https://doi:10.1093/geront/42.3.356>
- Sterne, J. A. C., Egger, M., & Smith, G. D. (2001). Investigating and dealing with publication and other biases in meta-analysis. *British Medical Journal, 323*(7304), 101-105.
<https://doi:10.1136/bmj.323.7304.101>
- Tanner, J. A., Black, B. S., Johnston, D., Hess, E., Leoutsakos, J. M., Gitlin, L. N., . . . Samus, Q. M. (2015). A randomized controlled trial of a community-based dementia care coordination intervention: effects of MIND at Home on caregiver outcomes. *The American Journal of Geriatric Psychiatry, 23*(4), 391-402.
<https://doi:10.1016/j.jagp.2014.08.002>
- Teel, C. S., & Leenerts, M. H. (2005). Developing and Testing a Self-Care Intervention for Older Adults in Caregiving Roles. *Nursing Research, 54*(3), 193-201.
<https://doi.org/10.1097/00006199-200505000-00007>
- Verkaik, R., Mistiaen, P., van Meijel, B., & Francke, A. L. (2015). The effectiveness of interventions in supporting self-management of informal caregivers of people with dementia; a systematic meta review. *BMC Geriatrics, 15*(1), 1-10.
<https://doi:10.1186/s12877-015-0145-6>

- Waldron, E. A. (2011). *Improving the Quality of Life of Adult Cancer Caregivers: A Systematic Review*, 22(6), 1200-1207. <https://doi:10.1002/pon.3118>.
- Walker, E., Hernandez, A. V., & Kattan, M. W. J. C. C. j. o. m. (2008). Meta-analysis: Its strengths and limitations. *Cleveland Clinic Journal of Medicine*, 75(6), 431-439. <https://doi:10.3949/ccjm.75.6.431>.
- Wang, F., Luo, D., Fu, L., Zhang, H., Wu, S., Zhang, M., . . . Chen, X. (2017). The Efficacy of Couple-Based Interventions on Health-Related Quality of Life in Cancer Patients and Their Spouses: A Meta-analysis of 12 Randomized Controlled Trials. *Cancer Nurse*, 40(1), 39-47. <https://doi:10.1097/ncc.0000000000000356>
- Wang, L. Q., & Chien, W. T. (2011). Randomised controlled trial of a family-led mutual support programme for people with dementia. *The Journal of Clinical Nursing*, 20(15-16), 2362-2366. <https://doi:10.1111/j.1365-2702.2011.03746.x>
- WHO. (1996). *WHOQOL-BREF: introduction, administration, scoring and generic version of the assessment: field trial version, December 1996*. Retrieved from <https://apps.who.int/iris/handle/10665/63529>
- Wilz, G., Reder, M., Meichsner, F., & Soellner, R. (2018). The Tele.TAnDem Intervention: Telephone-based CBT for Family Caregivers of People With Dementia. *Gerontologist*, 58(2), e118-e129. <https://doi:10.1093/geront/gnx183>
- Wong, F. Y., Yang, L., Yuen, J. W. M., Chang, K. K. P., & Wong, F. K. Y. (2018). Assessing quality of life using WHOQOL-BREF: a cross-sectional study on the association between quality of life and neighborhood environmental satisfaction, and the mediating effect of health-related behaviors. *BMC Public Health*, 18(1), 1113-1113. <https://doi:10.1186/s12889-018-5942-3>

Zhao, Y., Feng, H., Hu, M., Hu, H., Li, H., Ning, H., . . . Peng, L. (2019). Web-Based Interventions to Improve Mental Health in Home Caregivers of People With Dementia: Meta-Analysis. *The Journal of Medical Internet Research*, *21*(5), e13415.
<https://doi:10.2196/13415>

Table

Table 4.1. Study Characteristics of PEI Interventions (s=27)

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
Boots, de Vugt, Kempen, & Verhey, 2018, Netherlands	Treatment group: n= 41, 70.7% female; mean age (SD) 67.8 (10.2) Control group: n=40, 60% female; mean age (SD) 70.2 (10.2)	Home 60 Verbal, written, face-to-face, lecturing, online, group, individual Partner in Balance: 1) a face-to-face intake session; 2) tailored online thematic modules; and 3) a face-to-face evaluation session Usual care Nurse, psychologist	Investigating Choice Experiments for the Preferences of Older People CAP ability measure for older people (ICECAP-O) (summary scores)	0.463
Barnes & Markham, 2018, United Kingdom	Treatment group: n= 28, 70% female; mean age (SD) 67 (11.8) Control group: n= 27, 84% female; mean age (SD) 68 (14.3)	Home 60 Verbal, face-to-face, hands-on training, individual formats The Talking Sense intervention (the nine steps of Talking sense): 1) knowledge; 2) insight; 3) thoughts and feelings; 4) the environment; 5) the person; 6) how to be the carer; 7) reminders and encouraging conversation; 8) communication and activities; and challenging behaviors Standard care Speech and language therapist	Adult Carers Quality of Life scale (ACQOL) (summary scores)	2.744
Behrndt et al., 2019, Germany	Treatment group: n= 205, 73.7% female; mean age (SD) 59.5 (11.4) Control group: n= 154, 76.6% female; mean age (SD) 59.3 (11.2)	Home 3 Verbal, telephone, individual The Brief telephone intervention: 1) exploring the most stressful problems and deducing goal; 2) help of problem-solving approaches; and 3) a booster session Usual care Counselor	Euro-QoL(EQ-5D) (summary scores)	0.185

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
Berwig et al., 2017, Germany	<p>Treatment group: n= 47, 68% female; mean age (SD) 72.3 (8.11)</p> <p>Control group: n= 45, 64% female; mean age (SD) 73.98 (8.15)</p>	<p>Home 154</p> <p>Verbal, written, telephone, face-to-face, lecturing, hands-on training, individual, role-playing</p> <p>Adapted REACH II program: 1) information transfer; 2) psycho-education; 3) role-playing; 4) problem-solving; 5) practice of skills; 6) techniques for stress management; and 7) telephone support groups</p> <p>Usual care Nurse, occupational therapist, dementia care professionals</p>	<p>Short Form-12 (SF-12)</p> <ul style="list-style-type: none"> Physical well-being Psychological well-being 	<ul style="list-style-type: none"> Physical well-being = -0.300 Psychological well-being = 0.902
Carbonneau, Caron, & Desrosiers, 2011, Canada	<p>Treatment group: n= 26, 80.8% female; mean age (SD) - (-)</p> <p>Control group: n= 23, 82.6% female; mean age (SD) - (-)</p>	<p>Home 66.5</p> <p>Verbal, telephone, face-to-face, patient-caregiver dyad, individual</p> <p>The adapted leisure education program: 1) clarifying caregiver personal situation; 2) communication issues; 3) communication issues follow up; 4) leisure approach presentation; 5) follow-up of activities integration; 6) face difficulties follow-up; 7) follow-up of activities integration; 8) Learning consolidation the caregiver</p> <p>Usual care Facilitator</p>	<p>The General Well-Being (summary scores)</p>	0.011
Cheng, Chair, & Chau, 2018, China	<p>Treatment group: n= 64, 78.1% female; mean age (SD) 49.08 (12.09)</p> <p>Control group: n= 64, 71.9% female; mean age (SD) 49.11 (12.9)</p>	<p>Hospital to home 182</p> <p>Verbal, written, telephone, face-to-face, hands-on training, patient-caregiver dyad, individual</p> <p>Psychoeducational program: 1) affective experiencing; 2) behavioral regulation, which modifies the caregiving skills and habits, and (3) cognitive mastery, which reframes</p>	<p>Short Form-12 (SF-12) (summary scores)</p>	0.196

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
		the perception of problems and nurtures problem-solving skills and abilities Usual care Nurse, physician, physiotherapist, occupational therapist, speech and language therapist, social worker		
Chien & Lee, 2011, Hong Kong	Treatment group: n= 46, 67.4% female; mean age (SD) 44.9 (8.5) Control group: n= 46, 65.2% female; mean age (SD) 45.6 (9.2)	Home 37 Verbal, face-to-face, hands-on training, group, individual Dementia Family Care Program (DFCP): 1) information about the client's illness condition, prognosis, and current treatment and care; 2) the development of social relationships with close relatives and friends, and thus a satisfactory extended social support network; 3) sharing and adaptation of the emotional impact of caregiving; 4) learning about self-care and motivation; 5) improvement of interpersonal relationships between family members and the client; 6) establishing support from community groups and healthcare resources; and 7) improvement of home care and finance skills Routine care Nurse, psychiatrist, social worker	World Health Organization Quality of Life Measure-Brief Version (WHOQOL-BREF) (summary scores)	1.368
de Araujo Freitas Moreira et al., 2018, Brazil	Treatment group: Treatment 1: n= 11, 90.9% female; mean age (SD) 55.09 (7.73) Treatment 2: n= 11, 90.9% female; mean age (SD) 55.91 (14.52)	Home 90 Verbal, face-to-face, hands-on training, individual Postural hygiene and kinesiotherapy program: 1) preparation of the patient's environment; 2) postural hygiene during	World Health Organization Quality of Life Measure-Brief Version (WHOQOL-BREF) • Physical well-being • Psychological well-being	• Physical well-being = -0.375 • Psychological well-being = -0.288 • Social well-being = 0.491 • Environmental well-being = -0.671

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
	Control group: n= 11, 63.3% female; mean age (SD) 52.91 (17.07)	patient transfers; 3) management of the patient during activities of daily life; and the caregiver's posture in performing daily activities Standard care Physiotherapist	<ul style="list-style-type: none"> • Social well-being • Environmental well-being 	
		Home 90 Verbal, group Ergonomic adaptations: ergonomic adjustments and adaptations to the home Standard care Physiotherapist	World Health Organization Quality of Life Measure-Brief Version (WHOQOL-BREF) <ul style="list-style-type: none"> • Physical well-being • Psychological well-being • Social well-being • Environmental well-being 	<ul style="list-style-type: none"> • Physical well-being = -0.044 • Psychological well-being = 0.000 • Social well-being = 0.181 • Environmental well-being = -0.604
Erlen et al., 2019, USA	Treatment group: n=42, - % female; mean age (SD) - (-) Control group: n= 41, - % female; mean age (SD) - (-)	Home 60 Verbal A problem-solving intervention: 1) providing assistance with medication management in the context of burden and stress among caregivers; and 2) problem-solving strategies offering distinct potential to improve caregiver medication management Usual care Nurse, social worker	Short Form-36 (SF-36) <ul style="list-style-type: none"> • Physical well-being • Psychological well-being 	<ul style="list-style-type: none"> • Physical well-being = -0.288 • Psychological well-being = -0.283
Gavrilova et al., 2009, United Kingdom	Treatment group: n= 30, 67.9% female; mean age (SD) 61.5 (17.6) Control group: n= 30, 77.8% female; mean age (SD) 59.3 (12.8)	Home 37 Verbal, hands-on training The 10/66 Caregiver Intervention: 1) assessment (e.g., cognitive and functional impairments); 2) basic education (e.g., general introduction to the illness); and 3) training on problem behaviors Usual care Physician	World Health Organization Quality of Life Measure-Brief Version (WHOQOL-BREF) <ul style="list-style-type: none"> • Physical well-being • Psychological well-being • Social well-being • Environmental well-being 	<ul style="list-style-type: none"> • Physical well-being = -0.220 • Psychological well-being = 0.340 • Social well-being = 0.630 • Environmental well-being = 0.660
Gitlin, Winter, Dennis,	Treatment group:	Home 120		0.363

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
Hodgson, & Hauck, 2010, USA	n= 102, 87.3% female; mean age (SD) 62 (12.4) Control group: n= 107, 90.7% female; mean age (SD) 62.4 (11.7)	Verbal, written, telephone, face-to-face, hands-on training, patient-caregiver dyad COPE program: 1) assessments (patient deficits and capabilities, medical testing, home environment, caregiver communication, and caregiver-identified concerns); 2) caregiver education (patient capabilities, potential effects of medications, pain, constipation, dehydration); and 3) caregiver training to address caregiver-identified concerns and help them reduce stress Usual care Nurse, occupational therapist	Perceived Change Index (Caregiver well-being) (sum scores)	
Guerra, Ferri, Fonseca, Banerjee, & Prince, 2011, Lima and Peru	Treatment group: n= 29, 85.7% female; mean age (SD) 53.3 (15.9) Control group: n= 29, 89.7% female; mean age (SD) 47.6 (15)	Home 37 Verbal, video, face-to-face, hands-on training The 10/66 Caregiver Intervention ‘Helping Carers to Care’: 1) assessment (e.g., cognitive and functional impairments); 2) basic education (e.g., general introduction to the illness); and 3) training on problem behaviors Usual care Psychologist, social worker	World Health Organization Quality of Life Measure-Brief Version (WHOQOL-BREF) • Physical well-being • Psychological well-being • Social well-being • Environmental well-being	• Physical well-being = 0.360 • Psychological well-being = 0.100 • Social well-being = 0.390 • Environmental well-being = -0.150
Judge, Yarry, Looman, & Bass, 2012, USA	Treatment group: n= 59, 72.9% female; mean age (SD) 66.54 (12.26) Control group: n= 59, 74.6% female; mean age (SD) 64.3 (12.17)	Home N/A Verbal, written, face-to-face, hands-on training, patient-caregiver dyad Acquiring New Skills While Enhancing Remaining Strengths (ANSWERS): 1) educational information (e.g. the impact of dementia); 2) effective communication (e.g.,	Quality of life (Logsdon, McCurry, & Teri, 1999) (summary scores)	0.071

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
		addressing expressive language); 3) managing memory using cognitive rehabilitation technique); 4) staying active (e.g., cognitive task analysis); 5) recognizing emotions and behaviors; and 6) overall review and program wrap-up Usual care Certified interventionist		
Kajiyama et al., 2013, USA	Treatment group: n= 46, 83% female; mean age (SD) 55.22 (11.31) Control group: n= 57, 86% female; mean age (SD) 57.02 (12.53)	Home 60 Verbal, written, video, online iCare Condition (ICC): 1) dealing with stress; 2) learning how to relax; 3) pleasant activities; 4) Learning new communication skills; 5) managing difficult behaviors; 6) healthy habits; and 7) planning for the future Usual care (Education/Information-Only Condition (EOC) Researcher	Caregiver quality of life (Older People's Quality of Life Questionnaire-Brife (OPQOL-Brief) (summary scores)	0.018
Kurz, Wagenpfeil, Hallauer, Schneider-Schelte, & Janse, 2009, Germany	Treatment group: n= 156, 71.8% female; mean age (SD) 62.6 (11.5) Control group: n= 136, 66.2% female; mean age (SD) 62 (13.4)	Home N/A Verbal, face-to-face, group, individual Caregiver intervention: 1) general information on Alzheimer's disease; 2) the early stage of Alzheimer's disease; 3) the middle stage of Alzheimer's disease; 4) the late stage of Alzheimer's disease; 5) legal and insurance-related issues; 6) how to get help; and 7) additional topics and questions Usual care Psychologist, social worker	Short Form-36 (SF-36) • Psychological well-being • Psychological well-being • Social well-being	• Psychological well-being = -0.099 • Social well-being = -0.013
Leach, Francis, & Ziaian, 2015, Australia	Treatment group: n= 8, 87.5% female; mean age (SD) 69.4 (7.3)	Senior center N/A Verbal, face-to-face Transcendental Meditation: the focused	The Assessment of Quality of Life 8-dimension (AQoL-8D)	• Physical well-being = -0.027 • Psychological well-being = 0.029

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
	Control group: n= 9, 88.9% female; mean age (SD) 63.2 (8.8)	attention techniques (e.g. Tibetan Buddhism, Qigong) and open monitoring techniques (e.g. mindfulness, Sahaja yoga), which are generally more contemplative/concentrative in nature, effortful, and focused on the present moment Usual care Psychiatrist, physiotherapist, researcher	<ul style="list-style-type: none"> Physical well-being Psychological well-being 	
Lee, Sung, & Kim, 2011, USA	Treatment group: n= 15, 66.7% female; mean age (SD) 51.4 (14.9) Control group: n= 15, 86.7% female; mean age (SD) 56.4 (16.7)	Home 49 Verbal, face-to-face, hands-on training, individual Stress management: 1) education about the nature of stress and its role in the disease; 2) identification of behavioral risk factors and counseling for lifestyle change; 3) relaxation and its application during stress exposure; 4) cognitive restructuring, where negative and maladaptive thoughts and beliefs are substituted by positive and adaptive ones; 5) and anger and hostility control Usual care Clinician	Life Satisfaction Scale (LSS) (summary scores)	5.642
Leow, Chan, & Chan, 2015, Singapore	Treatment group: n= 38, 71.05% female; mean age (SD) 47 (11.73) Control group: n= 42, 64.28% female; mean age (SD) 47.31 (11.94)	Home hospice N/A Verbal, telephone, video, face-to-face, online N/A Usual care Nurse, physician, former caregiver, researcher	Caregiver Quality of Life–Cancer Scale (CQOLC) (summary scores)	1.045
Livingston et al., 2013, United Kingdom	Treatment group: n= 171, 67% female; mean age (SD) 62 (14.6) Control group:	Home 98 Verbal, individual Caring for the Caregiver Program (CCP): 1) coping with stress, frustration, depression, and anticipatory grief; 2)	Health status questionnaire (summary scores)	0.019

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
	n= 87, 71% female; mean age (SD) 56.1 (12.3)	improving communication between patients and caregivers; 3) providing social support; and 5) providing information about advanced care planning and community resources Usual care Psychologist		
Martin-Carrasco et al., 2009, Spain	Treatment group: n= 44, 72.7% female; mean age (SD) 55 (13.3) Control group: n= 38, 65% female; mean age (SD) 61.6 (13.8)	Hospital to outpatient clinic 120 Verbal, telephone, face-to-face, hands-on training Psychoeducational Intervention Program (PIP): 1) general information about how Alzheimer's Disease progresses; 2) individualized information about the patient; 3) both in person and over the telephone 'on demand'; and 4) information leaflets about Alzheimer's Disease and information about resources Usual care Nurse, psychologist, psychiatrist, social worker	Short Form-36 (SF-36) • Physical well-being • Psychological well-being • Social well-being	• Physical well-being = 0.684 • Psychological well-being = 0.239 • Social well-being = 0.475
Tanner et al., 2014, USA	Treatment group: n= 100, 75% female; mean age (SD) 66.3 (14.1) Control group: n= 178, 74% female; mean age (SD) 67.5 (13)	Home 540 Verbal, written, telephone, face-to-face, patient-caregiver dyad, individual Intervention group dyads: 1) identification of needs and individualized care planning; 2) provision of dementia education and skill building strategies; 3) coordination, referral, and linkage to health and community services; and 4) care monitoring Usual care Nurse, psychiatrist, frontline staff	Short Form-12 (SF-12) • Physical well-being • Psychological well-being	• Physical well-being = 0.172 • Psychological well-being = 0.069
Torkamani et al., 2014, United	Treatment group:	Home 180 Verbal, online	Euro-QoL(EQ-5D) (summary scores)	1.044

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
Kingdom, Spain, Greece	n= 10, -% female; mean age (SD) 57.57 (12.5) Control group: n= 10, -% female; mean age (SD) 63.93 (14.74)	A technology pLatform for the Assisted living of Dementia eLderly INdividuals and their carers' (ALADDIN): 1) 'ALADDIN TV' providing information and educational material about dementia; 2) 'SOCIAL NETWORKING' providing a forum for carers using ALADDIN to communicate with each other; 3) 'MY TASKS' comparing new responses to previous data; and 4) the 'CONTACT US' feature allowing the carer to alert the clinical site and/or generate a request for contact Usual care Clinician, technician		
Wang & Chien, 2011, Hong Kong	Treatment group: n= 40, -% female; mean age (SD) - (-) Control group: n= 40, -% female; mean age (SD) - (-)	Home 180 Verbal, face-to-face, group, patient-caregiver dyad N/A Usual care Nurse, psychiatrist, social worker, former caregiver	World Health Organization Quality of Life Measure-Brief Version (WHOQOL-BREF) (summary scores)	0.568
		180 Verbal, written, face-to-face CBT intervention: 1) providing problem-solving; 2) role-play; 3) self-care activities; 4) cognitive appraisal and reappraisal techniques; 5) anger management; 6) cognitive restructuring; 7) psychoeducation; 8) expressing and processing emotions of role change and loss; 9) coping with loss and change; and 10) defining new roles Usual care Psychologist		
Wilz, Meichsner, &	Treatment group:	Home 90	World Health Organization	0.188

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
Soellner, 2017, Germany	n= 78, 85.9% female; mean age (SD) 61.4 (9.74) Control group: n= 27, 74.1% female; mean age (SD) 61.3 (8.56)	Verbal, telephone, audio, face-to-face, workshop CBT intervention: 1) basic elements (e.g., creating a therapeutic alliance; 2) problem analysis (e.g., identifying the participant's main problem areas); 3) psychoeducation providing information on caregiving and/or the disease of the care recipient; 4) strengthening problem-solving abilities; 5) changing dysfunctional cognitions; 6) increasing the use of informal and/or professional support in care; 7) coping with change, grief, and loss; 8) self-care, creating value-based activities; 9) stress-management and emotion regulation strategies; and 10) evaluation Usual care Therapist	Quality of Life Measure-Brief Version (WHOQOL-BREF) (summary scores)	
Wilz, Reder, Meichsner, & Soellner, 2017, Germany	Treatment group: n= 139, 85.9% female; mean age (SD) 61.44 (9.74) Control group: n= 134, 74.1% female; mean age (SD) 61.3 (8.56)	Home 180 Verbal, written, face-to-face CBT intervention: 1) providing problem-solving; 2) role-play; 3) self-care activities; 4) cognitive appraisal and reappraisal techniques; 5) anger management; 6) cognitive restructuring; 7) psychoeducation; 8) expressing and processing emotions of role change and loss; 9) coping with loss and change; and 10) defining new roles Usual care Psychologist Home 180	Emotional Well-being (summary scores)	0.277
Xiao, De Bellis,	Treatment group:	Home N/A	Short Form-36 (SF-36)	

Author, Year, Location	Sample Characteristics	Intervention	Outcome	Effect size
Kyriazopoulos, Draper, & Ullah, 2016, Australia	n= 31, 83.9% female; mean age (SD) - (-) Control group: n= 30, 83.3% female; mean age (SD) - (-)	Verbal, telephone, face-to-face A Personalized Dementia Care Intervention: 1) information needs; 2) educational and skill needs; 3) environmental safety needs; 4) social-cultural care needs; and 5) self-care needs that reflect the current research evidence in dementia caregiver support Usual care Nurse, social worker, certified interventionist	<ul style="list-style-type: none"> • Physical well-being • Psychological well-being 	<ul style="list-style-type: none"> • Physical well-being = -0.061 • Psychological well-being = 2.006
Yu, 2016, Hong Kong	Treatment group: n= 30, 73.3% female; mean age (SD) 61.5 (14.1) Control group: n= 28, 80% female; mean age (SD) 61.2 (17.1)	Community elderly service 112 Verbal, telephone, face-to-face, group, patient-caregiver dyad, individual, workshop A health and social collaborative case management (HSC-CM): 1) a comprehensive assessment to identify caregiver needs; 2) a case management approach to provide integrated, coordinated, continued care; and 3) multidisciplinary group-based education customized to caregiver individual needs Usual care Nurse, social worker, dietician	Short Form-36 (SF-36) <ul style="list-style-type: none"> • Physical well-being • Psychological well-being • Social well-being 	<ul style="list-style-type: none"> • Physical well-being = 0.170 • Psychological well-being = 0.156 • Social well-being = 0.451

N/A (Not applicable)

Figures

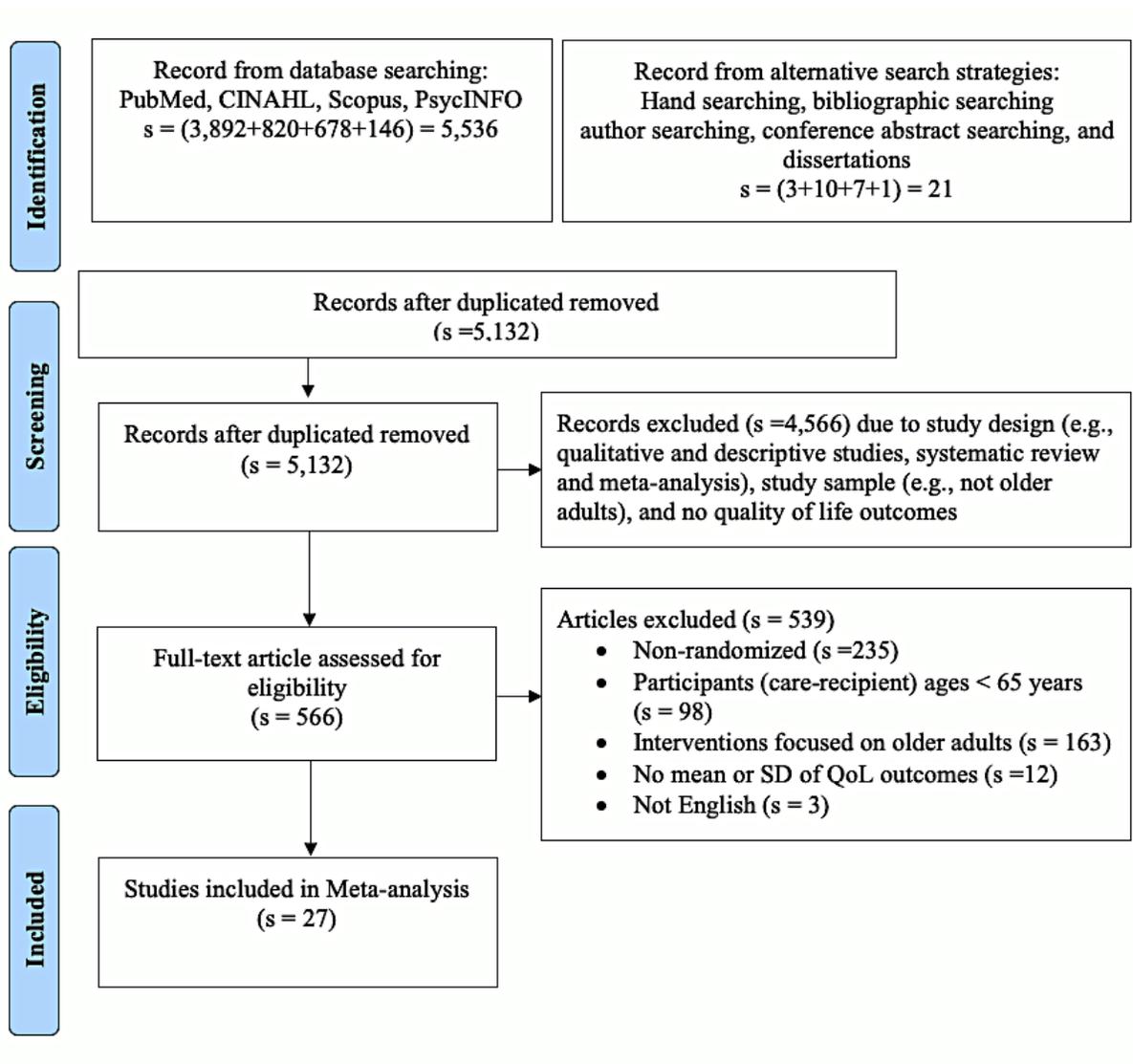


Fig 4.1. PRISMA study selection flowchart

Authors, year	Jadad Scale					Risk bias
	Was the study described as random?	Was the randomization scheme described and appropriate?	Was the study described as double-blind?	Was the method of double blinding appropriate?	Was there a description of dropouts and withdrawals?	
Boots, de Yugt, Kempen, & Verhey, 2018	✓	✗	✗	✗	✓	H
Barnes & Markham, 2018	✓	✓	✗	✗	✓	L
Behrmdt et al., 2019	✓	✗	✗	✗	✓	H
Berwig et al., 2017	✓	✗	✗	✗	✓	H
Carbonneau, Caron, & Desrosiers, 2011	✓	✗	✗	✗	✓	H
Cheng, Chair, & Chau, 2018	✓	✓	✓	✓	✓	L
Chien & Lee, 2011	✓	✗	✗	✗	✓	H
de Araujo Freitas Morcira et al., 2018	✓	✓	✗	✗	✗	H
Erlen et al., 2019	✓	✗	✗	✗	✗	H
Gavrilova et al., 2009	✓	✓	✗	✗	✗	H
Gitlin, Winter, Dennis, Hodgson, & Hauck, 2010	✓	✓	✗	✗	✓	L
Guerra, Ferri, Fonseca, Banerjee, & Prince, 2011	✓	✓	✗	✗	✓	L
Judge, Yarry, Looman, & Bass, 2012	✓	✗	✗	✗	✓	H
Kajiyama et al., 2013	✓	✗	✗	✗	✓	H
Kurz, Wagenfeil, Hallauer, Schneider-Schelte, & Jansz, 2009	✓	✗	✓	✓	✗	L
Leach, Francis, & Ziaian, 2015	✓	✗	✗	✗	✓	H
Lee, Sung, & Kim, 2011	✓	✗	✗	✗	✗	H
Leow, Chan, & Chan, 2015	✓	✗	✗	✗	✓	H
Livingston et al., 2013	✓	✓	✗	✗	✓	L
Martin-Carrasco et al., 2009	✓	✗	✗	✗	✓	H
Tanner et al., 2014	✓	✓	✗	✗	✓	L
Torkamani et al., 2014	✓	✗	✗	✗	✗	H
Wang & Chien, 2011	✓	✗	✗	✗	✓	H
Wilz, Meichsner, & Soellner, 2017	✓	✗	✗	✗	✓	H
Wilz, Reder, Meichsner, & Soellner, 2017	✓	✗	✗	✗	✗	H
Xiao, De Bellis, Kyriazopoulos, Draper, & Ullah, 2016	✓	✗	✗	✗	✓	H
Yu, 2016	✓	✗	✗	✗	✗	H

When a study met criteria (green), the study got one score, but a study unmet criteria (red) that got zero score. The maximum score is 5 (Jadad et al., 1996).
L = Low risk of bias because of high quality of studies (3-5 scores)
H = High risk of bias because of low quality of studies (0-2 scores)

Fig 4.2. Methodological quality assessment based on Jadad scale.

Summary Scores of Quality of Life Studies without the Outlier

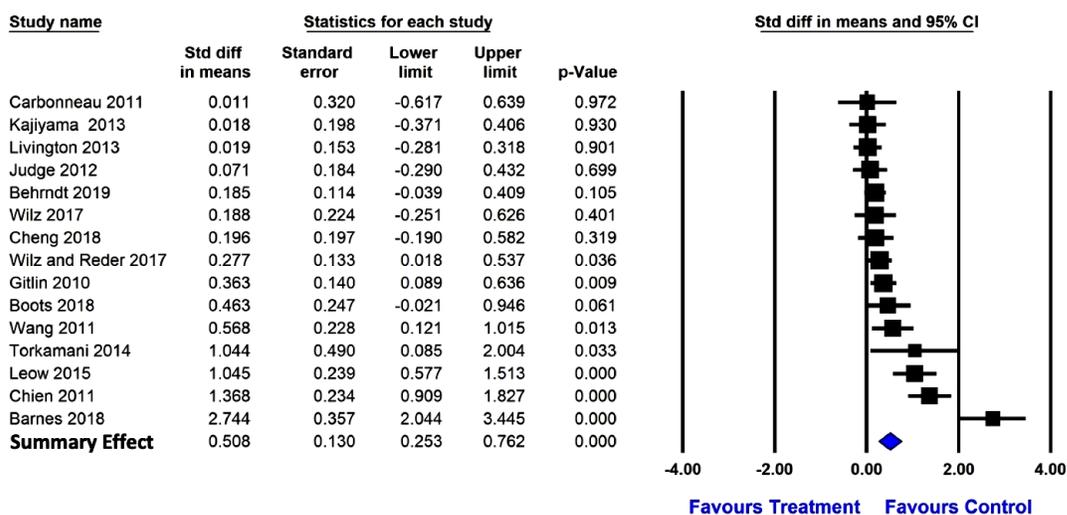


Fig 4.3. Forest plot of meta-analysis of PEIs on summary scores of QoL.

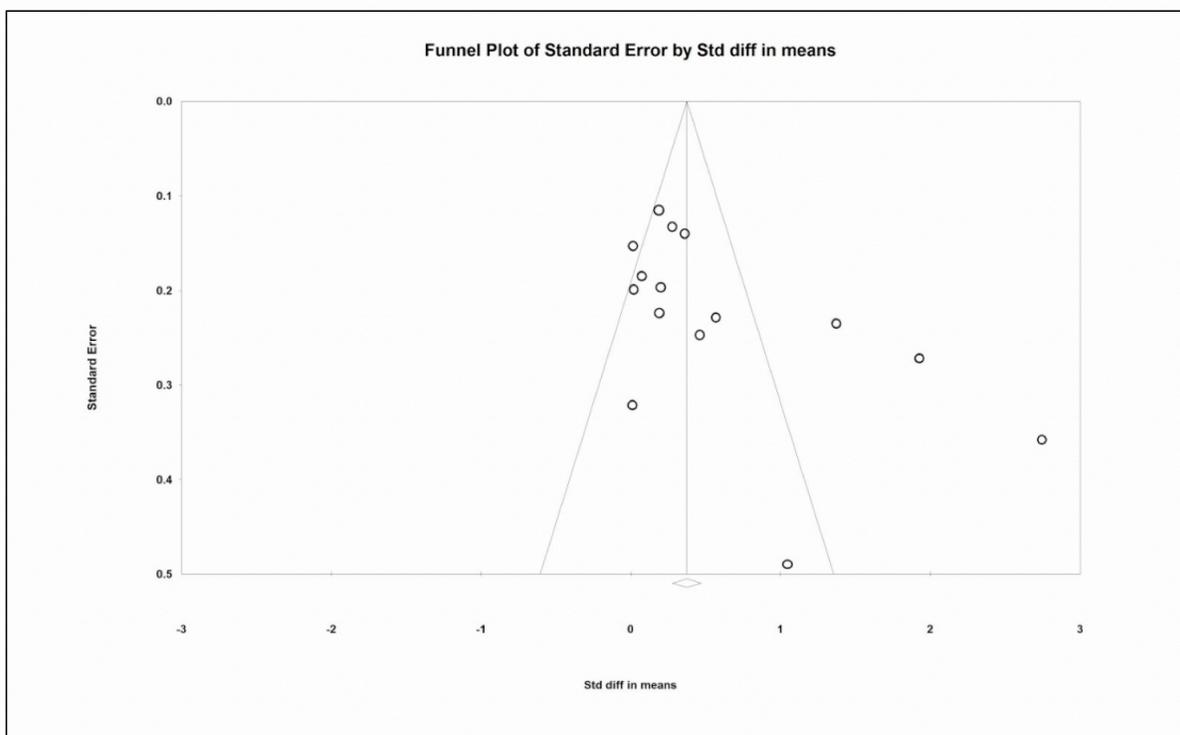


Fig 4.4. Funnel plot to detect publication bias for summary scores of QoL
($s= 15$).

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

In the past decade, there has been a large increase in research examining psychoeducational interventions (PEIs) to assist caregivers (CGs) in addressing caregiving challenges while caring for older adults with chronic conditions. This growth in PEI research may inform healthcare providers of new PEIs and how they can help. However, healthcare providers encounter challenges: the diversity of interventions, limited time for reviewing all the caregiver intervention possibilities, and the challenge of developing and tailoring caregiver intervention to individual needs. These challenges can be addressed by this study.

This dissertation work sought to examine the body of caregiver-focused interventions designed to impact family caregiver health and well-being and to determine the overall effect sizes of PEIs on quality of life (QoL) among GCs. Findings from this research addresses some of the challenges that healthcare providers face by combining the results of a number of PEIs into one report. This work describes a direction and magnitude of PEI effects on QoL and assesses the heterogeneity of PEIs.

Findings from this study will inform recommendations for evidence-based strategies to improve caregiver QoL for older adults with chronic illnesses. The scoping review in Chapter 2 revealed that intervention characteristics of included studies had a diversity of PEIs such as use of theory, types of intervention, and delivery formats which informed the data extraction process for the dissertation study. The purposes of this chapter are to: 1) summarize a diversity of PEI characteristics; 2) summarize the overall effect sizes of PEIs on QoL outcomes and assessed the heterogeneity of PEIs; and 3) provide useful recommendations for healthcare providers and researchers to select and tailor effective interventions.

Diversity of Intervention Characteristics

A diversity of intervention characteristics can inform healthcare providers and researchers regarding development of effective interventions. A diversity of intervention characteristics included: 1) use of theory; 2) types of interventions; 3) delivery formats; 4) dosages of interventions; and 5) interventionists.

Use of Theory

Few caregiver studies tested theory-driven interventions. Our findings found that theory-driven interventions observed not only could improve QoL among CGs, but they could also reduce the possibility of isolated findings. Using theoretical constructs can clarify the mechanism of interventions' effects. Likewise, previous systematic review suggested that using theoretical pathways can increase intervention quality and effects (L. L. Northouse, Katapodi, Song, Zhang, & Mood, 2010). We recommended that healthcare providers and researchers may consider targeting specific theoretical constructs (e.g., coping stress, self-efficacy, problem-solving, and self-care) to develop effective interventions addressing caregiving challenges.

Types of Interventions: PEI Strategies

Intervention strategies among studies included either psychoeducational, educational-only, or counseling-only, and these strategies could improve caregiver outcomes (e.g., depression and QoL). Psychological strategies comprised of coping with stress, focusing on positive ideas, and cognitive behavioral restructuring strategies to change negative emotional responses (Berwig et al., 2017; Boots et al., 2018). Educational strategies showed to be effective included increasing CGs' understanding of care recipients with a diversity of chronic conditions (e.g., dementia and cancers), training them in nursing skills, providing counseling support, helping them identify

other resources for care. PEI strategies of included studies included combined and single interventions

The effects of *combined* PEI strategies (psychological and/or educational programs) across studies were unclear because there were few studies of combined interventions that showed significant improvement on specific QoL outcomes. We suggest that comparisons of combined versus single interventions are needed to confirm the effectiveness and/or advantages of a combined intervention and characteristics of combined interventions associated with effects. The selection of PEI strategies should focus on the specific needs of the caregiver. We suggested that providers or researchers may consider assessing CGs' needs before delivering interventions.

Delivery Formats

A variety of delivery formats (e.g., verbal, face-to-face, telephone, or online) was used in this review. We could not conduct moderator analyses to determine which format was associated with intervention effects because of a small number of studies; however, significant effects were observed for individual studies that used a variety of delivery formats. Verbal and face-to-face formats were the most common delivery formats associated with improvement in caregiver outcomes, and telephone format may be beneficial due to convenience and low intervention cost (Meichsner, Töpfer, Reder, Soellner, & Wilz, 2019). We suggest that delivery of PEI interventions be based on a caregiver need assessments and the abilities of the health care team.

Dosages of Interventions

Determining an appropriate dosage is important for healthcare providers' decision making. Unfortunately, our study was unable to suggest how many optimal intervention dosages improve CGs' QoL because we could not conduct moderator analyses due to small sample sizes. However, determining an optimal dosage is perhaps dependent upon caregiver characteristics

(e.g., age, needs, education) and doses are specific and yet adaptable to both clinical and community settings (Teel & Leenerts, 2005).

Interventionists

Significant effects were observed for individual studies that used multiple interdisciplinary providers (e.g., nurses, psychologists, social workers) can improve CGs' QoL. Because there was complexity of caregiving challenges (e.g., lack of nursing knowledge, psychological problems, or financial issues), CGs may need interdisciplinary providers to address their problems. Individual studies showed that nurses were common PEI interventionists, and these nurse interventionists provided knowledge or taught nursing skills. PEIs may incorporate interdisciplinary providers, to include nurses as interventionists given their particular skills in assessment and care coordination.

Meta-analysis of Quality of Life Outcomes

Meta-Analysis of Quality of Life: Summary Scores

Finding of the study indicated that PEIs could improve caregiver summary scores of QoL. Study effects were significantly heterogeneous. Previous research has demonstrated that PEIs often provide caregiving knowledge, useful services, and referral to other available resources (e.g., support groups, hospital services, community rehabilitation, or physical therapy groups), which may contribute to improvements in overall QoL (Hong et al., 2017; Oupra, Griffiths, Pryor, & Mott, 2010).

Meta-Analysis of Quality of Life: Components Scores

The results of this study demonstrated significant effects of PEIs on caregiver social well-being. Study effects were not significantly heterogeneous. PEIs may increase caregiver social well-being because CGs may perceive that they are not alone in their efforts to care for their

loved one. PEIs may focus on reassuring CGs and improve their feelings of social well-being (Otis-Green & Juarez, 2012).

In terms of other components of QoL, there was no evidence of effective PEIs in improving: 1) physical well-being that PEIs showed no statistically significant heterogeneity; 2) psychological well-being that heterogeneity of effects across studies showed homogeneity; and 3) environment well-being that study effects were significantly heterogenous. However, previous reviews focusing on CGs who cared for cancer patients showed PEIs can improve physical and psychological well-being (Northouse et al., 2010; Verkaik et al., 2015). This review included studies with CGs of patients with a variety of chronic illnesses (e.g., dementia, stroke, and cancer), which may account for the lack of evidence for a significant effect on some outcomes.

Limitations

This work has some limitations. Generalizability of this study is limited due to inclusion of reports of RCTs only in English and underrepresentation of male CGs, adult children, diverse racial and ethnic groups. Consequently, this study may not apply to all caregiver groups in different countries. Few theory-driven interventions were conducted, and included studies had overall low scores for methodological quality. Additionally, evidence of publication bias was noted for the meta-analysis of PEI effects on QoL outcomes. Due to the small number of studies included we could not conduct moderator analyses to investigate how a variety of components of interventions may have impacted intervention effects. Finally, across included studies, we noted a lack of examination of the effects of PEIs on other CGs' outcomes (e.g., depression, anxiety, or burden). Thus, it is difficult to determine the associations between PEIs, QoL, and other important CG outcomes.

Conclusions

PEIs can significantly improve on summary scores of QoL and social well-being among CGs of older adults with chronic illnesses. PEIs had no significant effect on physical, psychological, environment well-being, although the number of studies included in these meta-analyses were small. Healthcare providers need guidance in designing or selecting effective PEIs. The implications for practice based on the results of this study include: assessing CGs' needs before tailoring interventions; using a combination of psychological strategies (e.g., coping with stress and focusing on positive ideas) and educational strategies (e.g., training CGs in nursing skills and providing generic counseling) tailored to CG's needs, selecting an optimal delivery formats based on the needs assessment, and using multiple interdisciplinary providers. To address issues related to low methodological quality across included studies researchers should consider employing a double-blind approach to theory-driven interventions, describing participants who dropout or withdraw, and strive to include participants from other caregiver groups (e.g., male CGs or adult children). Our study only focused on the effect of PEIs on QoL; however, future reviews need to examine of the effect of PEIs on other CGs' outcomes related to caring for older adults (e.g., depression, or anxiety).

Future Plan

There are two next steps for my plan: 1) research dissemination – Chapter 2 has been submitted to the *Journal of Gerontological Nursing* and Chapter 4 will be submitted in the *International Journal of Nursing Studies*; and 2) continued research – conducting a meta-analysis of the effect of PEIs on depression or anxiety among caregivers of older adults with chronic illnesses.

COMPREHENSIVE REFERENCES

- AARP and National Alliance for Caregiving. *Caregiving in the United States 2020*. Washington, DC: AARP. May 2020. <https://doi.org/10.26419/ppi.00103.001>
- Affinito, J., & Louie, K. (2018). Positive Coping and Self-Assessed Levels of Health and Burden in Unpaid Caregivers of Patients with End Stage Renal Disease Receiving Hemodialysis Therapy. *Nephrology Nursing Journal*, *45*(4), 373-380. Retrieved from <http://proxy.mul.missouri.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c9h&AN=131366620&site=eds-live&scope=site>
- Alves, S., Teixeira, L., Azevedo, M. J., Duarte, M., & Paúl, C. (2016). Effectiveness of a psychoeducational programme for informal caregivers of older adults. *Scandinavian Journal of Caring Sciences*, *30*(1), 65-73. doi:10.1111/ses.12222
- Belgacem, B., Auclair, C., Fedor, M. C., Brugnon, D., Blanquet, M., Tournilhac, O., & Gerbaud, L. (2013). A caregiver educational program improves quality of life and burden for cancer patients and their caregivers: a randomised clinical trial. *Eur J Oncol Nurs*, *17*(6), 870-876. doi:10.1016/j.ejon.2013.04.006
- Berwig, M., Heinrich, S., Spahlholz, J., Hallensleben, N., Braehler, E., & Gertz, H. J. (2017). Individualized support for informal caregivers of people with dementia - effectiveness of the German adaptation of REACH II. *BMC Geriatr*, *17*(1), 286. doi:10.1186/s12877-017-0678-y
- Boots, L., de Vugt, M. E., Van Knippenberg, R., Kempen, G., & Verhey, F. (2014). A systematic review of Internet-based supportive interventions for caregivers of patients with dementia. *International Journal of Geriatric Psychiatry*, *29*(4), 331-344.

- Boyacioglu, N. E., & Kutlu, Y. (2017). The Effectiveness of Psychoeducational Interventions in Reducing the Care Burden of Family Members Caring for the Elderly in Turkey: A Randomized Controlled Study. *Arch Psychiatr Nurs*, *31*(2), 183-189.
doi:10.1016/j.apnu.2016.09.012
- Brewster, G. S., Epps, F., Dye, C. E., Hepburn, K., Higgins, M. K., & Parker, M. L. (2019). The Effect of the "Great Village" on Psychological Outcomes, Burden, and Mastery in African American Caregivers of Persons Living With Dementia. *J Appl Gerontol*, *733464819874574*. doi:10.1177/0733464819874574
- Campbell, D. T. (1957). Factors relevant to the validity of experiments in social settings. *Psychol Bull*, *54*(4), 297.
- Chen, H. M., Huang, M. F., Yeh, Y. C., Huang, W. H., & Chen, C. S. (2015). Effectiveness of coping strategies intervention on caregiver burden among caregivers of elderly patients with dementia. *Psychogeriatrics*, *15*(1), 20-25. doi:10.1111/psyg.12071
- Cheng, S.-T., Au, A., Losada, A., Thompson, L. W., & Gallagher-Thompson, D. (2019). Psychological Interventions for Dementia Caregivers: What We Have Achieved, What We Have Learned. *Current Psychiatry Reports*, *21*(7), 59. doi:10.1007/s11920-019-1045-9
- Chi, N.-C., Demiris, G., Lewis, F. M., Walker, A. J., & Langer, S. L. (2016). Behavioral and educational interventions to support family caregivers in end-of-life care: a systematic review. *American Journal of Hospice and Palliative Medicine*®, *33*(9), 894-908.
- Chien, W. T., & Lee, I. Y. (2011). Randomized controlled trial of a dementia care programme for families of home-resided older people with dementia. *J Adv Nurs*, *67*(4), 774-787.
doi:10.1111/j.1365-2648.2010.05537.x

- Cooper, H. (2017). Cooper, Harris, Research Synthesis and Meta-Analysis: A Step-by-Step Approach, Los Angeles: Sage Publications, 2017.
- Corry, M., Neenan, K., Brabyn, S., Sheaf, G., & Smith, V. (2019). Telephone interventions, delivered by healthcare professionals, for providing education and psychosocial support for informal caregivers of adults with diagnosed illnesses. *The Cochrane database of systematic reviews*, 5(5), CD012533-CD012533. doi:10.1002/14651858.CD012533.pub2
- Cristancho-Lacroix, V., Wrobel, J., Cantegreil-Kallen, I., Dub, T., Rouquette, A., & Rigaud, A. S. (2015). A web-based psychoeducational program for informal caregivers of patients with Alzheimer's disease: a pilot randomized controlled trial. *J Med Internet Res*, 17(5), e117. doi:10.2196/jmir.3717
- Dowling, G. A., Merrilees, J., Mastick, J., Chang, V. Y., Hubbard, E., & Moskowitz, J. T. (2014). Life enhancing activities for family caregivers of people with frontotemporal dementia. *Alzheimer Dis Assoc Disord*, 28(2), 175-181. doi:10.1097/WAD.0b013e3182a6b905
- Duggleby, W., Ploeg, J., McAiney, C., Peacock, S., Fisher, K., Ghosh, S., . . . Jovel Ruiz, K. (2018). Web-Based Intervention for Family Carers of Persons with Dementia and Multiple Chronic Conditions (My Tools 4 Care): Pragmatic Randomized Controlled Trial. *J Med Internet Res*, 20(6), e10484. doi:10.2196/10484
- Ekhtiari, H., Rezapour, T., Aupperle, R. L., & Paulus, M. P. (2017). Chapter 10 - Neuroscience-informed psychoeducation for addiction medicine: A neurocognitive perspective. In T. Calvey & W. M. U. Daniels (Eds.), *Progress in Brain Research* (Vol. 235, pp. 239-264): Elsevier.

- Elvish, R., Lever, S.-J., Johnstone, J., Cawley, R., & Keady, J. (2013). Psychological interventions for carers of people with dementia: A systematic review of quantitative and qualitative evidence. *Counselling and Psychotherapy Research, 13*(2), 106-125.
- Erlen, J. A., Sereika, S. M., Sun, R., Tamres, L. K., Tang, F., & Lingler, J. H. (2019). Outcomes of a Problem-Solving Medication Management Intervention for Informal Caregivers. *West J Nurs Res, 41*(11), 1642-1657. doi:10.1177/0193945919825844
- Faber, J., & Fonseca, L. M. (2014). How sample size influences research outcomes. *Dental press journal of orthodontics, 19*(4), 27-29. doi:10.1590/2176-9451.19.4.027-029.ebo
- Ganeshkumar, P., Arun Kumar, S., & Rajoura, O. P. (2011). Evaluation of computer usage in healthcare among private practitioners of NCT Delhi. *Stud Health Technol Inform, 169*, 960-964.
- Gonyea, J. G., López, L. M., & Velásquez, E. H. (2016). The effectiveness of a culturally sensitive cognitive behavioral group intervention for Latino Alzheimer's caregivers. *The Gerontologist, 56*(2), 292-302. doi:10.1093/geront/gnu045
- Gopalakrishnan, S., & Ganeshkumar, P. (2013). Systematic Reviews and Meta-analysis: Understanding the Best Evidence in Primary Healthcare. *Journal of family medicine and primary care, 2*(1), 9-14. doi:10.4103/2249-4863.109934
- Grossman, M. R., Zak, D. K., & Zelinski, E. M. (2018). Mobile Apps for Caregivers of Older Adults: Quantitative Content Analysis. *JMIR Mhealth Uhealth, 6*(7), e162. doi:10.2196/mhealth.9345
- Heath, G., Cooke, R., & Cameron, E. (2015). A Theory-Based Approach for Developing Interventions to Change Patient Behaviours: A Medication Adherence Example from

- Paediatric Secondary Care. *Healthcare (Basel, Switzerland)*, 3(4), 1228-1242.
doi:10.3390/healthcare3041228
- Hong, S. E., Kim, C. H., Kim, E. J., Joa, K. L., Kim, T. H., Kim, S. K., . . . Jung, H. Y. (2017). Effect of a Caregiver's Education Program on Stroke Rehabilitation. *Ann Rehabil Med*, 41(1), 16-24. doi:10.5535/arm.2017.41.1.16
- Hudson, P. L., Remedios, C., & Thomas, K. (2010). A systematic review of psychosocial interventions for family carers of palliative care patients. *BMC Palliative Care*, 9(1), 17.
- Jimenez, D. E., Schulz, R., Perdomo, D., Lee, C. C., & Czaja, S. J. (2019). Implementation of a Psychosocial Intervention Program for Working Caregivers. *J Appl Gerontol*, 38(9), 1206-1227. doi:10.1177/0733464817748777
- Jones, S. R., Carley, S., & Harrison, M. (2003). An introduction to power and sample size estimation. *Emergency Medicine Journal*, 20(5), 453. doi:10.1136/emj.20.5.453
- Jüni, P., Altman, D. G., & Egger, M. (2001). Systematic reviews in health care: Assessing the quality of controlled clinical trials. *BMJ (Clinical research ed.)*, 323(7303), 42-46. doi:10.1136/bmj.323.7303.42
- Kwok, T., Wong, B., Ip, I., Chui, K., Young, D., & Ho, F. (2013). Telephone-delivered psychoeducational intervention for Hong Kong Chinese dementia caregivers: a single-blinded randomized controlled trial. *Clinical Interventions in Aging*, 8, 1191-1197. doi:10.2147/CIA.S48264
- Laver, K., Milte, R., Dyer, S., & Crotty, M. (2017). A systematic review and meta-analysis comparing carer focused and dyadic multicomponent interventions for carers of people with dementia. *Journal of Aging and Health*, 29(8), 1308-1349.

- Leung, P., Orgeta, V., & Orrell, M. (2017). The effects on carer well-being of carer involvement in cognition-based interventions for people with dementia: a systematic review and meta-analysis. *Int J Geriatr Psychiatry*, 32(4), 372-385. doi:10.1002/gps.4654
- Li, R., Cooper, C., Austin, A., & Livingston, G. J. I. P. (2013). Do changes in coping style explain the effectiveness of interventions for psychological morbidity in family carers of people with dementia? A systematic review and meta-analysis. 25(2), 204-214. doi:10.1017/S1041610212001755
- Lukens, E. P., & McFarlane, W. R. (2004). Psychoeducation as Evidence-Based Practice: Considerations for Practice, Research, and Policy. *Brief Treatment & Crisis Intervention*, 4(3). doi:10.1093/brief-treatment/mhh019
- Lund, D. A., Utz, R. L., Caserta, M. S., Wright, S. D., Llanque, S. M., Lindfelt, C., . . . Montoro-Rodriguez, J. (2014). Time for living and caring: an intervention to make respite more effective for caregivers. *International journal of aging & human development*, 79(2), 157-178. doi:10.2190/AG.79.2.d
- Meichsner, F., Töpfer, N. F., Reder, M., Soellner, R., & Wilz, G. (2019). Telephone-based cognitive behavioral intervention improves dementia caregivers' quality of life. *American Journal of Alzheimer's Disease & Other Dementias*®, 34(4), 236-246. doi:10.1177/1533317518822100
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., . . . Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev*, 4(1), 1.
- Moore, R. C., Chattillion, E. A., Ceglowski, J., Ho, J., von Kanel, R., Mills, P. J., . . . Mausbach, B. T. (2013). A randomized clinical trial of Behavioral Activation (BA) therapy for

improving psychological and physical health in dementia caregivers: results of the Pleasant Events Program (PEP). *Behav Res Ther*, 51(10), 623-632.

doi:10.1016/j.brat.2013.07.005

Northouse, L., Schafenacker, A., Barr, K. L. C., Katapodi, M., Yoon, H., Brittain, K., . . . An, L. (2014). A tailored Web-based psychoeducational intervention for cancer patients and their family caregivers. *Cancer nursing*, 37(5), 321-330.

doi:10.1097/NCC.0000000000000159

Northouse, L. L., Katapodi, M. C., Song, L., Zhang, L., & Mood, D. W. (2010). Interventions with family caregivers of cancer patients: meta-analysis of randomized trials. *CA: a cancer journal for clinicians*, 60(5), 317-339.

Oken, B. S., Fonareva, I., Haas, M., Wahbeh, H., Lane, J. B., Zajdel, D., & Amen, A. (2010). Pilot controlled trial of mindfulness meditation and education for dementia caregivers. *J Altern Complement Med*, 16(10), 1031-1038. doi:10.1089/acm.2009.0733

Otis-Green, S., & Juarez, G. (2012). Enhancing the social well-being of family caregivers. *Seminars in Oncology Nursing*, 28(4), 246-255. doi:10.1016/j.soncn.2012.09.007

Oupra, R., Griffiths, R., Pryor, J., & Mott, S. (2010). Effectiveness of Supportive Educative Learning programme on the level of strain experienced by caregivers of stroke patients in Thailand. *Health & social care in the community*, 18(1), 10-20. doi:10.1111/j.1365-2524.2009.00865.x

Rigby, T., Ashwill, R. T., Johnson, D. K., & Galvin, J. E. (2019). Differences in the Experience of Caregiving Between Spouse and Adult Child Caregivers in Dementia With Lewy Bodies. *Innovation in aging*, 3(3), igz027-igz027. doi:10.1093/geroni/igz027

- Sherifali, D., Ali, M. U., Ploeg, J., Markle-Reid, M., Valaitis, R., Bartholomew, A., . . .
- McAiney, C. (2018). Impact of Internet-Based Interventions on Caregiver Mental Health: Systematic Review and Meta-Analysis. *J Med Internet Res*, *20*(7), e10668. doi:10.2196/10668
- Steffen, A. M., & Gant, J. R. (2016). A telehealth behavioral coaching intervention for neurocognitive disorder family carers. *Int J Geriatr Psychiatry*, *31*(2), 195-203. doi:10.1002/gps.4312
- Tang, L. L., Caudy, M., & Taxman, F. (2013). A statistical method for synthesizing meta-analyses. *Computational and mathematical methods in medicine*, *2013*, 732989-732989. doi:10.1155/2013/732989
- Teel, C. S., & Leenerts, M. H. (2005). Developing and Testing a Self-Care Intervention for Older Adults in Caregiving Roles. *Nursing Research*, *54*(3). Retrieved from https://journals.lww.com/nursingresearchonline/Fulltext/2005/05000/Developing_and_Testing_a_Self_Care_Intervention.7.aspx
- Waelde, L. C., Meyer, H., Thompson, J. M., Thompson, L., & Gallagher-Thompson, D. (2017). Randomized Controlled Trial of Inner Resources Meditation for Family Dementia Caregivers. *Journal of Clinical Psychology*, *73*(12), 1629-1641. doi:10.1002/jclp.22470
- Waldron, E. A. (2011). *Improving the Quality of Life of Adult Cancer Caregivers: A Systematic Review*. University of the Sciences in Philadelphia,
- Waldron, E. A., Janke, E. A., Bechtel, C. F., Ramirez, M., & Cohen, A. (2013). A systematic review of psychosocial interventions to improve cancer caregiver quality of life. *Psycho-Oncology*, *22*(6), 1200-1207. doi:10.1002/pon.3118

- Wang, F., Luo, D., Fu, L., Zhang, H., Wu, S., Zhang, M., . . . Chen, X. (2017). The Efficacy of Couple-Based Interventions on Health-Related Quality of Life in Cancer Patients and Their Spouses: A Meta-analysis of 12 Randomized Controlled Trials. *Cancer Nurs*, 40(1), 39-47. doi:10.1097/ncc.0000000000000356
- WHO. (1996). *WHOQOL-BREF: introduction, administration, scoring and generic version of the assessment: field trial version, December 1996*. Retrieved from
- Wilz, G., Reder, M., Meichsner, F., & Soellner, R. (2018). The Tele.TAnDem Intervention: Telephone-based CBT for Family Caregivers of People With Dementia. *Gerontologist*, 58(2), e118-e129. doi:10.1093/geront/gnx183
- Zhao, Y., Feng, H., Hu, M., Hu, H., Li, H., Ning, H., . . . Peng, L. (2019). Web-based interventions to improve mental health in home caregivers of people with dementia: meta-analysis. *Journal of Medical Internet Research*, 21(5), e13415. doi:10.2196/13415.

APPENDIX A: CODEBOOK

**Meta-analysis of Quality of Life Outcomes following Psycho-educational Interventions for
Family Caregivers
Version: June 10, 2020**

Six domains of the Codebook: Report characteristics, study design characteristics, sample characteristics, intervention characteristics, outcome characteristics, and effect size data.

1. Report Characteristics

Variable	Criteria and Instructions
001. Study Number Study_Number	<p>What was the number of this interventional study report?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter 3-digit number. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> The report numbers are marked on the right top page of the report. <input type="checkbox"/> This is the number that uniquely identifies a study which enter 3digit number. (e.g., 001, 002, and 003).
002. First author's last name Author_Name	<p>What was the first author's last name of this interventional study report?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the last name of the first author. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the first author's last name.
003. Report year of publication, appearance presentation, or report Report_Year	<p>What was the year of this interventional publication/report or presentation?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter 4-digit year of interventional publication/report or presentation. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Year the report appears in print <input type="checkbox"/> Four-digit-year <input type="checkbox"/> Use the year of presentation for abstract <input type="checkbox"/> Enter the current year when we receive them for manuscripts accepted or in review. <input type="checkbox"/> If there are multiple reports on the same study, use the year which will be used to calculate the quality of life outcome effect size (ES) data.
004. Types of distribution of the study Type_Report	<p>What was the type of report?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 1= Journal article <input type="checkbox"/> Code 2= Book/book chapter <input type="checkbox"/> Code 3= Thesis or doctoral dissertation <input type="checkbox"/> Code 4= Technical report

Variable	Criteria and Instructions
	<p><input type="checkbox"/> Code 5= Conference paper</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as 1 to 5 is the type of the primary interventional study.</p>
<p>005. Regions where conducted Regi</p>	<p>What was the region where conducted for the primary interventional study?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 1 = North America <input type="checkbox"/> Code 2 = South America <input type="checkbox"/> Code 3 = Europe <input type="checkbox"/> Code 4 = Africa <input type="checkbox"/> Code 5 = Asia <input type="checkbox"/> Code 6 = Oceania <input type="checkbox"/> Code 7 = Multi-countries <input type="checkbox"/> Code “-”= Not reported <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if some studies do not state where the study was conducted or no information or missing data. <input checked="" type="checkbox"/> Code as 1 to 7 use the country to identify a location where studies were published. <input type="checkbox"/> If all the authors are from the same country, code that country as the location of the study if no location is stated in the paper.
<p>006. Funding Funding</p>	<p>Was this funded interventional study project?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No funding. <input type="checkbox"/> Code 1 = Report indicates funding for research funding. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study indicated no funding in a funding section or any place else. <input type="checkbox"/> The default value is 0 if the study has no information and if acknowledgement is only for recruitment location/assistance <input type="checkbox"/> Code as 1 if funding numbers may be indicated after the abstract, at the end of the article text before references, or any place else. <input type="checkbox"/> Code as 1 for donations of the organizations, rewards for participants, etc.

2. Study design Characteristics

Variables	Criteria and Instructions
<p>007. Types of study designs Type_Design</p>	<p>What was the type of study designs of this interventional study? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 1= Single group pre-& post intervention comparison <input type="checkbox"/> Code 2= Quasi-experimental design <input type="checkbox"/> Code 3= Individually randomized subjects <input type="checkbox"/> Code 4= Cluster randomized study <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 1 if the same subjects are observed at two-time points, one before the treatment and one after the treatment. <input type="checkbox"/> Code as 2 if the study involves the creation of a comparison group but subjects are not individually or cluster randomized to treatment and control conditions. <input type="checkbox"/> Code as 3 if subjects are randomly allocated to the intervention arms of the trial such as by using a randomly generated allocation sequence. <input type="checkbox"/> Code as 4 if the study is a trial in which clusters of individuals (e.g. clinics, families, geographical areas), rather than individuals themselves, are randomized to different arms.
<p>008. Allocation concealment to treatment and control group Allocation2Grp</p>	<p>Did the researchers use concealed allocation for participants? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if a participant does not conceal the results of the allocation from others. <input type="checkbox"/> Code as 0 if the study has no information or missing data. <input type="checkbox"/> Code as 1 if a participant doesn't know what the next treatment allocation will be and conceals the results of the allocation from others. <input type="checkbox"/> Generally, this information was indicated on the method section.
<p>009. Allocation concealment to Investigators Allocate_Investigator</p>	<p>Did the researchers use concealed allocation for investigators? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if investigators or clinicians know that the next treatment allocation will be and treatment the next person will get in advance as a single group pre, post-test design or Two groups study which subjects were not individually or cluster randomized.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention the allocation concealment to investigators. ☐ Code as 1 if investigators or clinicians do not know that the next treatment allocation will be and decide in advance which treatment the next person will get. ☐ Generally, this information was indicated on the method section.
<p>010. Blinding of participants Blinding_Participant</p>	<p>Were participants blinded?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study indicates that the participants are aware of which treatment is being given to the individual participants. ☐ Code as 0 if the study did not mention the blinding of participants. ☐ Code as 1 if the study indicates that the participants are <i>unaware</i> of which treatment is being given to the individual participants. ☐ Generally, this information was indicated in the method section.
<p>011. Blinding of outcome assessors Blinding_Assessor</p>	<p>Were data collectors blinded or masked for outcome assessors?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if studies indicates that people who determine outcome measurements are aware of intervention assignment and there is no blinding of outcome assessors. ☐ Code as 0 if the study did not mention the blinding of outcome assessors. ☐ Code as 1 if studies indicated that outcome assessors, including primary data collectors (e.g. interview staff responsible for measurement or collection of outcome data) and any secondary assessors (e.g. external outcome adjudication committees) are unaware of intervention assignments. ☐ Generally, this information was indicated in the method section.
<p>012. Intention to treat analysis ITT</p>	<p>Was intention-to-treat (ITT) used in analysis?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention ITT analysis. ☐ Code as 1 if studies indicated that intention-to-treat was used for data analysis. ☐ Generally, this information was indicated on the method section.
<p>013. Power estimation of the study PowerEstimation</p>	<p>Did the researchers address power estimation before conducting the study?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention power estimation of the study. ☐ Code as 1 if studies indicated that studies determined the power of study (e.g., power analysis of 0.8 and power analysis of 0.9). ☐ Generally, this information was indicated on the method section.

3. Sample Characteristics by the group (e.g., total samples, a treatment group, and a control group)

Variables	Criteria and Instructions
Total sample characteristics	
<p>014. Mean age of total caregivers MeanAge_TotalICGs</p>	<p>What was the mean age of total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean age of total caregivers ☐ Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the mean age of caregivers. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the mean age of samples in the result section and the tables of the study.
<p>015. Age Standard Deviation (SD) of total caregivers AgeSD_TotalCGs</p>	<p>What was the age SD of total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the age SD of total caregivers ☐ Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the age SD of caregivers. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the age SD of samples in the result section and the tables of the study.
<p>016. Gender of total caregivers: percent sample that is female %FemGender_TotalCGs</p>	<p>What was the total percent of female? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the total percent of female. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculated. Ex, the total number of participants is 12, and females are 6. So, the percent of female is 50%. ☐ Generally, the study indicates the total percent of female in the

Variables	Criteria and Instructions
	result section and the tables of the study.
Marital Status	
<p>017. Marital status of total caregiver: percent sample that is married or long-term relationship % Married/long-term relationship_TotalCGs</p>	<p>What was the total percent of total caregivers with married or long-term relationship ?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of total caregivers with married or long-term relationship. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and participants with married or long-term relationship are 6. So, the percent of participants with married or long-term relationship is 50%. ☐ Generally, the study indicates the percent of caregivers with married or long-term relationship in the result section and the tables of the study.
<p>018. Marital status of total caregiver: percent sample that is single %Single_TotalCGs</p>	<p>What was the total percent of total caregivers with single status?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of total caregivers with single status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and participants with single status are 6. So, the percent of participants with single status is 50%. ☐ Generally, the study indicates the percent of caregivers with single status in the result section and the tables of the study.
<p>019. Marital status of total caregiver: percent sample that is widowed or divorce or separated %Widowed/divorced/separated_ TotalCGs</p>	<p>What was the total percent of total caregivers with widowed or divorce or separated status?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of total caregivers with widowed or divorce or separated status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and participants with single status are 6. So, the percent of participants with single status is 50%.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of caregivers with widowed or divorce or separated status in the result section and the tables of the study.
Relationship to patient	
<p>020. Relationship to patient: percent of spouses or partner %Spouse_ TotalCGs</p>	<p>What was the percent of spouses or partners? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of spouses or partners. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and spouses or partners are 6. So, the percent of spouses or partners is 50%. ☐ Generally, the study indicates the percent of spouses or partner in the result section and the tables of the study.
<p>021. Relationship to patients: percent of adult children or children %Adultchild or Children_ TotalCGs</p>	<p>What was the percent of adult children or children? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of adult children or children. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Adult children are a son and/or daughters. Also, son and/or

Variables	Criteria and Instructions
	<p>daughters in law will be included in this variable.</p> <ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and adult children or children are 6. So, the percent of adult children or children is 50%. ☐ Generally, the study indicates the percent of adult children or children in the result section and the tables of the study.
<p>022. Relationship to patients: percent of parents %Parent_ TotalCGs</p>	<p>What was the percent of parents?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of parents. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and parents are 6. So, the percent of parents is 50%. ☐ Generally, the study indicates the percent of parents in the result

Variables	Criteria and Instructions
	section and the tables of the study.
<p>023. Relationship to patients: percent of siblings %Sibling_ TotalCGs</p>	<p>What was the percent of siblings? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of siblings. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> However, if the study provide the <i><u>only total number</u></i> of participants in each variable (<i><u>a second coder must not calculate the total number of participants from treatment and control groups</u></i>), the percent of female can be calculate. Ex. Total number of participants is 12, and siblings are 6. So, the percent of siblings is 50%. <input type="checkbox"/> Generally, the study indicates the percent of siblings in the result section and the tables of the study.
<p>024. Relationship to patients: percent of friends %Friend_ TotalCGs</p>	<p>What was the percent of friends? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of friends. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> However, if the study provide the <i><u>only total number</u></i> of participants in each variable (<i><u>a second coder must not calculate the total number of participants from treatment and control groups</u></i>), the percent of female can be calculate. Ex. Total

Variables	Criteria and Instructions
	<p>number of participants is 12, and friends are 6. So, the percent of friends is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of friends in the result section and the tables of the study.
<p>025. Relationship to patients: percent of other relatives %Relative_ TotalCGs</p>	<p>What was the percent of other relatives? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of other relatives. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Examples of relative included niece, grandson, granddaughter, or grandchild. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and other relatives are 6. So, the percent of other relatives is 50%. ☐ Generally, the study indicates the percent of other relatives in the result section and the tables of the study.
<p>026. Relationship to patients: percent of others or non-spouse %Others or non-spouse_ TotalCGs</p>	<p>What was the percent of others or non-spouse? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of others. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and others or non-spouse are 6. So, the percent of others or non-spouse is 50%. ☐ Generally, the study indicates the percent of others or non-spouse in the result section and the tables of the study.
<p>027. Relationship to patients: percent of Non-relative %NonRelative_TotalICGs</p>	<p>What was the percent of non-relative? Criteria:</p> <ul style="list-style-type: none"> ☐ Enter the percent of non-relative. ☐ Code “-” = Not reported. <p>Instructions:</p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and non-relative are 6. So, the percent of non-relative is 50%. ☐ Generally, the study indicates the percent of non-relative in the result section and the tables of the study.
Employment	

Variables	Criteria and Instructions
<p>028. Employment status of total caregivers: percent of employment with full time %EmployFull-time_TotalCGs</p>	<p>What was the percent of employment status with full-time? Criteria: <ul style="list-style-type: none"> ☐ Enter the percent of employment status with full-time. ☐ Code “-” = Not reported. Instructions: <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with full-time employment are 6. So, the percent of caregivers with full-time employment is 50%. ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study. </p>
<p>029. Employment status of total caregivers: percent of employment with part-time %EmployPart-time_TotalCGs</p>	<p>What was the percent of employment status with part-time? Criteria: <ul style="list-style-type: none"> ☐ Enter the percent of employment status with part-time. ☐ Code “-” = Not reported. Instructions: <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the</i> </p>

Variables	Criteria and Instructions
	<p><u>total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with part-time employment are 6. So, the percent of caregivers with part-time employment is 50%.</p> <p>☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.</p>
<p>030. Employment status of caregivers: percent of unemployment %Unemploy_TotalCaregiver</p>	<p>What was the percent of unemployment status?</p> <p>Criteria:</p> <p>☐ Enter the percent of unemployment status.</p> <p>☐ Code “-” = Not reported.</p> <p>Instructions:</p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with unemployment are 6. So, the percent of caregivers with unemployment is 50%.</p> <p>☐ Generally, the study indicates the percent of unemployment status in the result section and the tables of the study.</p>
<p>031. Employment status of caregivers: percent of retired status %Retired_TotalCGs</p>	<p>What was the percent of employment status with retired status?</p> <p>Criteria:</p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Enter the percent of employment status with retired status. ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ These values must be reported in the study (do NOT calculate these). ❑ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with retired status are 6. So, the percent of caregivers with retired status is 50%. ❑ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>032. Employment status of caregivers: percent of homemakers %Homemaker_TotalICGs</p>	<p>What was the percent of employment status with homemakers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the percent of employment status with homemakers. ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ These values must be reported in the study (do NOT calculate these). ❑ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total

Variables	Criteria and Instructions
	<p>number of participants is 12, and caregivers with homemaker status are 6. So, the percent of caregivers with homemaker status is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>033. Employment status of caregivers: percent of other employments %OtherEmploy_ TotalCGs</p>	<p>What was the percent of employment status with other employments?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status other employments. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with other employments are 6. So, the percent of caregivers with other employments is 50%. ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
Education	
<p>034. Educational levels of total caregivers TypeEducation_ TotalCGs</p>	<p>Were the education levels reported?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention educational levels. If the study reported <u>year of education of caregivers, it must be labeled as 0.</u> ☐ Code as 1 if studies indicated the educational levels (e.g., primary school, middle school, college level, bachelor' s degree, no qualification school, or further education). ☐ Generally, the study indicated the percent of educational levels in the result section and the tables of the study.
<p>035. Educational level of caregivers: percent of a primary school or below level of caregivers %PrimarySchool_ TotalCGs</p>	<p>What was the percent of a primary school or below level of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a primary school or below level of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a primary school or below level of caregivers are 6. So, the percent of caregivers with a primary school or below level is 50%. ☐ Generally, the study indicates the percent of educational levels in

Variables	Criteria and Instructions
	the result section and the tables of the study.
<p>036. Educational level of caregivers: percent of a secondary school of caregivers %SecondSchool_ TotalCGs</p>	<p>What was the percent of a secondary school level of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a secondary school level of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a secondary school of caregivers are 6. So, the percent of caregivers with a secondary school is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>037. Educational level of caregivers: percent of a tertiary level of caregivers %TertiarySchool_ TotalCGs</p>	<p>What was the percent of a tertiary level of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a tertiary level of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants

Variables	Criteria and Instructions
	<p>in each variable (<i>a second coder <u>must not calculate the total number of participants from treatment and control groups</u></i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a tertiary level of caregivers are 6. So, the percent of caregivers with a tertiary level of caregivers is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>038. Year of education of total caregivers EducationYear_ TotalCGs</p>	<p>Was the year of education reported? Criteria:</p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p>Instructions:</p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention the year of education. ☐ Code as 1 if studies indicated the year of education. ☐ Generally, the study indicated the year of the education in the result section and the tables of the study.
<p>039. Year mean of education of total caregivers YearMeanEducation_ TotalCGs</p>	<p>What was the year mean of education of total caregivers? Criteria:</p> <ul style="list-style-type: none"> ☐ Enter the age mean of total caregivers ☐ Code “-” = Not report. <p>Instructions:</p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the year mean of education of total caregivers. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the year mean of education of

Variables	Criteria and Instructions
	samples in the result section and the tables of the study.
<p>040. Year SD of education of total caregivers YearSDEducation_TotalCGs</p>	<p>What was the year SD of education of total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the year SD of total caregivers <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the year SD of education of total caregivers. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the year SD of education of samples in the result section and the tables of the study.
<p>041. The percentage of education: percent of education being less than high school for total caregivers %Less than High school_TotalCGs</p>	<p>What was the percent of education being less than high school for total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of education being less than high school for total caregivers. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with education being less than high school for total caregivers are 6. So, the percent

Variables	Criteria and Instructions
	<p>of education being less than high school for total caregivers is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>042. The percentage of education: percent of middle school level %Middle school_TotalCGs</p>	<p>What was the percent of middle school level for total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of middle school for total caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provided the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a middle school level are 6. So, the percent of middle school level for total caregivers is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>043. The percentage of education: percent of high school level %High school_TotalCGs</p>	<p>What was the percent of high school level for total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of high school for total caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a high school level are 6. So, the percent of high school level for total caregivers is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>044. The percentage of education: percent of a college level %College_TotalCGs</p>	<p>What was the percent of a college level for total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for total caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a college level are 6. So, the percent of a college level for total caregivers is 50%.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>045. The percentage of education: percent of a bachelor's degree/university %Bachelor's degree/University_TotalCGs</p>	<p>What was the percent of a bachelor's degree/university level for total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for total caregivers. ☐ Code "-" = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as "-" if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a bachelor's degree/university level are 6. So, the percent of a bachelor's degree/university level for total caregivers is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>046. The percentage of education: percent of a graduate-school level %Graduate school_TotalCGs</p>	<p>What was the percent of a graduate-school level for total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for total caregivers. ☐ Code "-" = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as "-" if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a graduate-school level are 6. So, the percent of a graduate-school level for total caregivers is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>047. The percentage of education: percent of no qualification %No qualification_TotalCGs</p>	<p>What was the percent of no qualification level for total caregivers? Criteria:</p> <ul style="list-style-type: none"> ☐ Enter the percent of no qualification level for total caregivers. ☐ Code “-” = Not reported. <p>Instructions:</p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ No qualification is no formal education or lower primary education. These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with a graduate-school

Variables	Criteria and Instructions
	<p>level are 6. So, the percent of a graduate-school level for total caregivers is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>048. The percentage of education: percent of school level qualification %School level qualification_TotalCGs</p>	<p>What was the percent of school level qualification for total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of school level qualification for total caregivers ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with school level qualification are 6. So, the percent of school level qualification for total caregivers is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>049. The percentage of education: percent of further education %Further education_TotalCGs</p>	<p>What was the percent of further education for total caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of further education for total caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and caregivers with further education are 6. So, the percent of further education for total caregivers is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
Ethnicity	
<p>050. Ethnicity of caregivers: percent of white caregivers % WhiteEthnicity_TotalICGs</p>	<p>What was the percent of white caregivers? Criteria: <ul style="list-style-type: none"> ☐ Enter the percent of white caregivers. ☐ Code “-” = Not reported. Instructions: <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and white caregivers are 6. So, the </p>

Variables	Criteria and Instructions
	<p>percent of white caregivers is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of white caregivers in the result section and the tables of the study.
<p>051. Ethnicity of caregivers: percent of Black caregivers % BlackEthnicity_ TotalCGs</p>	<p>What was the percent of black caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of black caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of female can be calculate. Ex. Total number of participants is 12, and black caregivers are 6. So, the percent of black caregivers is 50%. ☐ Generally, the study indicates the percent of black caregivers in the result section and the tables of the study.
<p>052. Ethnicity of caregivers: percent of Hispanic caregivers % HispanicEthnicity_ TotalCGs</p>	<p>What was the percent of Hispanic caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of Hispanic caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and Hispanic caregivers are 6. So, the percent of Hispanic caregivers is 50%. ☐ Generally, the study indicates the percent of Hispanic caregivers in the result section and the tables of the study.
<p>053. Ethnicity of caregivers: percent of Asian caregivers % AsianEthnicity_ TotalCGs</p>	<p>What was the percent of Asian caregivers? Criteria:</p> <ul style="list-style-type: none"> ☐ Enter the percent of Asian caregivers. ☐ Code “-” = Not reported. <p>Instructions:</p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and Asian caregivers are 6. So, the percent of Asian caregivers is 50%. ☐ Generally, the study indicates the percent of Asian caregivers in the

Variables	Criteria and Instructions
	result section and the tables of the study.
<p>054. Ethnicity of caregivers: percent of other race caregivers % OtherEthnicity_ TotalCGs</p>	<p>What was the percent of other race caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of other race caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of female can be calculate. Ex. Total number of participants is 12, and other race caregivers are 6. So, the percent of other race caregivers is 50%. ☐ Generally, the study indicates the percent of other race caregivers in the result section and the tables of the study.
<p>055. Ethnicity of caregivers: percent of no primary group %No primary group_ TotalCGs</p>	<p>What was the percent of no primary group for total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of no primary group for total caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second</u>

Variables	Criteria and Instructions
	<p><i>coder <u>must not calculate the total number of participants from treatment and control groups</u></i>), the percent of female can be calculate. Ex. Total number of participants is 12, and no primary group for total caregivers are 6. So, the percent of no primary group for total caregivers is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of no primary group of ethnicity in the result section and the tables of the study.
Time of caregiving	
<p>056. Having more than 1 of family members living with patient: percent of having more than 1 of family members with living patients % Having more than 1 of family member living with pt_TotalCG</p>	<p>What was the percent of having more than 1 of family members living with patients for total caregivers? Criteria:</p> <ul style="list-style-type: none"> ☐ Enter the percent of having more than 1 of family members living with patients. ☐ Code “-” = Not reported. <p>Instructions:</p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i><u>only total number</u></i> of participants in each variable (<i><u>a second coder must not calculate the total number of participants from treatment and control groups</u></i>), the percent of having more than 1 of family members living with patients can be calculate. Ex. Total number of participants is 12, and having more than 1 of family members living with patients are 6. So, the percent of having more than 1 of family members living with patients is 50%.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of having more than 1 of family members living with patients in the result section and the tables of the study.
<p>057. Assistance with caring for patients: percent of having helpers in caring for patients %Assistance with caring_TotalCGs</p>	<p>What was the percent of having helpers in caring for patients for total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of having helpers in caring for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of having helpers in caring for patients can be calculate. Ex. Total number of participants is 12, and having helpers in caring for patients are 6. So, the percent of having helpers in caring for patients is 50%. ☐ Generally, the study indicates the percent of having helper in caring for patients in the result section and the tables of the study.
<p>058. Experience of caregivers with caring for patients: percent of caregivers with experience in caring for patients %ExperienceCaregiver_TotalCGs</p>	<p>What was the percent of caregivers with experience in caring for patients for total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregivers with experience in caring for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of caregivers with experience in caring for patients can be calculate. Ex. Total number of participants is 12, and caregivers with experience in caring for patients are 6. So, the percent of caregivers with experience in caring for patients is 50%. ☐ Generally, the study indicates the percent of experience of caregivers in caring for patients in the result section and the tables of the study.
<p>059. The mean years of caregiving of total caregivers MeanYearCaregiving_ TotalCGs</p>	<p>What was the mean year of caregiving of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean year of caregiving ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean length of caregiving in the result section and the tables of the study.
<p>060. SD years of caregiving of total caregivers SDYearCaregiving_ TotalCGs</p>	<p>What was the year SD of caregiving of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the year SD of caregiving ☐ Code “-” = Not reported.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the SD of length of caregiving in the result section and the tables of the study.
<p>061. Mean hours per day that caregivers provide care daily MeanCareHour_ TotalCGs</p>	<p>What was the mean hours per day that caregivers provide care daily?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean length of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean length of that caregivers provide care daily (hours) per day in the result section and the tables of the study.
<p>062. SD for mean hours per day that caregivers provide care daily (hours) per day SDCareHour_ TotalCGs</p>	<p>What was the SD for the mean hours per day that caregivers provide care daily (hours) per day?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the hour SD of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the hour SD of that caregivers provide care daily (hours) per day

Variables	Criteria and Instructions
	in the result section and the tables of the study.
<p>063. Mean hours per week that caregivers provide care daily MeanCareHourWeek_ TotalCGs</p>	<p>What was the mean hours per week that caregivers provide care daily? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean length of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean length of that caregivers provide care daily (hours) per day in the result section and the tables of the study.
<p>064. SD for mean hours per week that caregivers provide care daily (hours) per week SDCareHourWeek_ TotalCGs</p>	<p>What was the SD for the mean hours per day that caregivers provide care daily (hours) per week? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the hour SD of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the hour SD of that caregivers provide care daily (hours) per week in the result section and the tables of the study.
<p>065. The number of days per week for caregiving for patients #Days/week_ TotalCGs</p>	<p>How many days did caregivers provide caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the number of days per week for caregiving for patients ☐ Code “-” = Not reported.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the number of days per week for caregiving for patients in the result section and the tables of the study.
<p>066. Mean months of caregiving that caregivers provide for patients. MeanMonthCaregiving_TotalCGs</p>	<p>What was the mean months of caregiving that caregivers provide for patients?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean months of caregiving that caregivers provide for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean months of caregiving that caregivers provide for patients in the result section and the tables of the study.
<p>067. SD for mean months of caregiving that caregivers provide for patients SDMonthCaregiving_TotalCGs</p>	<p>What was the SD for the mean months of caregiving that caregivers provide for patients?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the month SD of time that caregivers provide for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the month SD of time that caregivers provide for patients

Variables	Criteria and Instructions
	in the result section and the tables of the study.
<p>068. 4-6 months of caregiving for patients: percent of caregiving about 4-6 months % 4-6 months of caregiving_TotalCGs</p>	<p>What was the percent of caregiving about 4-6 months that caregivers provided caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 4-6 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of caregiving about 4-6 months that caregivers provided caregiving for patients can be calculate. Ex. Total number of participants is 12, and caregivers provided caregiving for patients about 4-6 months are 6. So, the percent of caregivers providing caring for patients about 4-6 months is 50%. ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>069. 6-12 months of caregiving for patients: percent of caregiving about 6-12 months % 6-12 months of caregiving_TotalCGs</p>	<p>What was the percent of caregiving about 6-12 months that caregivers provided caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 6-12 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of caregiving about 6-12 months that caregivers provided caregiving for patients can be calculate. Ex. Total number of participants is 12, and caregivers provided caregiving for patients about 6-12 months are 6. So, the percent of caregivers providing caring for patients about 6-12 months is 50%. ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>070. 13-24 months of caregiving for patients: percent of caregiving about 13-24 months %13-24 months of caregiving_TotalCGs</p>	<p>What was the percent of caregiving about 13-24 months that caregivers provided caregiving for patients?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 13-24 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total</u>

Variables	Criteria and Instructions
	<p><u>number of participants from treatment and control groups</u>), the percent of caregiving about 13-24 months that caregivers provided caregiving for patients can be calculate. Ex. Total number of participants is 12, and caregivers provided caregiving for patients about 13-24 months are 6. So, the percent of caregivers providing caring for patients about 13-24 months is 50%.</p> <p>☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.</p>
<p>071. 25-36 months of caregiving for patients: percent of caregiving about 25-36 months % 25-36 months of caregiving_TotalCGs</p>	<p>What was the percent of caregiving about 25-36 months that caregivers provided caregiving for patients?</p> <p><u>Criteria:</u></p> <p>☐ Enter the percent of caregiving about 25-36 months that caregivers provided caregiving for patients.</p> <p>☐ Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ However, if the study provide the <u>only total number</u> of participants in each variable (a second coder must not calculate the total number of participants from treatment and control groups), the percent of caregiving about 25-36 months that caregivers provided caregiving for patients can be calculate. Ex. Total number of participants is 12, and caregivers provided caregiving for patients about 25-36 months are 6. So, the percent of caregivers</p>

Variables	Criteria and Instructions
	<p>providing caring for patients about 25-36 months is 50%.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>072. > 36 months of caregiving for patients: percent of caregiving about 25-36 months % >36 months of caregiving_TotalCGs</p>	<p>What was the percent of caregiving more than 36 months that caregivers provided caregiving for patients?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving more than 36 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of caregiving more than 36 months that caregivers provided caregiving for patients can be calculate. Ex. Total number of participants is 12, and caregivers provided caregiving for patients more than 36 months are 6. So, the percent of caregivers providing caring for patients more than 36 months is 50%. ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>073. Economic status: percent of perceived good economic status for caregivers % Economic status:Good_TotalCGs</p>	<p>What was the percent of perceived good economic status for caregivers?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Enter the percent of perceived good economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of perceived good economic status for caregivers can be calculate. Ex. Total number of participants is 12, and the number of caregivers with perceived good economic status are 6. So, the percent of caregivers with perceived good economic status is 50%. ☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.
<p>074. Economic status: percent of perceived middle economic status for caregivers % Economic status:Middle_TotalCGs</p>	<p>What was the percent of perceived middle economic status for caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of perceived middle economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder</u>

Variables	Criteria and Instructions
	<p><u>must not calculate the total number of participants from treatment and control groups</u>, the percent of perceived middle economic status for caregivers can be calculate. Ex. Total number of participants is 12, and the number of caregivers with perceived middle economic status are 6. So, the percent of caregivers with perceived middle economic status is 50%.</p> <p>☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.</p>
<p>075. Economic status: percent of perceived poor economic status for caregivers % Economic status:Poor_TotalCGs</p>	<p>What was the percent of perceived poor economic status for caregivers?</p> <p><u>Criteria:</u></p> <p>☐ Enter the percent of perceived poor economic status for caregivers.</p> <p>☐ Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ However, if the study provide the <u>only total number</u> of participants in each variable (a second coder <u>must not calculate the total number of participants from treatment and control groups</u>), the percent of perceived poor economic status for caregivers can be calculate. Ex. Total number of participants is 12, and the number of caregivers with perceived poor economic status are 6. So, the percent of caregivers with perceived poor economic status is 50%.</p>

Variables	Criteria and Instructions
	<p>☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.</p>
<p>076. Household income: percent of household income ≤ \$50,000 %Household income ≤ \$50,000_TotalCGs</p>	<p>What was the percent of household income ≤ \$50,000 for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of household income ≤ \$50,000 for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of household income ≤ \$50,000 for caregivers can be calculate. Ex. Total number of participants is 12, and the number of caregivers with household income ≤ \$50,000 are 6. So, the percent of caregivers with household income ≤ \$50,000 is 50%. ☐ Generally, the study indicates the percent of household income in the result section and the tables of the study.
<p>077. Household income: percent of household income > \$50,000 % Household income>\$ 50,000_TotalCGs</p>	<p>What was the percent of household income > \$50,000 for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of household income > \$50,000 for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <i>only total number</i> of participants in each variable (<i>a second coder must not calculate the total number of participants from treatment and control groups</i>), the percent of household income > \$50,000 for caregivers can be calculate. Ex. Total number of participants is 12, and the number of caregivers with household income > \$50,000 are 6. So, the percent of caregivers with household income > \$50,000 is 50%. ☐ Generally, the study indicates the percent of household income in the result section and the tables of the study.
<p>078. Mean perceived financial difficulty of caregivers. MeanFinancial-difficulty_TotalCGs</p>	<p>What was the mean perceived financial difficulty of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean perceived financial difficulty of caregivers ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean perceived financial difficulty of caregivers in the result section and the tables of the study.
<p>079. SD for mean perceived financial difficulty of caregivers SDFinancial difficulty_TotalCGs</p>	<p>What was the SD for the the mean perceived financial difficulty of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of the mean perceived financial difficulty of caregivers

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the SD of the mean perceived financial difficulty of caregivers in the result section and the tables of the study.
<p>080. Unhealthy conditions: percent of unhealthy status of caregivers % Unhealthy status_Total CG</p>	<p>What was the percent of unhealthy status of caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of unhealthy status of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the <u>only total number</u> of participants in each variable (<u>a second coder must not calculate the total number of participants from treatment and control groups</u>), the percent of unhealthy status of caregivers can be calculate. Ex. Total number of participants is 12, and the number of caregivers with unhealthy status of caregivers are 6. So, the percent of caregivers with unhealthy status of caregivers is 50%. ☐ Generally, the study indicates the percent of unhealthy status of caregivers in the result section and the tables of the study.
Treatment group	

Variables	Criteria and Instructions
<p>081. Mean age of caregivers in the treatment group MeanAge_Tx</p>	<p>What was the mean age of the intervention group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the mean age of the intervention group. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the mean age of the intervention group. <input type="checkbox"/> Generally, the study indicates the mean age of the intervention group in the result section and the tables of the study.
<p>082. Age standard deviation (SD) of caregivers in the treatment group AgeSD_Tx</p>	<p>What was the age SD of caregivers in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the age SD of caregivers in the treatment group <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the age SD of caregivers. <input type="checkbox"/> Generally, the study indicates the age SD of samples in the result section and the tables of the study.
<p>083. Gender of caregivers: Percent of female in the treatment group %FemaleGender_Tx</p>	<p>What was the percent of female in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of female in the treatment group. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Generally, the study indicates the percent of female in the result section and the tables of the study.
Marital Staus	

Variables	Criteria and Instructions
<p>084. Marital status of caregivers in a treatment group: percent sample that is married or long-term relationship % Married/long-term relationship_Tx</p>	<p>What was the total percent of caregivers in a treatment group with married or long-term relationship ?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of caregivers in a treatment group with married or long-term relationship. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregivers with married or long-term relationship in the result section and the tables of the study.
<p>085. Marital status of caregivers in a treatment group: percent sample that is single %Single_Tx</p>	<p>What was the total percent of caregivers in a treatment group with single status?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of total caregivers with single status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregivers with single status in the result section and the tables of the study.
<p>086. Marital status of caregivers in a treatment group: percent sample that is widowed or divorce or separated %Widowed/divorced/separated_Tx</p>	<p>What was the total percent of caregivers in a treatment group with widowed or divorce or separated status?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of caregivers in a treatment group with widowed or divorce or separated status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregivers with widowed or divorce or separated status in the result section and the tables of the study.
Relationship to patient	
087. Relationship to patient: percent of spouses or partner in the treatment group %Spouse_Tx	What was the percent of spouses or partners? <u>Criteria:</u> <ul style="list-style-type: none"> ☐ Enter the percent of spouses or partners. ☐ Code “-” = Not reported. <u>Instructions:</u> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of spouses or partner in the result section and the tables of the study.
088. Relationship to patients: percent of adult children or children in the treatment group %Adultchild or Children_Tx	What was the percent of adult children or children? <u>Criteria:</u> <ul style="list-style-type: none"> ☐ Enter the percent of adult children or children. ☐ Code “-” = Not reported. <u>Instructions:</u> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Daughter or son in law will be included in this variable. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of adult children or children in the result section and the tables of the study.
089. Relationship to patients: percent of parents in the treatment group	What was the percent of parents? <u>Criteria:</u>

Variables	Criteria and Instructions
%Parent_Tx	<ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of parents. <input type="checkbox"/> Code "-" = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as "-" if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the percent of parents in the result section and the tables of the study.
090. Relationship to patients: percent of siblings in the treatment group %Sibling_Tx	<p>What was the percent of siblings?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of siblings. <input type="checkbox"/> Code "-" = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as "-" if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the percent of siblings in the result section and the tables of the study.
091. Relationship to patients: percent of friends in the treatment group %Friend_Tx	<p>What was the percent of friends?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of friends. <input type="checkbox"/> Code "-" = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as "-" if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the percent of friends in the result section and the tables of the study.
092. Relationship to patients: percent of other relatives in the treatment group %Relative_Tx	<p>What was the percent of other relatives?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of other relatives. <input type="checkbox"/> Code "-" = Not reported.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Examples of relative included niece, grandson, granddaughter, or grandchild. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of other relatives in the result section and the tables of the study.
<p>093. Relationship to patients: percent of others or non spouse in the treatment group %Othersrelation or non spouses_Tx</p>	<p>What was the percent of others or non spouse?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of others. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of others or non spouse in the result section and the tables of the study.
<p>094. Relationship to patients: percent of non relative in the treatment group %NonRelative_Tx</p>	<p>What was the percent of non relative?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of non relative. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of non relative in the result section and the tables of the study.
<p>Employment</p>	

Variables	Criteria and Instructions
<p>095. Employment status of caregivers with full-time: percent of employment in the treatment group %EmployFull-time_Tx</p>	<p>What was the percent of employment status with full-time? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with full-time. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>096. Employment status of caregivers: percent of employment with part-time in the treatment group %EmployPart-time_Tx</p>	<p>What was the percent of employment status with part-time? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with part-time. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>097. Unemployment status of caregivers: percent of unemployment in the treatment group %Unemploy_Tx</p>	<p>What was the percent of unemployment status? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of unemployment status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of unemployment status in the result section and the tables of the study.
<p>098. Employment status of caregivers: percent of retired status in the treatment group %Retired_Tx</p>	<p>What was the percent of employment status with retired status?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with retired status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>099. Employment status of caregivers: percent of homemakers in the treatment group %Homemaker_Tx</p>	<p>What was the percent of employment status with homemakers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with homemakers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>100. Employment status of caregivers: percent of other employments in the treatment group %OtherEmploy_Tx</p>	<p>What was the percent of employment status with other employments?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status other employments. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
Education	
<p>101. Educational levels or any education of caregivers in the treatment group TypeEducation_Tx</p>	<p>Were the education levels or any education reported? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention educational levels. If the study reported <u>year of education of caregivers, it must be label as 0.</u> ☐ Code as 1 if studies indicated the educational levels (e.g., primary school, middle school, college level, bachelor degree, no qualification school, or further education). ☐ Generally, the study indicated the percent of educational levels in the result section and the tables of the study.
<p>102. Educational level of caregivers: percent of a primary school or below level of caregivers in the treatment group %PrimarySchool_Tx</p>	<p>What was the percent of a primary school or below level of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a primary school or below level of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in

Variables	Criteria and Instructions
	the result section and the tables of the study.
<p>103. Educational level of caregivers: percent of secondary school of caregivers in the treatment group %SecondSchool_Tx</p>	<p>What was the percent of a secondary school level of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of a secondary school level of caregivers. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>104. Educational level of caregivers: percent of a tertiary level of caregivers in the treatment group %TertiarySchool_Tx</p>	<p>What was the percent of a tertiary level of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of a tertiary level of caregivers. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>105. Year of education of caregivers in the treatment group EducationYear_Tx</p>	<p>Was the year of education reported? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention the year of education. <input type="checkbox"/> Code as 1 if studies indicated the year of education. <input type="checkbox"/> Generally, the study indicated the year of the education in the result

Variables	Criteria and Instructions
	section and the tables of the study.
<p>106. Mean year of education of caregivers in the treatment group MeanYearEducation_Tx</p>	<p>What was the mean year of education of caregivers in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the mean year of total caregivers <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the mean year of education of caregivers. <input type="checkbox"/> Generally, the study indicates the year mean of education of samples in the result section and the tables of the study.
<p>107. SD year of education of caregivers in the treatment group SDYearEducation_Tx</p>	<p>What was the SD year of education of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the SD year of caregivers <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the SD year of education of total caregivers. <input type="checkbox"/> Generally, the study indicates the SD year of education of samples in the result section and the tables of the study.
<p>108. The percentage of education: percent of education being less than high school for caregivers in the treatment group %Less than High school_Tx</p>	<p>What was the percent of education being less than high school for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of education being less than high school for caregivers. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ However, if the study provide the number of participants in each variable, the percent of education being less than high school for caregivers can be calculate. Ex. Total number of participants is 12, and caregivers with education being less than high school for total caregivers are 6. So, the percent of education being less than high school for caregivers is 50%. ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>109. The percentage of education: percent of middle school level for caregivers in the treatment group %Middle school_Tx</p>	<p>What was the percent of middle school level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of middle school for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>110. The percentage of education: percent of high school level of caregivers in the treatment group %High school_Tx</p>	<p>What was the percent of high school level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of high school for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>111. The percentage of education: percent of a college level of caregivers in the treatment group %College_Tx</p>	<p>What was the percent of a college level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>112. The percentage of education: percent of a bachelor's degree/university in the treatment group %Bachelor's degree/University_Tx</p>	<p>What was the percent of a bachelor's degree/university level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>113. The percentage of education: percent of a graduate-school level of caregivers in the treatment group %Graduate school_Tx</p>	<p>What was the percent of a graduate-school level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>114. The percentage of education: percent of no qualification of caregivers in the treatment group %No qualification_Tx</p>	<p>What was the percent of no qualification level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of no qualification level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>115. The percentage of education: percent of school level qualification of caregivers in the treatment group %School level qualification_Tx</p>	<p>What was the percent of school level qualification for total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of school level qualification for caregivers ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>116. The percentage of education: percent of further education of caregivers in the treatment groups %Further education_Tx</p>	<p>What was the percent of further education for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of further education for caregivers.

Variables	Criteria and Instructions
	<p><input type="checkbox"/> Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information or missing data.</p> <p><input type="checkbox"/> These values must be reported in the study (do NOT calculate these).</p> <p><input type="checkbox"/> Generally, the study indicates the percent of educational levels in the result section and the tables of the study.</p>
Ethnicity	
<p>117. Ethnicity of caregivers: percent of white caregivers in the treatment group %WhiteEthnicity _Tx</p>	<p>What was the percent of white caregivers?</p> <p><u>Criteria:</u></p> <p><input type="checkbox"/> Enter the percent of white caregivers.</p> <p><input type="checkbox"/> Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information or missing data.</p> <p><input type="checkbox"/> These values must be reported in the study (do NOT calculate these).</p> <p><input type="checkbox"/> Generally, the study indicates the percent of white caregivers in the result section and the tables of the study.</p>
<p>118. Ethnicity of caregivers: percent of Black caregivers in the treatment group %BlackEthnicity _Tx</p>	<p>What was the percent of black caregivers?</p> <p><u>Criteria:</u></p> <p><input type="checkbox"/> Enter the percent of black caregivers.</p> <p><input type="checkbox"/> Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information or missing data.</p> <p><input type="checkbox"/> These values must be reported in the study (do NOT calculate these).</p> <p><input type="checkbox"/> Generally, the study indicates the percent of black caregivers in the result section and the tables of the study.</p>

Variables	Criteria and Instructions
<p>119. Ethnicity of caregivers: percent of Hispanic caregivers in the treatment group %HispanicEthnicity _Tx</p>	<p>What was the percent of Hispanic caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of Hispanic caregivers. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the percent of Hispanic caregivers in the result section and the tables of the study.
<p>120. Ethnicity of caregivers: percent of Asian caregivers in the treatment group %AsianEthnicity _Tx</p>	<p>What was the percent of Asian caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of Asian caregivers. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these). <input type="checkbox"/> Generally, the study indicates the percent of Asian caregivers in the result section and the tables of the study.
<p>121. Ethnicity of caregivers: percent of other race caregivers in the treatment group %OtherEthnicity _Tx</p>	<p>What was the percent of other race caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the percent of other race caregivers. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of other race caregivers in the result section and the tables of the study.
<p>122. Ethnicity of caregivers: percent of no primary group of caregivers in the treatment group %No primary group_Tx</p>	<p>What was the percent of no primary group for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of no primary group for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of no primary group of ethnicity in the result section and the tables of the study.
Time of caregiving	
<p>123. Having more than 1 of family members living with patient: percent of having more than 1 of family members with living patients in the treatment group % Having more than 1 of family member living with pt_Tx</p>	<p>What was the percent of having more than 1 of family members living with patients for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of having more than 1 of family members living with patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of having more than 1 of family members living with patients in the result section and the tables of the study.
<p>124. Assistance with caring for patients: percent of having helpers in caring for patients in the treatment group %Assistance with caring_Tx</p>	<p>What was the percent of having helpers in caring for patients for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of having helpers in caring for patients.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code “-” = Not reported. <u>Instructions:</u> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of having helper in caring for patients in the result section and the tables of the study.
<p>125. Experience of caregivers with caring for patients: percent of caregivers with experience in caring for patients in the treatment group %ExperienceCaregiver_Tx</p>	<p>What was the percent of caregivers with experience in caring for patients for caregivers?</p> <u>Criteria:</u> <ul style="list-style-type: none"> ☐ Enter the percent of caregivers with experience in caring for patients. ☐ Code “-” = Not reported. <u>Instructions:</u> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of experience of caregivers in caring for patients in the result section and the tables of the study.
<p>126. Mean years of caregiving of caregivers in the treatment group MeanYearCaregiving_Tx</p>	<p>What was the mean year of caregiving of caregivers in the treatment group?</p> <u>Criteria:</u> <ul style="list-style-type: none"> ☐ Enter the mean year of caregiving ☐ Code “-” = Not reported. <u>Instructions:</u> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the mean length of caregiving in the result section and the tables of the study.
<p>127. SD year of caregiving of caregivers in the treatment group SDYearCaregiving_Tx</p>	<p>What was the SD year of caregiving of caregivers?</p> <u>Criteria:</u>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Enter the SD year of caregiving ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the SD of length of caregiving in the result section and the tables of the study.
<p>128. Mean by length of time that caregivers provide care daily (hours) per day in the treatment group MeanCareHour_Tx</p>	<p>What was the mean length of time that caregivers provide care daily (hours) per day?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean length of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the mean length of that caregivers provide care daily (hours) per day in the result section and the tables of the study.
<p>129. SD for mean hours per day that caregivers provide care daily (hours) per day in the treatment group SDCareHour_Tx</p>	<p>What was the SD for the mean hours per day that caregivers provide care daily (hours) per day?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the hour SD of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the hour SD of that caregivers provide care daily (hours) per day in the result section and the tables of the study.

Variables	Criteria and Instructions
<p>130. Mean hours per week that caregivers provide care daily in the treatment group MeanCareHourWeek_Tx</p>	<p>What was the mean hours per week that caregivers provide care daily? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean length of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the mean length of that caregivers provide care daily (hours) per day in the result section and the tables of the study.
<p>131. SD for mean hours per week that caregivers provide care daily (hours) per week in the treatment group SDCareHourWeek_Tx</p>	<p>What was the SD for the mean hours per day that caregivers provide care daily (hours) per week? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the hour SD of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. <p>Generally, the study indicates the hour SD of that caregivers provide care daily (hours) per week in the result section and the tables of the study.</p>
<p>132. The number of days per week of caregivers for caregiving for patients in the treatment group #Days/week_Tx</p>	<p>How many days did caregivers provide caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the number of days per week for caregiving for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the number of days per week for caregiving for patients in the

Variables	Criteria and Instructions
	result section and the tables of the study.
<p>133. Mean months of caregiving that caregivers provide for patients in the treatment group MeanMonthCaregiving_Tx</p>	<p>What was the mean months of caregiving that caregivers provide for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean months of caregiving that caregivers provide for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean months of caregiving that caregivers provide for patients in the result section and the tables of the study.
<p>134. SD for mean months of caregiving that caregivers provide for patients in the treatment group SDMonthCaregiving_Tx</p>	<p>What was the SD for the mean months of caregiving that caregivers provide for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the month SD of time that caregivers provide for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates t the month SD of time that caregivers provide for patients in the result section and the tables of the study.
<p>135. 4-6 months of caregiving for patients: percent of caregiving about 4-6 months in the treatment group % 4-6 months of caregiving_Tx</p>	<p>What was the percent of caregiving about 4-6 months that caregivers provided caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 4-6 months that caregivers provided caregiving for patients.

Variables	Criteria and Instructions
	<p>☐ Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ However, if the study provide the number of participants in each variable, the percent of caregiving about 4-6 months that caregivers provided caregiving for patients can be calculate. Ex. Total number of participants is 12, and caregivers provided caregiving for patients about 4-6 months are 6. So, the percent of caregivers providing caring for patients about 4-6 months is 50%.</p> <p>☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.</p>
<p>136. 6-12 months of caregiving for patients: percent of caregiving about 6-12 months in the treatment group % 6-12 months of caregiving_Tx</p>	<p>What was the percent of caregiving about 6-12 months that caregivers provided caregiving for patients?</p> <p><u>Criteria:</u></p> <p>☐ Enter the percent of caregiving about 6-12 months that caregivers provided caregiving for patients.</p> <p>☐ Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.</p>
<p>137. 13-24 months of caregiving for patients: percent of caregiving about 13-24 months in the treatment group</p>	<p>What was the percent of caregiving about 13-24 months that caregivers provided caregiving for patients?</p>

Variables	Criteria and Instructions
<p>%13-24 months of caregiving_Tx</p>	<p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 13-24 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>138. 25-36 months of caregiving for patients: percent of caregiving about 25-36 months in the treatment group % 25-36 months of caregiving_Tx</p>	<p>What was the percent of caregiving about 25-36 months that caregivers provided caregiving for patients?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 25-36 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>139. > 36 months of caregiving for patients: percent of caregiving about 25-36 months in the treatment group % >36 months of caregiving_Tx</p>	<p>What was the percent of caregiving more than 36 months that caregivers provided caregiving for patients?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving more than 36 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>140. Economic status: percent of perceived good economic status for caregivers in the treatment group % Economic status:Good_Tx</p>	<p>What was the percent of perceived good economic status for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of perceived good economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.
<p>141. Economic status: percent of perceived middle economic status for caregivers in the treatment group % Economic status:Middle_Tx</p>	<p>What was the percent of perceived middle economic status for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of perceived middle economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.

Variables	Criteria and Instructions
<p>142. Economic status: percent of perceived poor economic status for caregivers in the treatment group % Economic status:Poor_Tx</p>	<p>What was the percent of perceived poor economic status for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of perceived poor economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.
<p>143. Household income: percent of household income ≤ \$50,000 of caregivers in the treatment group %Household income ≤ \$50,000_Tx</p>	<p>What was the percent of household income ≤ \$50,000 for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of household income ≤ \$50,000 for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of household income in the result section and the tables of the study.
<p>144. Household income: percent of household income > \$50,000 of caregivers in the treatment group % Household income>\$ 50,000_Tx</p>	<p>What was the percent of household income > \$50,000 for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of household income > \$50,000 for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of household income in the result section and the tables of the study.
<p>145. Mean perceived financial difficulty of caregivers in the treatment group. MeanFinancial-difficulty_Tx</p>	<p>What was the mean perceived financial difficulty of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean perceived financial difficulty of caregivers ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean perceived financial difficulty of caregivers in the result section and the tables of the study.
<p>146. SD for mean perceived financial difficulty of caregivers in the treatment group SDFinancial difficulty_Tx</p>	<p>What was the SD for the mean perceived financial difficulty of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of the mean perceived financial difficulty of caregivers ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the SD of the mean perceived financial difficulty of caregivers in the result section and the tables of the study.
<p>147. Unhealthy conditions: percent of unhealthy status of caregivers in the treatment group % Unhealthy status_Tx</p>	<p>What was the percent of unhealthy status of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of unhealthy status of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of unhealthy status of caregivers in the result section and the tables of the study.
Control group	
<p>148. Mean age of caregivers in the control group MeanAge_Co</p>	<p>What was the mean age of the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean age of the control group. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the mean age of the control group. ☐ Generally, the study indicates the mean age of the control group in the result section and the tables of the study.
<p>149. Age Standard Deviation (SD) of caregivers in the control group AgeSD_Co</p>	<p>What was the age SD of caregivers in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the age SD of caregivers in the control group ☐ Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the age SD of caregivers. ☐ Generally, the study indicates the age SD of samples in the result section and the tables of the study.
<p>150. Gender of caregivers: Percent of female in the control group %FemaleGender_Co</p>	<p>What was the percent of female in the control group? <u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Enter the percent of female in the control group. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of female in the result section and the tables of the study.
Marital Status	
<p>151. Marital status of caregivers in a control group: percent sample that is married or long-term relationship % Married/long-term relationship_Co</p>	<p>What was the total percent of caregivers in a control group with married or long-term relationship ?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of caregivers in a treatment group with married or long-term relationship. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregivers with married or long-term relationship in the result section and the tables of the study.
<p>152. Marital status of caregivers in a control group: percent sample that is single %Single_Co</p>	<p>What was the total percent of caregivers in a control group with single status?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of caregivers with single status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of caregivers with single status in the result section and the tables of the study.
<p>153. Marital status of caregivers in a control group: percent sample that is widowed or divorce or separated %Widowed/divorced/separated_ Co</p>	<p>What was the total percent of caregivers in a control group with widowed or divorce or separated status?</p> <ul style="list-style-type: none"> ☐ Enter the total percent of caregivers a control group with widowed or divorce or separated status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregivers with widowed or divorce or separated status in the result section and the tables of the study.
Relationship to patient	
<p>154. Relationship to patient: percent of spouses or partner in the control group %Spouse_ Co</p>	<p>What was the percent of spouses or partners?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of spouses or partners. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of spouses or partner in the result section and the tables of the study.
<p>155. Relationship to patients: percent of adult children or children in the control group %Adultchild or Children_ Co</p>	<p>What was the percent of adult children or children?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of adult children or children.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Daughter or son in law will be included in this variable. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of adult children or children in the result section and the tables of the study.
<p>156. Relationship to patients: percent of parents in the control group %Parent_Co</p>	<p>What was the percent of parents?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of parents. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of parents in the result section and the tables of the study.
<p>157. Relationship to patients: percent of siblings in the control group %Sibling_Co</p>	<p>What was the percent of friends?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of friends. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of friends in the result section and the tables of the study.
<p>158. Relationship to patients: percent of friends in the control group %Friend_Co</p>	<p>What was the percent of friends?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of friends. ☐ Code “-” = Not reported.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of friends in the result section and the tables of the study.
<p>159. Relationship to patients: percent of other relatives in the control group %Relative_Co</p>	<p>What was the percent of other relatives?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of other relatives. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Examples of relative included niece, grandson, granddaughter, or grandchild. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of other relatives in the result section and the tables of the study.
<p>160. Relationship to patients: percent of others in the control group %Othersrelation or non spouse_Co</p>	<p>What was the percent of others or non spouse?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of others. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of others or non spouse in the result section and the tables of the study.
<p>161. Relationship to patients: percent of non relative in the treatment group</p>	<p>What was the percent of non relative?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
%NonRelative_Co	<ul style="list-style-type: none"> ☐ Enter the percent of non relative. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of non relative in the result section and the tables of the study.
Employment	
<p>162. Employment status of caregivers with full-time: percent of employment in the control group %EmployFull-time_Co</p>	<p>What was the percent of employment status with full-time?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with full-time. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>163. Employment status of caregivers: percent of employment with part-time in the control group %EmployPart-time_Co</p>	<p>What was the percent of employment status with part-time?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with part-time. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.

Variables	Criteria and Instructions
<p>164. Unemployment status of caregivers: percent of unemployment in the control group %Unemployment_Co</p>	<p>What was the percent of unemployment status? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of unemployment status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of unemployment status in the result section and the tables of the study.
<p>165. Employment status of caregivers: percent of retired status in the control group %Retired_Co</p>	<p>What was the percent of employment status with retired status? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with retired status. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>166. Employment status of caregivers: percent of homemakers in the control group %Homemaker_Co</p>	<p>What was the percent of employment status with homemakers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status with homemakers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
<p>167. Employment status of caregivers: percent of other employments in the control group %OtherEmploy_Co</p>	<p>What was the percent of employment status with other employments? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of employment status other employments. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of employment status in the result section and the tables of the study.
Education	
<p>168. Educational levels or any education of caregivers in the control group TypeEducation_Co</p>	<p>Were the education levels or any education reported? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention educational levels. If the study reported <u>year of education of caregivers, it must be labled as 0.</u> ☐ Code as 1 if studies indicated the educational levels (e.g., primary school, middle school, college level, bachelor degree, no qualification school, or further education). ☐ Generally, the study indicated the percent of educational levels in the result section and the tables of the study.
<p>169. Educational level of caregivers: percent of a primary school or below level of caregivers in the control group</p>	<p>What was the percent of a primary school or below level of caregivers? <u>Criteria:</u></p>

Variables	Criteria and Instructions
<p>%PrimarySchool_Co</p>	<ul style="list-style-type: none"> ☐ Enter the percent of a primary school or below level of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>170. Educational level of caregivers: percent of secondary school of caregivers in the control group %SecondSchool_Co</p>	<p>What was the percent of a secondary school level of caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a secondary school level of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>171. Educational level of caregivers: percent of a tertiary level of caregivers in the control group %TertiarySchool_Co</p>	<p>What was the percent of a tertiary level of caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a tertiary level of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in

Variables	Criteria and Instructions
	the result section and the tables of the study.
<p>172. Year of education of caregivers in the treatment group EducationYear_Tx</p>	<p>Was the year of education reported? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention the year of education. <input type="checkbox"/> Code as 1 if studies indicated the year of education. <input type="checkbox"/> Generally, the study indicated the year of the education in the result section and the tables of the study.
<p>173. Year mean of education of caregivers in the control group MeanYearEducation_Co</p>	<p>What was the year mean of education of caregivers in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the year mean of caregivers <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the year mean of education of caregivers. <input type="checkbox"/> Generally, the study indicates the year mean of education of samples in the result section and the tables of the study.
<p>174. Year SD of education of caregivers in the control group SDYearEducation_Co</p>	<p>What was the year SD of education of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the year SD of caregivers <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the year SD of education of total caregivers. <input type="checkbox"/> Generally, the study indicates the year SD of education of samples in the result section and the tables of the study.

Variables	Criteria and Instructions
<p>175. The percentage of education: percent of education being less than high school for caregivers in the control group %Less than High school_Co</p>	<p>What was the percent of education being less than high school for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of education being less than high school for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>176. The percentage of education: percent of middle school level for caregivers in the control group %Middle school_Co</p>	<p>What was the percent of middle school level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of middle school for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>177. The percentage of education: percent of high school level of caregivers in the control group %High school_Co</p>	<p>What was the percent of high school level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of high school for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>178. The percentage of education: percent of a college level of caregivers in the control group %College_Co</p>	<p>What was the percent of a college level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>179. The percentage of education: percent of a bachelor's degree/university in the control group %Bachelor's degree/University_Co</p>	<p>What was the percent of a bachelor's degree/university level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>180. The percentage of education: percent of a graduate-school level of caregivers in the control group %Graduate school_Co</p>	<p>What was the percent of a graduate-school level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of a college level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>181. The percentage of education: percent of no qualification of caregivers in the control group %No qualification_Co</p>	<p>What was the percent of no qualification level for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of no qualification level for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>182. The percentage of education: percent of school level qualification of caregivers in the control group %School level qualification_Co</p>	<p>What was the percent of school level qualification? for total caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of school level qualification for caregivers ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.
<p>183. The percentage of education: percent of further education of caregivers in the control group %Further education_Co</p>	<p>What was the percent of further education for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of further education for caregivers.

Variables	Criteria and Instructions
	<p>☐ Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ Generally, the study indicates the percent of educational levels in the result section and the tables of the study.</p>
Ethnicity	
<p>184. Ethnicity of caregivers: percent of white caregivers in the control group %WhiteEthnicity_Co</p>	<p>What was the percent of white caregivers?</p> <p><u>Criteria:</u></p> <p>☐ Enter the percent of white caregivers.</p> <p>☐ Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ Generally, the study indicates the percent of white caregivers in the result section and the tables of the study.</p>
<p>185. Ethnicity of caregivers: percent of Black caregivers in the control group %BlackEthnicity_Co</p>	<p>What was the percent of black caregivers?</p> <p><u>Criteria:</u></p> <p>☐ Enter the percent of black caregivers.</p> <p>☐ Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p>☐ Code as “-” if the study has no information or missing data.</p> <p>☐ These values must be reported in the study (do NOT calculate these).</p> <p>☐ Generally, the study indicates the percent of black caregivers in the result section and the tables of the study.</p>

Variables	Criteria and Instructions
<p>186. Ethnicity of caregivers: percent of Hispanic caregivers in the control group %HispanicEthnicity_Co</p>	<p>What was the percent of Hispanic caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of Hispanic caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of Hispanic caregivers in the result section and the tables of the study.
<p>187. Ethnicity of caregivers: percent of Asian caregivers in the control group %AsianEthnicity_Co</p>	<p>What was the percent of Asian caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of Asian caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of Asian caregivers in the result section and the tables of the study.
<p>188. Ethnicity of caregivers: percent of other race caregivers in the control group %OtherEthnicity_Co</p>	<p>What was the percent of other race caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of other race caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ However, if the study provide the number of participants in each variable, the percent of other race caregivers can be calculate. Ex. Total number of participants is 12, and other race caregivers are 6. So, the percent of other race caregivers is 50%. ☐ Generally, the study indicates the percent of other race caregivers in the result section and the tables of the study.
<p>189. Ethnicity of caregivers: percent of no primary group of caregivers in the control group %No primary group_Co</p>	<p>What was the percent of no primary group for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of no primary group for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of no primary group of ethnicity in the result section and the tables of the study.
Time of caregiving	
<p>190. Having more than 1 of family members living with patient: percent of having more than 1 of family members with living patients in the control group % Having more than 1 of family member living with pt_Co</p>	<p>What was the percent of having more than 1 of family members living with patients for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of having more than 1 of family members living with patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of having more than 1 of

Variables	Criteria and Instructions
	family members living with patients in the result section and the tables of the study.
<p>191. Assistance with caring for patients: percent of having helpers in caring for patients in the control group %Assistance with caring_Co</p>	<p>What was the percent of having helpers in caring for patients for caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of having helpers in caring for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of having helper in caring for patients in the result section and the tables of the study.
<p>192. Experience of caregivers with caring for patients: percent of caregivers with experience in caring for patients in the control group %ExperienceCaregiver_Co</p>	<p>What was the percent of caregivers with experience in caring for patients for caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregivers with experience in caring for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of experience of caregivers in caring for patients in the result section and the tables of the study.
<p>193. Mean years of caregiving of caregivers in the control group MeanYearCaregiving_Co</p>	<p>What was the mean year of caregiving of caregivers in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean year of caregiving ☐ Code “-” = Not reported. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the mean length of caregiving in the result section and the tables of the study.
<p>194. SD years of caregiving of caregivers in the control group SDYearCaregiving_Co</p>	<p>What was the SD year of caregiving of caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD year of caregiving ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the SD of length of caregiving in the result section and the tables of the study.
<p>195. Mean by length of time that caregivers provide care daily (hours) per day in the control group MeanCareHour_Co</p>	<p>What was the mean length of time that caregivers provide care daily (hours) per day in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean length of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the mean length of that caregivers provide care daily (hours) per day in the result section and the tables of the study.
<p>196. Hour SD by length of time that caregivers provide care daily (hours) per day in the control group SDCareHour_Co</p>	<p>What was the hour SD of time that caregivers provide care daily (hours) per day?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the hour SD of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the hour SD of that caregivers provide care daily (hours) per day in the result section and the tables of the study.
<p>197. Mean hours per week that caregivers provide care daily in the control group MeanCareHourWeek_Co</p>	<p>What was the mean hours per week that caregivers provide care daily? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean length of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the mean length of that caregivers provide care daily (hours) per day in the result section and the tables of the study.
<p>198. SD for mean hours per week that caregivers provide care daily (hours) per week in the control group SDCareHourWeek_Co</p>	<p>What was the SD for the mean hours per day that caregivers provide care daily (hours) per week? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the hour SD of time that caregivers provide care daily (hours) per day ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Generally, the study indicates the hour SD of that caregivers provide care daily (hours) per week in the result section and the tables of the study.
<p>199. The number of days per week of caregivers for caregiving for patients in the control group #Days/week_Co</p>	<p>How many days did caregivers provide caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the number of days per week for caregiving for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the number of days per week for caregiving for patients in the result section and the tables of the study.
<p>200. Mean months of caregiving that caregivers provide for patients in the control group MeanMonthCaregiving_Co</p>	<p>What was the mean months of caregiving that caregivers provide for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean months of caregiving that caregivers provide for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the mean months of caregiving that caregivers provide for patients in the result section and the tables of the study.
<p>201. SD for mean months of caregiving that caregivers provide for patients in the control group SDMonthCaregiving_Co</p>	<p>What was the SD for the mean months of caregiving that caregivers provide for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the month SD of time that caregivers provide for patients ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the month SD of time that caregivers provide for patients in the result section and the tables of the study.

Variables	Criteria and Instructions
<p>202. 4-6 months of caregiving for patients: percent of caregiving about 4-6 months in the control group % 4-6 months of caregiving_Co</p>	<p>What was the percent of caregiving about 4-6 months that caregivers provided caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 4-6 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ However, if the study provide the number of participants in each variable, the percent of caregiving about 4-6 months that caregivers provided caregiving for patients can be calculate. Ex. Total number of participants is 12, and caregivers provided caregiving for patients about 4-6 months are 6. So, the percent of caregivers providing caring for patients about 4-6 months is 50%. ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>203. 6-12 months of caregiving for patients: percent of caregiving about 6-12 months in the control group % 6-12 months of caregiving_Co</p>	<p>What was the percent of caregiving about 6-12 months that caregivers provided caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 6-12 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>204. 13-24 months of caregiving for patients: percent of caregiving about 13-24 months in the control group %13-24 months of caregiving_Co</p>	<p>What was the percent of caregiving about 13-24 months that caregivers provided caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 13-24 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>205. 25-36 months of caregiving for patients: percent of caregiving about 25-36 months in the control group % 25-36 months of caregiving_Co</p>	<p>What was the percent of caregiving about 25-36 months that caregivers provided caregiving for patients? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving about 25-36 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>206. > 36 months of caregiving for patients: percent of caregiving about 25-36 months in the control group</p>	<p>What was the percent of caregiving more than 36 months that caregivers provided caregiving for patients?</p>

Variables	Criteria and Instructions
<p>% >36 months of caregiving_Co</p>	<p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of caregiving more than 36 months that caregivers provided caregiving for patients. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of caregiving in the result section and the tables of the study.
<p>207. Economic status: percent of perceived good economic status for caregivers in the control group % Economic status:Good_Co</p>	<p>What was the percent of perceived good economic status for caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of perceived good economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.
<p>208. Economic status: percent of perceived middle economic status for caregivers in the control group % Economic status:Middle_Co</p>	<p>What was the percent of perceived middle economic status for caregivers?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of perceived middle economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.
<p>209. Economic status: percent of perceived poor economic status for caregivers in the control group % Economic status:Poor_Co</p>	<p>What was the percent of perceived poor economic status for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of perceived poor economic status for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of economic status in the result section and the tables of the study.
<p>210. Household income: percent of household income ≤ \$50,000 of caregivers in the control group %Household income ≤ \$50,000_Co</p>	<p>What was the percent of household income ≤ \$50,000 for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of household income ≤ \$50,000 for caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of household income in the result section and the tables of the study.
<p>211. Household income: percent of household income > \$50,000 of caregivers in the control group % Household income>\$ 50,000_Co</p>	<p>What was the percent of household income > \$50,000 for caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of household income > \$50,000 for caregivers.

Variables	Criteria and Instructions
	<p><input type="checkbox"/> Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information or missing data.</p> <p><input type="checkbox"/> These values must be reported in the study (do NOT calculate these).</p> <p><input type="checkbox"/> Generally, the study indicates the percent of household income in the result section and the tables of the study.</p>
<p>212. Mean perceived financial difficulty of caregivers in the control group. MeanFinancial-difficulty_Co</p>	<p>What was the mean perceived financial difficulty of caregivers?</p> <p><u>Criteria:</u></p> <p><input type="checkbox"/> Enter the mean perceived financial difficulty of caregivers</p> <p><input type="checkbox"/> Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information or missing data.</p> <p><input type="checkbox"/> These values must be reported in the study (do NOT calculate these).</p> <p><input type="checkbox"/> Generally, the study indicates the mean perceived financial difficulty of caregivers in the result section and the tables of the study.</p>
<p>213. SD for mean perceived financial difficulty of caregivers in the control group SDFinancial difficulty_Co</p>	<p>What was the SD for the the mean perceived financial difficulty of caregivers?</p> <p><u>Criteria:</u></p> <p><input type="checkbox"/> Enter the SD of the mean perceived financial difficulty of caregivers</p> <p><input type="checkbox"/> Code “-” = Not reported.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information or missing data.</p> <p><input type="checkbox"/> These values must be reported in the study (do NOT calculate these).</p> <p><input type="checkbox"/> Generally, the study indicates the SD of the mean perceived financial difficulty of caregivers</p>

Variables	Criteria and Instructions
	in the result section and the tables of the study.
<p>214. Unhealthy conditions: percent of unhealthy status of caregivers in the control group % Unhealthy status_Co</p>	<p>What was the percent of unhealthy status of caregivers? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the percent of unhealthy status of caregivers. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, the study indicates the percent of unhealthy status of caregivers in the result section and the tables of the study.
Patient Characteristics	
Patient Characteristics	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ These characteristics refer to patients who are the care recipients of the treatment and control group caregivers.
Total group	
<p>215. Mean age of older patients in the total group MeanAge_TotalPt</p>	<p>What was the mean age of older patients in the total group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean age of the total group. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the mean age of the treatment group. ☐ Generally, the study indicates the mean age of the treatment group in the result section and the tables of the study.

Variables	Criteria and Instructions
<p>216. Age Standard Deviation (SD) of older patients in the total group AgeSD_TotalPt</p>	<p>What was the age SD of older patients in the total group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the age SD of older patients in the total group <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the age SD of older patients. <input type="checkbox"/> Generally, the study indicates the age SD of samples in the result section and the tables of the study.
<p>217. Diagnosis of patients: Dementia or Alzheimer’s disease DiagnosisPatient_Dementia_or_Alzheimer TotalPt</p>	<p>Did any patients have dementia in the total group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention diagnosis of patients as dementia or Alzheimer’s disease. <input type="checkbox"/> Code as 1 if studies indicated that the diagnosis of patients is dementia or Alzheimer’s disease. <input type="checkbox"/> Generally, this information was indicated on the result section or the table of a result section.
<p>218. Diagnosis of patients: Cancer DiagPatient_Cancer TotalPt</p>	<p>Did any patients have cancer in the total group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention diagnosis of patients as cancer. <input type="checkbox"/> Code as 1 if studies indicated that the diagnosis of patients is cancer. <input type="checkbox"/> Generally, this information was indicated on the result section or the table of a result section.

Variables	Criteria and Instructions
<p>219. Diagnosis of patients: Stroke DiagPatient_StrokeTotalPt</p>	<p>Did any patients have stroke in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention diagnosis of patients as stroke. <input type="checkbox"/> Code as 1 if studies indicated that the diagnosis of patients is stroke. <input type="checkbox"/> Generally, this information was indicated on the result section or the table of a result section.
<p>220. Diagnosis of patients: Heart diseases DiagPatient_Heart diseasesTotalPt</p>	<p>Did any patients have heart diseases in the total group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention diagnosis of patients as heart diseases. <input type="checkbox"/> Code as 1 if studies indicated that the diagnosis of patients is heart diseases. <input type="checkbox"/> Generally, this information was indicated on the result section or the table of a result section.
<p>221. Diagnosis of patients: Chronic illness DiagPatient_MultiChronic illnessTotalPt</p>	<p>Did any patients have chronic illness in the total group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention diagnosis of patients as chronic illness. <input type="checkbox"/> Code as 1 if studies indicated that the diagnosis of patients is chronic illness. <input type="checkbox"/> Generally, this information was indicated on the result section or the table of a result section.
<p>Treatment group</p>	

Variables	Criteria and Instructions
<p>222. Mean age of older patients in the treatment group MeanAge_PtTx</p>	<p>What was the mean age of older patients in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the mean age of the treatment group. <input type="checkbox"/> Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the mean age of the treatment group. <input type="checkbox"/> Generally, the study indicates the mean age of the treatment group in the result section and the tables of the study.
<p>223. Age Standard Deviation (SD) of older patients in the treatment group AgeSD_PtTx</p>	<p>What was the age SD of older patients in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter the age SD of older patients in the treatment group <input type="checkbox"/> Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as “-” if the study has no information or missing data. <input type="checkbox"/> Code for the age SD of older patients. <input type="checkbox"/> Generally, the study indicates the age SD of samples in the result section and the tables of the study.
<p>224. Diagnosis of patients: Dementia or Alzheimer’s disease DiagnosisPatient_Dementia_or_Alzheimer_Tx</p>	<p>Did any patients have dementia in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention diagnosis of patients as dementia or Alzheimer’s disease. <input type="checkbox"/> Code as 1 if studies indicated that the diagnosis of patients is dementia or Alzheimer’s disease.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>225. Diagnosis of patients: Cancer DiagPatient_Cancer_Tx</p>	<p>Did any patients have cancer in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as cancer. ☐ Code as 1 if studies indicated that the diagnosis of patients is cancer. ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>226. Diagnosis of patients: Stroke DiagPatient_Stroke_Tx</p>	<p>Did any patients have stroke in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as stroke. ☐ Code as 1 if studies indicated that the diagnosis of patients is stroke. ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>227. Diagnosis of patients: Heart diseases DiagPatient_Heart diseases_Tx</p>	<p>Did any patients have heart diseases in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as heart diseases. ☐ Code as 1 if studies indicated that the diagnosis of patients is heart diseases.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>228. Diagnosis of patients: Chronic illness DiagPatient_MultiChronic illness_Tx</p>	<p>Did any patients have chronic illness in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as chronic illness. ☐ Code as 1 if studies indicated that the diagnosis of patients is chronic illness. ☐ Generally, this information was indicated on the result section or the table of a result section.
Control group caregivers	
<p>229. Mean age of older patients in the control group MeanAge_PtCo</p>	<p>What was the mean age of older patients in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean age of the treatment group. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the mean age of the control group. ☐ Generally, the study indicates the mean age of the treatment group in the result section and the tables of the study.
<p>230. Age Standard Deviation (SD) of older patients in the t control group AgeSD_PtCo</p>	<p>What was the age SD of older patients in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the age SD of older patients in the control group ☐ Code “-” = Not report. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code for the age SD of older patients. ☐ Generally, the study indicates the age SD of samples in the result section and the tables of the study.
<p>231. Diagnosis of patients: Dementia DiagnosisPatient_Dementia or Alzheimer's_Co</p>	<p>Did any patients have dementia or Alzheimer's disease in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as dementia or Alzheimer's disease. ☐ Code as 1 if studies indicated that the diagnosis of patients is dementia or Alzheimer's disease. ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>232. Diagnosis of patients: Cancer DiagPatient_Cancer_Co</p>	<p>Did any patients have cancer in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as cancer. ☐ Code as 1 if studies indicated that the diagnosis of patients is cancer. ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>233. Diagnosis of patients: Stroke DiagPatient_Stroke_Co</p>	<p>Did any patients have stroke in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as stroke.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 1 if studies indicated that the diagnosis of patients is stroke. ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>234. Diagnosis of patients: Heart diseases DiagPatient_Heart diseases_Co</p>	<p>Did any patients have heart diseases in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as heart diseases. ☐ Code as 1 if studies indicated that the diagnosis of patients is heart diseases. ☐ Generally, this information was indicated on the result section or the table of a result section.
<p>235. Diagnosis of patients: Chronic illness DiagPatient_MultiChronic illness_Co</p>	<p>Did any patients have chronic illness in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention diagnosis of patients as chronic illness. ☐ Code as 1 if studies indicated that the diagnosis of patients is chronic illness. ☐ Generally, this information was indicated on the result section or the table of a result section.

4. Intervention Characteristics

Variables	Criteria and Instructions
Settings for PEIs	
Care Transition	<p><u>Definition of care transition:</u> Care transition for this study refers to continuity of caring older adults who were discharged from healthcare or institutional settings (e.g., hospital, rehabilitation settings, or outpatient clinics) to home, and this continuous caring involved between healthcare providers and family caregivers in caring for older adults with chronic illnesses.</p>
Psychoeducational intervention	<p><u>Definition of psychoeducational intervention:</u> A psychoeducational intervention is a program incorporating psychological and/or educational strategies.</p> <p><u>Definition of psychological intervention:</u> Psychological intervention provides caregiver coping strategies and problem-solving techniques to address caregiving issues and address emotions, perceptions, coping, relaxation, and self-care for family caregiver.</p> <p><u>Definition of educational intervention</u> The educational component educates caregivers regarding physical and psychological conditions for both family caregivers resulting from caregiving roles and older adults with chronic illnesses, and it provides caregiver strategies on how to manages the care needs of older adults with chronic illnesses.</p>
236. Psycho-educational intervention delivered during care transition	<p>Was psycho-educational intervention delivered during care transition?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0 = No. <input type="checkbox"/> Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Report of the study must state the PEI was delivered during a care transition (e.g., hospital to home, outpatient clinic to home,

Variables	Criteria and Instructions
	<p>nursing home to home and inpatient rehabilitation to home).</p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention the PEIs delivered during care transition. ☐ Code as 1 if studies indicated that the PEIs delivered during care transition. ☐ Generally, this information was indicated on the method of studies.
Clinical Settings	
<p>237. Psycho-educational intervention delivered at hospital settings Delivery_Hospital</p>	<p>Was either all or part of the PEI delivered in a hospital setting? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Report must state the intervention was either all or part of the PEI delivered in a hospital setting. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in a hospital setting. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in a hospital setting. ☐ . ☐ Generally, this information was indicated on the method of studies.
<p>238. Psycho-educational intervention delivered at rehab or nursing care facility Delivery_Rehab facility</p>	<p>Was either all or part of the PEI delivered in rehab or nursing care facility? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Report must state the intervention was either all or part of the PEI delivered in rehab or nursing care facility such as respite care and nursing home. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in rehab or nursing care facility.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in rehab or nursing care facility. ☐ Generally, this information was indicated on the method of studies.
<p>239. Psycho-educational intervention delivered at an outpatient clinical setting. Delivery_OutpatientClinic</p>	<p>Was either all or part of the PEI delivered in an outpatient clinical setting? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Report must state the intervention was either all or part of the PEI delivered in an outpatient clinical setting. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in an outpatient clinical setting. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in an outpatient clinical setting. ☐ Generally, this information was indicated on the method of studies.
<p>240. Psycho-educational intervention delivered at other clinical settings that did not specify Delivery_OtherCinic</p>	<p>Was either all or part of the PEI delivered in other clinical settings? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ The report must state the intervention was either all or part of the PEI delivered in other clinical settings. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in other clinical settings. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in other clinical setting. ☐ Generally, this information was indicated on the method of studies.

Variables	Criteria and Instructions
Non-clinical setting	
<p>241. Psycho-educational intervention delivered at community Delivery_Community</p>	<p>Was either all or part of the PEI delivered in the community? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ The report must state the intervention was either all or part of the PEI delivered in the community. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in the community. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in the community. Examples of community settings may include senior center, churches, adult day care center, or home. ☐ Generally, this information was indicated on the method of studies.
<p>242. Psycho-educational intervention delivered at a senior care center Delivery_SeniorCenter</p>	<p>Was either all or part of the PEI delivered in a senior care center? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ The report must state the intervention was either all or part of the PEI delivered in a senior care center. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in a senior care center. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in a senior care center. If this item is coded, <u>it must also code for item 241.</u> ☐ Generally, this information was indicated on the method of studies.
<p>243. Psycho-educational intervention delivered at adult day care center</p>	<p>Was either all or part of the PEI delivered in adult day care center?</p>

Variables	Criteria and Instructions
<p>Delivery_Adult day care center</p>	<p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ The report must state the intervention was either all or part of the PEI delivered in adult day care center. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in adult day care center. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in adult day care center. If this item is coded, <u>it must also code for item 241.</u> ☐ Generally, this information was indicated on the method of studies.
<p>244. Psycho-educational intervention delivered at home Delivery_Home</p>	<p>Was either all or part of the PEI delivered in home?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ The report must state the intervention was either all or part of the PEI delivered in home. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in home. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in home. If this item is coded, <u>it must also code for item 241.</u> ☐ Generally, this information was indicated on the method of studies.
<p>245. Psycho-educational intervention delivered at home hospice Delivery_Home hospice</p>	<p>Was either all or part of the PEI delivered in home hospice?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ The report must state the intervention was either all or part of the PEI delivered in home hospice. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in home hospice. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in home hospice. If this item is coded, <u>it must also code for item 241.</u> ☐ Generally, this information was indicated on the method of studies.
<p>246. Psycho-educational intervention delivered at community elderly services Delivery_Community Elderly services</p>	<p>Was either all or part of the PEI delivered in community elderly services? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ The report must state the intervention was either all or part of the PEI delivered in community elderly services. ☐ Code as 0 if the study did not mention psycho-educational intervention that was either all or part of the PEI delivered in community elderly services. ☐ Code as 1 if studies indicated that the psycho-educational intervention that was either all or part of the PEI delivered in community elderly services. If this item is coded, <u>it must also code for item 241.</u> ☐ Generally, this information was indicated on the method of studies.
Types of PEIs	
<p>247. Types of psycho-educational intervention (PEI): Counseling/psychotherapy TypePEI_Counseling</p>	<p>Was the PEI a counseling/psychotherapy intervention? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Counseling/psychotherapy intervention have to be conducted by a professional or clinician. ☐ Code as 0 if the study did not mention the PEI delivered by counseling/psychotherapy. ☐ Code as 1 if studies indicated that the PEI delivered by counseling/psychotherapy interventions that included coping/behavioral strategies (e.g., appraisal-focused (adaptive cognitive), problem-focused (adaptive behavioral), emotion-focused, and occupation-focused coping to reduce caregiving issues. It needs to be provided by professionals who were trained or prepared about counseling/psychotherapy such as psychologists, nurses, and doctors but not caregivers or others. Examples of counseling intervention are a home based stress management training, coping skill intervention, problem-solving coping strategies, Cognitive Behavioral Therapy (CBT), Mindfulness-Based Cognitive Therapy (MBCT), mediation intervention, cognitive stimulation intervention, an online cognitive behavioral therapy, skill-building positive affect intervention, a home environment intervention, problem-solving therapy (PST), a family-center therapy, a culturally sensitive cognitive behavioral group intervention, and self-management behaviors. ☐ Generally, the study indicates the intervention section or the method section or any place else.
<p>248. Types of psycho-educational intervention (PEI): an educational/information intervention TypePEI_Education</p>	<p>Did the PEI incorporate an educational/information intervention? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention the PEI delivered by an educational/information intervention.

Variables	Criteria and Instructions
	<p>☐ Code as 1 if studies indicated that the PEI delivered by educational/information therapy that focuses on education or information provided by professionals who were trained or hired by researchers to deliver intervention such as nurses, psychologists, doctors and so on.</p> <p>Educational intervention includes:</p> <ul style="list-style-type: none"> - education or information about how caregivers care for older adults (e.g., knowledge about diseases and medical and nursing tasks); - how caregivers can find community-based resources and tools to help them with caregiving tasks (e.g., where to find respite care and how caregivers can access home health aid services). <p>☐ The report must indicate any of the following terms of education/information interventions such as a training nursing skill program and a home environment skill building program.</p> <p>☐ Generally, the study indicates the intervention section or the method section or any place else.</p>
<p>249. Types of psycho-educational intervention (PEI): other interventions TypePEI_Others</p>	<p>Did the PEI incorporate other interventions?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0 = No. ☐ Code 1 = Yoga ☐ Code 2 = Music ☐ Code 3 = Massage ☐ Code 4 = Named other PEIs ☐ Etc. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention the PEI delivered by other therapies. ☐ Code as 1 if studies indicated that the PEI delivered by other interventions that focus on any uncommon intervention of a psychosocial nature that is not mentioned in previous categories such as music therapy, yoga therapy, and massage therapy. ☐ Generally, the study indicates the intervention section or the method section or any place else.
<p>Formats of delivery</p>	

Variables	Criteria and Instructions
<p>250. Delivering interventions: Verbal format DeliverIntervent_VerbalForm</p>	<p>Was the intervention delivered by verbal format? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention delivered intervention as verbal format. <input type="checkbox"/> Code as 0 if the has no information or missing data. <input type="checkbox"/> Code as 1 of the study indicated delivered intervention as verbal format. <input type="checkbox"/> Generally, the study indicates the duration of interventions in the method section.
<p>251. Delivering interventions: Written information DeliverIntervent_WrittenForm</p>	<p>Was the intervention delivered by written information? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention delivered intervention as written information. <input type="checkbox"/> Code as 0 if the has no information or missing data. <input type="checkbox"/> Code as 1 of the study indicated delivered intervention as written information. <input type="checkbox"/> Generally, the study indicates the duration of interventions in the method section.
<p>252. Delivering interventions: Telephone format DeliverIntervent_TelephoneForm</p>	<p>Was the intervention delivered by telephone format? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention delivered intervention as telephone format. <input type="checkbox"/> Code as 0 if the has no information or missing data. <input type="checkbox"/> Code as 1 of the study indicated delivered intervention as telephone format. <input type="checkbox"/> Generally, the study indicates the duration of interventions in the method section.
<p>253. Delivering interventions: Video format DeliverIntervent_VideoForm</p>	<p>Was the intervention delivered by video format? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention delivered intervention as video format. ☐ Code as 0 if the has no information or missing data. ☐ Code as 1 of the study indicated delivered intervention as video format. ☐ Generally, the study indicates the duration of interventions in the method section.
<p>254. Delivering interventions: Audio format DeliverIntervent_AudioForm</p>	<p>Was the intervention delivered by audio format? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention delivered intervention as audio format. ☐ Code as 0 if the has no information or missing data. ☐ Code as 1 of the study indicated delivered intervention as audio format. ☐ Generally, the study indicates the duration of interventions in the method section.
<p>255. Delivering interventions: Face-to-face DeliverIntervent_Face-to-face</p>	<p>Was the intervention delivered by face-to-face methods? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention delivered intervention as face-to-face methods. ☐ Code as 0 if the has no information or missing data. ☐ Code as 1 of the study indicated delivered intervention as face-to-face methods. ☐ Generally, the study indicates the duration of interventions in the method section.
<p>256. Delivering interventions: Lecturing and providing information DeliverIntervention_Lecturing</p>	<p>Was the intervention delivered by lecturing and providing information? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code as 0 if the study did not mention delivered intervention as lecturing and providing information. ❑ Code as 0 if the has no information or missing data. ❑ Code as 1 of the study indicated delivered intervention as lecturing and providing information. ❑ Generally, the study indicates the duration of interventions in the method section.
<p>257. Delivering interventions: Hands-on training caregiving skills DeliverIntervent_Hands-onTraining</p>	<p>Was the intervention delivered by hands-on training caregiving skills?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Code 0= No. ❑ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as 0 if the study did not mention delivered intervention as hands-on training caregiving skills. ❑ Code as 0 if the has no information or missing data. ❑ Code as 1 of the study indicated delivered intervention as hands-on training caregiving skills. ❑ Generally, the study indicates the duration of interventions in the method section.
<p>258. Delivering interventions: Online DeliverIntervent_Online</p>	<p>Was the intervention delivered by online (e.g., website, social network)?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Code 0= No. ❑ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ The intervention delivered by online may include programs or application related to psycho-educational programs in supporting caregiver such as a web-online psychoeducational program. The online intervention may provide information support (e.g., medical or nursing tasks) and emotional support (e.g., how caregiver can address stress during caring for older adults) ❑ Interventions can be delivered by using computers, telephones, and tablets.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention delivered intervention as online ☐ Code as 0 if the has no information or missing data. ☐ Code as 1 of the study indicated delivered intervention as online. ☐ Generally, the study indicates the duration of interventions in the method section.
<p>259. The delivered intervention to group DeliverIntervent_Group</p>	<p>Was the intervention delivered to group that this is a group OTHER THAN a patient-caregiver dyad? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= a group of caregivers and patient ☐ Code 2= a group of the whole family <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention delivered intervention as group. ☐ Code as 0 if the has no information or missing data. ☐ Code as 1 if the study indicated delivered intervention as group that this is a group OTHER THAN a patient-caregiver dyad (e.g., family support groups) ☐ Code as 2 if the study indicated delivered interventions as group that include other family members or friends (e.g., a group supportive intervention). ☐ Generally, the study indicates the duration of interventions in the method section.
<p>260. The delivered intervention to a patient-caregiver dyad DeliverIntervent_PatientCaregiver</p>	<p>Was the intervention delivered to a patient-caregiver dyad? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not mention delivered intervention as a patient-caregiver dyad. ☐ Code as 0 if the has no information or missing data. ☐ Code as 1 of the study indicated delivered intervention as a patient-caregiver dyad. ☐ Generally, the study indicates the duration of interventions in the method section.

Variables	Criteria and Instructions
<p>261. The delivered intervention to the caregiver alone. DeliverIntervent_Individual</p>	<p>Was the intervention delivered to the caregiver alone? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention delivered intervention as individual. <input type="checkbox"/> Code as 0 if the has no information or missing data. <input type="checkbox"/> Code as 1 of the study indicated delivered intervention as individual. <input type="checkbox"/> Generally, the study indicates the duration of interventions in the method section.
<p>262. The delivered intervention to seminar or workshop DeliverIntervent_Seminar or Workshop</p>	<p>Was the intervention delivered to seminar or workshop or role play? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention delivered intervention as a seminar or workshop or role play <input type="checkbox"/> Code as 0 if the has no information or missing data. <input type="checkbox"/> Code as 1 of the study indicated delivered intervention as a seminar or workshop. <input type="checkbox"/> Generally, the study indicates the duration of interventions in the method section.
<p>263. The delivered intervention to the Peer-led DeliverIntervent_Peer-led</p>	<p>Was the intervention delivered to peer-led? <u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not mention delivered intervention as a peer-led <input type="checkbox"/> Code as 0 if the has no information or missing data. <input type="checkbox"/> Code as 1 of the study indicated delivered intervention as a peer-led. <input type="checkbox"/> Generally, the study indicates the duration of interventions in the method section.
Dose of interventions	
<p>264. Session duration in minutes of PEI</p>	<p>How long was the duration in minutes for each intervention session?</p>

Variables	Criteria and Instructions
DurationSess_Intervent	<p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the duration of intervention minutes per sessions ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ If a range is indicated, take the mean or middle value (e.g., session offered 4 or 6 times a week, code as 5.0) or if the study report 3 sessions that differ the duration, it should take the mean of duration. Ex, session 1st is 50 minutes, session 2nd is 75 minutes, and session 3rd is 40 minutes, code as 138.3. ❑ Code for the study indicates the intended minutes of intervention in the program. ❑ Generally, the study indicates the duration of interventions in the method section.
Number of PEI sessions over the entire intervention	
<p>265. A number of sessions #session_Intervent</p>	<p>How many intervention sessions were reported?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter a number of sessions for an intervention ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ If participants received the PEI that included 4 sessions of an educational intervention, 5 sessions of a counseling/psychotherapy intervention, and 6 sessions of coping strategies), a number of sessions that are coded should be 15. ❑ If study reported the range of session such as 4-6 times during study, a number of sessions that should be coded is 5. ❑ Generally, the study indicates the duration of interventions in the method section.
Frequency of training	
<p>266. Number or frequency of training program per week NumWeek_Intervent</p>	<p>How often did the number of training program per week for the study have?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Enter the number of intervention sessions ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ If the number of sessions increases over the time over which the intervention is delivered and specific values are provided for each week and in each week, sessions are not equal. Therefore, it may be possible to calculate an average number of sessions. For example, in 1st week and the first session, caregivers need to be trained by researchers about 3 times per week and in 2nd week and the second session about 4 times per week. Therefore, an average number of sessions per week is 3.5 times per week. ❑ If it is clear that the highest frequency of sessions reported occurs for more that 50% of the total number of weeks of intervention, then code that highest frequency. For example, the number of sessions from the first session to the third session is 4 times per week while the fourth and fifth session is 3 times per week. Therefore, the number of sessions is 4 times per week.
<p>267. Number or frequency of training program per month NumMonth_Intervent</p>	<p>How often did the number of training program per month for the study have</p> <ul style="list-style-type: none"> ❑ Enter the number of intervention sessions ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ If the number of sessions increases over the time over which the intervention is delivered and specific values are provided for each week and in month, sessions are not equal. Therefore, it may be possible to calculate an average number of sessions. For example, in 1st month and the first session, caregivers need to be trained by researchers about 2 times per month and in 2nd month and the second session about 1 times per month. Therefore, an average

Variables	Criteria and Instructions
	<p>number of sessions per week is 1.5 times per month.</p> <ul style="list-style-type: none"> ☐ If it is clear that the highest frequency of sessions reported occurs for more than 50% of the total number of months of intervention, then code that highest frequency. For example, the number of sessions from the first session to the third session is 4 times per month while the fourth and fifth session is 3 times per month. Therefore, the number of sessions is 4 times per month.
<p>268. Total duration of an intervention reported in days TotalDuration_DayIntervent</p>	<p>Over how many days did the intervention occur? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the duration of training program ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the study indicates the duration of the intervention. ☐ Generally, the study indicates the duration of interventions in the method section.
<p>269. The total duration of the intervention in minutes is provided in all of session. Duration_MinuteSession</p>	<p>How long did total duration of all intervention session? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the duration of training program ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ Code for the study indicates the duration of the intervention. ☐ For example, if the PEI has two sessions, and the first session is 15 minutes and the second session is 30 minutes. Therefore, the total of duration of intervention sessions in the PEI is 45 minutes that should be coded. ☐ The total duration of the intervention was from item # 264 multiple by item # 265. ☐ Generally, the study indicates the duration of interventions in the method section.
<p>Interventionist</p>	

Variables	Criteria and Instructions
<p>Number of an interventionist</p> <p>270. More than one interventionist who delivery the PEI</p> <p>MoreOne_Interventionist</p>	<p>Is there more than one interventionist in the PEI?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <input type="checkbox"/> Code 2= Unclear <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not identify more than one interventionist or missing data. <input type="checkbox"/> Code as 1 if the study identified that more than one interventionist is the interventionist.
<p>Types of interventionist</p> <p>271. Interventionist: Nurse</p>	<p>Was the interventionist a nurse?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not identify the interventionist as a nurse or missing data. <input type="checkbox"/> Code as 1 if the study identified that an advanced practice nurse, such as a psychiatric nurse, nurse practitioner, a nurse case manager, bachelor science nursing (BSN) or register nurse (RN) was the interventionist <input type="checkbox"/> Generally, the study indicates the information of interventionists in the method section.
<p>272. Interventionist: Physician or doctor</p> <p>Physician</p>	<p>Was the interventionist a physician or doctor?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not identify the interventionist as a physician/doctor or missing data. <input type="checkbox"/> Code as 1 if the study identified that a physician/doctor is the interventionist. <input type="checkbox"/> Generally, the study indicates the information of interventionists in the method section.
<p>273. Interventionist: Psychologist</p>	<p>Was the interventionist a psychologist?</p>

Variables	Criteria and Instructions
Psychologist	<p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not identify the interventionist as a psychologist or missing data. <input type="checkbox"/> Code as 1 if the study identified that a psychologist is the interventionist. <input type="checkbox"/> Generally, the study indicates the information of interventionists in the method section.
274. Interventionist: Psychiatrist Psychiatrist	<p>Was the interventionist a psychiatrist?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not identify the interventionist as a psychiatrist or missing data. <input type="checkbox"/> Code as 1 if the study identified that a psychiatrist is the interventionist. <input type="checkbox"/> Generally, the study indicates the information of interventionists in the method section.
275. Interventionist: Physiotherapist /Physical therapist Physiotherapist	<p>Was the interventionist a physiotherapist /physical therapist?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code as 0 if the study did not identify the interventionist as a physiotherapist /physical therapist or missing data. <input type="checkbox"/> Code as 1 if the study identified that a physiotherapist /physical therapist is the interventionist. <input type="checkbox"/> Generally, the study indicates the information of interventionists in the method section.
276. Interventionist: Occupational therapist Occupational therapist	<p>Was the interventionist an occupational therapist?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Code 0= No. <input type="checkbox"/> Code 1= Yes. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as an occupational therapist or missing data. ☐ Code as 1 if the study identified that an occupational therapist is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>277. Interventionist: Speech and language therapist Speech and language therapist</p>	<p>Was the interventionist a speech and language therapist?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a speech and language therapist or missing data. ☐ Code as 1 if the study identified that a speech and language therapist is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>278. Interventionist: Social worker Social worker</p>	<p>Was the interventionist a social worker?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a social worker or missing data. ☐ Code as 1 if the study identified that a social worker is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>279. Interventionist: Dietician /Nutritionist Dietician</p>	<p>Was the interventionist a dietician /nutritionist?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a dietician /nutritionist or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 1 if the study identified that a dietician /nutritionist is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>280. Interventionist: former caregiver Former caregivers</p>	<p>Was the interventionist a former caregiver?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a former caregiver or missing data. ☐ Code as 1 if the study identified that a former caregiver is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>281. Interventionist: project manager or researchers Project manager or researchers</p>	<p>Was the interventionist a project manager or researcher?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a project manager/researcher or missing data. ☐ Code as 1 if the study identified that a project manager/researcher is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>282. Interventionist: certified interventionist/holder A certified interventionist/holder</p>	<p>Was the interventionist a certified interventionist/holder?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a certified interventionist/holder or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as 1 if the study identified that a certified interventionist/holder is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>283. Interventionist: dementia care professionals Dementia care professionals</p>	<p>Was the interventionist a dementia care professional?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a dementia care professional or missing data. ☐ Code as 1 if the study identified that a dementia care professional is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>284. Interventionist: counsellor Counsellor</p>	<p>Was the interventionist a counsellor?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a counsellor or missing data. ☐ Code as 1 if the study identified that a counsellor is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>285. Interventionist: facilitator Facilitator</p>	<p>Was the interventionist a facilitator?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a facilitator or missing data. ☐ Code as 1 if the study identified that a facilitator is the interventionist.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the information of interventionists in the method section.
<p>286. Interventionist: frontline staff Frontline staff</p>	<p>Was the interventionist a frontline staff ?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a frontline staff or missing data. ☐ Code as 1 if the study identified that a frontline staff is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>287. Interventionist: clinician Clinician</p>	<p>Was the interventionist a clinician ?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a clinician or missing data. ☐ Code as 1 if the study identified that a clinician is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>288. Interventionist: technician Technician</p>	<p>Was the interventionist a technician ?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a technician or missing data. ☐ Code as 1 if the study identified that a technician is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>289. Interventionist: therapist Therapist</p>	<p>Was the interventionist a therapist ?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as a therapist or missing data. ☐ Code as 1 if the study identified that a therapist is the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
<p>290. Interventionist: others Others</p>	<p>Was the interventionist other interventionists ?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= No. ☐ Code 1= Yes. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study did not identify the interventionist as other interventionists or missing data. ☐ Code as 1 if the study identified that other interventionists are the interventionist. ☐ Generally, the study indicates the information of interventionists in the method section.
Training interventionists	
<p>291. Trained interventionists Trained_Interventionist</p>	<p>Did the researchers report that the interventionists were trained?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Yes. ☐ Code 0 = No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study has no information or missing data. ☐ Code as 1 if the researchers report that the interventionists were trained. ☐ Generally, the study indicates the intervention section or the method section or any place else.
<p>292. Hours of training before delivering intervention HourTraining_BeforeIntervent</p>	<p>How many hours of training did the study have before delivering intervention?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the number in hours of training duration. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code for studies indicated that a number of hours of training duration before delivering intervention. ❑ if there is a range, compute average and round up to the nearest hour, and if studies showed a number of weeks which were converted as hour units. ❑ Generally, the study indicates hours of training intervention in the method section or any place else.
<p>293. Week of training before delivering intervention WeekTraining_BeforeIntervent</p>	<p>How many weeks of training did the study have before delivering intervention? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the number in hours of training duration. ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ Code for studies indicated that a number of weeks of training duration before delivering intervention. ❑ Generally, the study indicates hours of training intervention in the method section or any place else.
<p>294. Year of training before delivering intervention YearTraining_BeforeIntervent</p>	<p>How many years of training did the study have before delivering intervention? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the number in hours of training duration. ❑ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information or missing data. ❑ Code for studies indicated that a number of years of training duration before delivering intervention. ❑ Generally, the study indicates hours of training intervention in the method section or any place else.
<p>295. Follow-up training during interventional period FollowTraining_Intervent</p>	<p>Did the researchers report that the interventionists were follow-up trained? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Code 1 = Yes. ❑ Code 0 = No.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if interventionists were not follow-up trained. ☐ Code as 0 if the study has no information or missing data. ☐ Code as 1 if the researchers report that the interventionists were follow-up trained. ☐ Generally, the study indicates the follow-up training of interventionists in the method section or any place else.
<p>296. Weeks of the follow-up training WeekFollow_TrainIntervent</p>	<p>How many weeks of the follow-up training did the study have during interventional period?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the number in weeks of the follow up training duration. ☐ Code “-” = Not reported. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information or missing data. ☐ If there is a range, compute average and round up to the nearest weeks. ☐ Generally, the study indicates a number of weeks with the follow-up training of interventionists in the method section or any place else.

5. Outcome Characteristics

Variables	Criteria and Instructions
QOL measurements	
<p>297. Types of QOL measure with different scores Type_QOLMeasure</p>	<p>What was the type of the QL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = World Health Organization Quality of Life Measure-Brief Version (WHOQOL-BREF) ☐ Code 2 = Caregiver Quality of Life Index—Revised (CQLI-R) ☐ Code 3 = Caregiver Quality of Life—Cancer Scale (CQOLC) ☐ Code 4 = Short Form-36 (SF-36); MOS SF-36 ☐ Code 5 = Short Form-12 (SF-12) ☐ Code 6 = Euro-QoL(EQ-5D). ☐ Code 7 = Quality of life 15D (QOL -15D) and Quality of life –Visual Analogue Scale (QOL-VAS) ☐ Code 8 = Life Satisfaction Scale (LSS) or Satisfaction with life Scale (SWLS) ☐ Code 9 = Investigating Choice Experiments for the Preferences of Older People CAP ability measure for older people (ICECAP-O) ☐ Code 10 = Quality of Life Inventory ☐ Code 11 = Adult Carers Quality of Life scale (ACQOL) ☐ Code 12 = The General Well-Being ☐ Code 13 = Perceived Change Index (Caregiver well-being) ☐ Code 14 = Quality of life (Logsdon, McCurry, & Teri, 1999) ☐ Code 15 = The generic 15D ☐ Code 16 = The Assessment of Quality of Life 8-dimension (AQoL-8D) ☐ Code 17 = Health status questionnaire ☐ Code 18 = Quality of Life Scale (QOLS) ☐ Code 19 = Emotional Well-being ☐ Code 20 = Caregiver quality of life (Older People's Quality of Life Questionnaire-Brief (OPQOL-Brief) ☐ Code 21 = Perceived Quality of Life (PQoL) ☐ Code 22 = QoL-AD (caregiver version) ☐ Code 23 = Cantril's Self-Anchoring Ladder ☐ Code 24 = Quality of Life Index

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ If a study reports <i>more than one</i> measure for QoL, <u>only one measure of QoL</u> must be selected, and a selected measure should take precedence based on a list of measure. For example, if a study has WHOQoL, SF-36, and EQ-5D, the WHOQoL should be coded as precedence. ☐ If a study has both a measure of QoL and a measure of Life satisfaction, <u>the measure of QoL will be selected</u> in coding rather than a measure of Life satisfaction. For example, if the study reports both SF-12 and LSS, the SF-12 should be coded rather than LSS. ☐ Code as 1 to 9 if caregiver outcomes were measured by QOL measures and Life Satisfaction. ☐ Generally, the study indicates the QOL outcome at the method section or any place else.
<p>298. Physical well-being measured in QoL measure Physical_Well-being</p>	<p>Was physical well-being/physical role/physical superdomain/ measured in QoL measure?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Yes. ☐ Code 0 = No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study has no information or missing data. ☐ Code as 1 if the study reported that the physical well-being was measured, physical well-being refers to physical health while caring for older adults, including exhaustion, health conditions, and self-care manners (e.g., exercise, diet, and rest). ☐ Generally, the study indicates the intervention section or the method section or any place else.
<p>299. Psychological well-being measured in QoL measure Psychological_Well-being</p>	<p>Was psychological well-being/mental health/emotional health/emotional well-being/mental superdomain measured in QoL measure?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Yes. ☐ Code 0 = No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study has no information or missing data. ☐ Code as 1 if the study reported that the psychological well-being was measured, psychological well-being refers to feelings that caregivers experience during

Variables	Criteria and Instructions
	<p>caring for older adults such as psychological distress, anxiety, depression, and stress.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the intervention section or the method section or any place else.
<p>300. Social well-being measured in QoL measure Social_Well-being</p>	<p>Was social well-being/social functioning measured in QoL measure?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Yes. ☐ Code 0 = No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study has no information or missing data. ☐ Code as 1 if the study reported that the social well-being was measured, social well-being refers to caregivers' perception about individual relationships, social activities, and social support. ☐ Generally, the study indicates the intervention section or the method section or any place else.
<p>301. Environmental well-being measured in QoL measure Environmental_Well-being</p>	<p>Was environmental well-being measured in QoL measure?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Yes. ☐ Code 0 = No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the study has no information or missing data. ☐ Code as 1 if the study reported that the environmental well-being was measured, environmental well-being refers to caregivers' perception about environmental factors such as spiritual aspects, job responsibility, physical safety and security, financial hardships, accessibility of health system, transportation, home environment, and leisure opportunities. ☐ Generally, the study indicates the intervention section or the method section or any place else.
<p>302. The direction of effect of QoL measures EffectDirect_QoL</p>	<p>Did a high score mean better QoL or a high score mean worse QoL?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 0= a higher score means worse QoL ☐ Code 1= a high score means better QoL ☐ <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code as 0 if the measurement showed high scores, it means that caregivers had a bad QOL. ☐ Code as 1 if the measurement showed high scores, it means that caregivers had a good QOL.

Variables	Criteria and Instructions
<p>303. Duration after the end of the intervention was QOL measured (a day or days) DurationQOL_Endintervent</p>	<p>How long after the end of the intervention was QOL measured?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the duration after the end of the intervention was QOL measured. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code “-” = Missing data ❑ Code 0. = If the data collection point was immediately after the intervention. For example, if the process of intervention included evaluating pretest QoL outcome at 6:00 am, implementing intervention at 8:00 am to 9:00 am, and evaluating post-test QoL outcome at 6:00 pm in the same day. The duration of interventions after the end of the intervention was only 12 hours. Thus, this variable that was coded should be 0 because of below 24 hours. ❑ Code 0. = If the data collection point may be measured more than one point and occur during intervention, and the last point of data collection was immediately after the intervention. For example, if the process of intervention include evaluating at baseline, 3 month, and 6 month and the last point of data collection was immediately after the end of the intervention that had duration of intervention about 6 months. Therefore, this variable that was code should be 0 because of below 24 hours. ❑ Duration after the end of the intervention is the most distal time point of data collection after completion of the intervention. For example, if data outcomes of post-intervention are collected at three time points, including immediately post-intervention, 3-months post-intervention, and 6-months post intervention, outcome at 6-months post-intervention that were coded should be 180. ❑ Generally, the study indicates the duration of measuring QOL outcomes after the end of the intervention in the method section.

6. Effect Size Data (QoL)

Variables	Criteria and Instructions
Total Sample Sizes (Baseline and distal time points)	
<p>304. All sample size (N) at a baseline time point in total QoL scores in both treatment and control groups N_BaselineQoL_totalSample</p>	<p>What was the total sample size at randomization or group assignment? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the total number at baseline of participants after they designed to take part in the study. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the number that was recruited before lost to follow-up, attrition/drop-out, or exclusion. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, this information was indicated on the recruitment, the result section or any place else.
<p>305. All sample size (N) at a distal time point in total QoL scores in both treatment and control groups N_DistalQoL_TotalSample</p>	<p>What was the total sample size at analysis? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the total number at analysis of participants. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the number that was analyzed after eliminating the lost to follow-up, attrition/drop-out, or exclusion. ☐ These values must be reported in the study (do NOT calculate these). ☐ Generally, this information was indicated on the result section or any place else. ☐ Code as “-” if the study has no information.
Baseline time point Separating Treatment and Control groups	
Treatment Group	

Variables	Criteria and Instructions
<p>306. Sample size of treatment subjects in data reported at baseline in total QOL scores N_BaselineQoL_TxSample</p>	<p>What was the sample size of a treatment group at randomization or group assignment? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the total number at baseline of participants after they designed to take part in the study. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code the number of treatment subjects at baseline mean values were calculated. ❑ Code the treatment subjects who actually entered the study, not the number they recruited before they did screen or gather consents. ❑ The number may be smaller than the previous item if the study experienced some attrition and only reported baseline values for part of the subjects (e.g., the subject who completed the study). ❑ Some studies may report baseline values for all subjects, even if attrition happened later. ❑ Other studies may only report baseline data for the subjects who completed the study.
<p>307. The mean of baseline a summary score of QoL scores or a total score of QoL score MeanSummaryBaseline_Tx</p>	<p>What was the mean of a summary score of QoL scores at baseline in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean of a summary score of QoL scores at baseline in the treatment group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the mean of a summary score of QoL scores at baseline in the treatment group. ❑ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the mean of a summary score of QoL scores at baseline in the result section and the tables of the study. ☐ Use absolute means. Do not use adjusted means. ☐ Code as “-” if the study has no information.
<p>308. The SD of baseline a summary score of QoL scores or a total score of QoL score SDSummaryBaseline_Tx</p>	<p>What was the SD of a summary score of QoL scores at baseline in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of a summary score of QoL scores at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of a summary score of QoL scores at baseline in the treatment group. ☐ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ☐ Generally, the study indicates the SD of a summary score of QoL scores at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>309. The SE of baseline a summary score of QoL scores or a total score of QoL score SESummaryBaseline_Tx</p>	<p>What was the SE of a summary score of QoL scores at baseline in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of a summary score of QoL scores at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of a summary score of QoL scores at baseline in the treatment group.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ☐ Generally, the study indicates the SE of a summary score of QoL scores at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information
<p>310. The mean of baseline physical well-being (PWB) score measured at the treatment group in QoL measure. MeanBaselinePWB_Tx</p>	<p>What was the mean of physical well-being/physical role/physical superdomain/ at baseline in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of PWB at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of PWB at baseline in the treatment group. ☐ The study reported that the physical well-being was measured, physical well-being refers to physical health while caring for older adults, including exhaustion, health conditions, and self-care manners (e.g., exercise, diet, and rest). ☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ☐ Generally, the study indicates the mean of PWB at baseline in the result section and the tables of the study. ☐ Use absolute means. Do not use adjusted means. ☐ Code as “-” if the study has no information.
<p>311. Treatment group (Tx) baseline standard deviation (SD) of a physical well-being (PWB) score measured in QoL measure. SDBaselinePWB_Tx</p>	<p>What was the SD of physical well-being/physical role/physical superdomain/ at baseline in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of PWB at baseline in the treatment group.

Variables	Criteria and Instructions
	<p>☐ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ Code for the SD of PWB at baseline in the treatment group.</p> <p>☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report.</p> <p>☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results.</p> <p>☐ Generally, the study indicates the SD of PWB at baseline in the result section and the tables of the study.</p> <p>☐ Code as “-” if the study has no information.</p>
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>312. Treatment group (Tx) baseline standard error (SE) of a physical well-being (PWB) score measured in QoL measure. SE_BaselinePWB_Tx</p>	<p>What was the SE of physical well-being/physical role/physical superdomain/ at baseline in the treatment group?</p> <p><u>Criteria:</u></p> <p>☐ Enter the SE of PWB at baseline in the treatment group.</p> <p>☐ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ Code for the SE of PWB at baseline in the treatment group.</p> <p>☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report.</p> <p>☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results.</p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the SE of PWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>313. The mean of baseline mental or psychological well-being (MWB) score measured at the treatment group in QoL measure. MeanBaselineMWB_Tx</p>	<p>What was the mean of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at baseline in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of MWB at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of MWB at baseline in the treatment group. ☐ The study reported that the psychological well-being was measured, psychological well-being refers to feelings that caregivers experience during caring for older adults such as psychological distress, depression, anxiety, and stress. ☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ☐ Generally, the study indicates the mean of MWB at baseline in the result section and the tables of the study. ☐ Use absolute means. Do not use adjusted means. ☐ Code as “-” if the study has no information.
<p>314. Treatment group (Tx) baseline standard deviation (SD) of a mental psychological well-being (MWB) score measured in QoL measure. SDBaselineMWB_Tx</p>	<p>What was the SD of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at baseline in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of MWB at baseline in the treatment group.

Variables	Criteria and Instructions
	<p>☐ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ Code for the SD of MWB at baseline in the treatment group.</p> <p>☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report.</p> <p>☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results.</p> <p>☐ Generally, the study indicates the SD of MWB at baseline in the result section and the tables of the study.</p> <p>☐ Code as “-” if the study has no information.</p>
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>315. Treatment group (Tx) baseline standard deviation (SE) of a mental psychological well-being (MWB) score measured in QoL measure. SE_BaselineMWB_Tx</p>	<p>What was the SE of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at baseline in the treatment group?</p> <p><u>Criteria:</u></p> <p>☐ Enter the SE of MWB at baseline in the treatment group.</p> <p>☐ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ Code for the SE of MWB at baseline in the treatment group.</p> <p>☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report.</p> <p>☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or</p>

Variables	Criteria and Instructions
	<p>psychological health in tables of results.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the SE of MWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>316. The mean of baseline social well-being (SWB) score measured at the treatment group in QoL measure. MeanBaselineSWB_Tx</p>	<p>What was the mean of social well-being (SWB) at baseline in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of SWB at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of SWB at baseline in the treatment group. ☐ The study reported that the social well-being was measured, social well-being refers to caregivers’ perception about individual relationships, social activities, and social support. ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the mean of SWB at baseline in the result section and the tables of the study. ☐ Use absolute means. Do not use adjusted means. ☐ Code as “-” if the study has no information.
<p>317. Treatment group (Tx) baseline standard deviation (SD) of a social well-being (SWB) score measured in QoL measure. SDBaselineSWB_Tx</p>	<p>What was the SD of social well-being (SWB) at baseline in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of SWB at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of SWB at baseline in the treatment group. ☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this

Variables	Criteria and Instructions
	<p>information, or the analysis section of the report.</p> <ul style="list-style-type: none"> ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the SD of SWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>318. Treatment group (Tx) baseline standard deviation (SE) of a social well-being (SWB) score measured in QoL measure. SE_BaselineSWB_Tx</p>	<p>What was the SE of social well-being (SWB) at baseline in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of SWB at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of SWB at baseline in the treatment group. ☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the SE of SWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>319. The mean of baseline environmental well-being (EWB) score measured at the treatment group in QoL measure. MeanBaselineEWB_Tx</p>	<p>What was the mean of environmental well-being (EWB) at baseline in at the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of EWB at baseline in at the treatment group. ☐ Code “-” = Not reported/Unable to determine/No.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the mean of SWB at baseline in at the treatment group. ❑ The study reported that the environmental well-being was measured, environmental well-being refers to caregivers' perception about environmental factors such as spiritual aspects, job responsibility, physical safety and security, financial hardships, accessibility of health system, transportation, home environment, and leisure opportunities ❑ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ❑ Generally, the study indicates the mean of SWB at baseline in the result section and the tables of the study. ❑ Use absolute means. Do not use adjusted means. ❑ Code as “-” if the study has no information.
<p>320. Treatment group (Tx) baseline standard deviation (SD) of an environmental well-being (EWB) score measured in QoL measure. SDBaselineEWB_Tx</p>	<p>What was the SD of environmental well-being (EWB) at baseline in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD of EWB at baseline in the treatment group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SD of EWB at baseline in the treatment group. ❑ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ❑ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the SD of EWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>321. Treatment group (Tx) baseline standard deviation (SE) of an environmental well-being (EWB) score measured in QoL measure. SE_BaselineEWB_Tx</p>	<p>What was the SE of environmental well-being (EWB) at baseline in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of EWB at baseline in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of EWB at baseline in the treatment group. ☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ☐ Generally, the study indicates the SE of EWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>Control group</p>	
<p>322. Sample size of control subjects in data reported at baseline in total QOL scores N_BaselineQoL_Cosample</p>	<p>What was the sample size of a control group at randomization or group assignment? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the total number at baseline of participants after they designed to take part in the study. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code the number of control subjects at baseline mean values were calculated.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code the treatment subjects who actually entered the study, not the number they recruited before they did screen or gather consents. ❑ The number may be smaller than the previous item if the study experienced some attrition and only reported baseline values for part of the subjects (e.g., the subject who completed the study). ❑ Some studies may report baseline values for all subjects, even if attrition happened later. ❑ Other studies may only report baseline data for the subjects who completed the study.
<p>323. The mean of baseline a summary score of QoL scores or a total score of QoL score in the control group MeanSumBaseline_Co</p>	<p>What was the mean of a summary score of QoL scores at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean of a summary score of QoL scores at baseline in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the mean of a summary score of QoL scores at baseline in the control group. ❑ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ❑ Generally, the study indicates the mean of a summary score of QoL scores at baseline in the result section and the tables of the study. ❑ Use absolute means. Do not use adjusted means. ❑ Code as “-” if the study has no information.
<p>324. The SD of baseline a summary score of QoL scores or a total score of QoL score SDSummaryBaseline_Co</p>	<p>What was the SD of a summary score of QoL scores at baseline in the control group? <u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Enter the SD of a summary score of QoL scores at baseline in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SD of a summary score of QoL scores at baseline in the control group. ❑ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ❑ Generally, the study indicates the SD of a summary score of QoL scores at baseline in the result section and the tables of the study. ❑ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>325. The SE of baseline a summary score of QoL scores or a total score of QoL score SESummaryBaseline_Co</p>	<p>What was the SE of a summary score of QoL scores at baseline in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SE of a summary score of QoL scores at baseline in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SE of a summary score of QoL scores at baseline in the control group. ❑ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ❑ Generally, the study indicates the SE of a summary score of QoL scores at baseline in the result section and the tables of the study. ❑ Code as “-” if the study has no information.

Variables	Criteria and Instructions
<p>326. The mean of baseline physical well-being (PWB) score measured at the control group in QoL measure. MeanBaselinePWB_Co</p>	<p>What was the mean of physical well-being/physical role/physical superdomain/ at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean of PWB at baseline in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the mean of PWB at baseline the control group. ❑ The study reported that the physical well-being was measured, physical well-being refers to physical health while caring for older adults, including exhaustion, health conditions, and self-care manners (e.g., exercise, diet, and rest). ❑ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ❑ Generally, the study indicates the mean of PWB at baseline in the result section and the tables of the study. ❑ Use absolute means. Do not use adjusted means. ❑ Code as “-” if the study has no information.
<p>327. Control group (Co) baseline standard deviation (SD) of a physical well-being (PWB) score measured in QoL measure. SDBaselinePWB_Co</p>	<p>What was the SD of physical well-being/physical role/physical superdomain/ at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD of PWB at baseline in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SD of PWB at baseline in the control group. ❑ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ☐ Generally, the study indicates the SD of PWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>328. Control group (Co) baseline standard error (SE) of a physical well-being (PWB) score measured in QoL measure. SE_BaselinePWB_Co</p>	<p>What was the SE of physical well-being (PWB) at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of PWB at baseline in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of PWB at baseline in the control group. ☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ☐ Generally, the study indicates the SE of PWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>329. The mean of baseline mental or psychological well-being (MWB) score measured at the control group in QoL measure. MeanBaselineMWB_Co</p>	<p>What was the mean of psychological well-being/mental health/emotional well-being/mental health/emotional well-being/mental superdomain at baseline the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of MWB at baseline in the control group.

Variables	Criteria and Instructions
	<p>❑ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>❑ Code for the mean of MWB at baseline in the control group.</p> <p>❑ The study reported that the psychological well-being was measured, psychological well-being refers to feelings that caregivers experience during caring for older adults such as psychological distress, depression, anxiety, and stress.</p> <p>❑ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results.</p> <p>❑ Generally, the study indicates the mean of MWB at baseline in the result section and the tables of the study.</p> <p>❑ Use absolute means. Do not use adjusted means.</p> <p>❑ Code as “-” if the study has no information.</p>
<p>330. Control group (Co) baseline standard deviation (SD) of a mental psychological well-being (MWB) score measured in QoL measure. SDBaselineMWB_Co</p>	<p>What was the SD of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at baseline in the control group?</p> <p><u>Criteria:</u></p> <p>❑ Enter the SD of MWB at baseline in the control group.</p> <p>❑ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>❑ Code for the SD of MWB at baseline in the control group.</p> <p>❑ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report.</p> <p>❑ A mental component of QoL or well-being for caregivers is reported as psychological well-being or</p>

Variables	Criteria and Instructions
	<p>psychological health in tables of results.</p> <ul style="list-style-type: none"> ☐ Generally, the study indicates the SD of MWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>331. Control group (Co) baseline standard deviation (SE) of a mental psychological well-being (MWB) score measured in QoL measure. SE_BaselineMWB_Co</p>	<p>What was the SE of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of MWB at baseline in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of MWB at baseline in the control group. ☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ☐ Generally, the study indicates the SE of MWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>332. The mean of baseline social well-being (SWB) score measured at the control group in QoL measure. MeanBaselineSWB_Co</p>	<p>What was the mean of social well-being (SWB) at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of SWB at baseline in the control group. ☐ Code “-” = Not reported/Unable to determine/No.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the mean of SWB at baseline in the control group. ❑ The study reported that the social well-being was measured, social well-being refers to caregivers' perception about individual relationships, social activities, and social support. ❑ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ❑ Generally, the study indicates the mean of SWB at baseline in the result section and the tables of the study. ❑ Use absolute means. Do not use adjusted means. ❑ Code as “-” if the study has no information.
<p>333. Control group (Co) baseline standard deviation (SD) of a social well-being (SWB) score measured in QoL measure. SDBaselineSWB_Co</p>	<p>What was the SD of social well-being (SWB) at baseline in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD of SWB at baseline in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SD of SWB at baseline in the control group. ❑ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ❑ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ❑ Generally, the study indicates the SD of SWB at baseline in the result section and the tables of the study. ❑ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	

Variables	Criteria and Instructions
<p>334. Control group (Co) baseline standard deviation (SE) of a social well-being (SWB) score measured in QoL measure. SE_BaselineSWB_Co</p>	<p>What was the SE of social well-being (SWB) at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SE of SWB at baseline in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SE of SWB at baseline in the control group. ❑ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ❑ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ❑ Generally, the study indicates the SE of SWB at baseline in the result section and the tables of the study. ❑ Code as “-” if the study has no information.
<p>335. The mean of baseline environmental well-being (EWB) score measured at the control group in QoL measure. MeanBaselineEWB_Co</p>	<p>What was the mean of environmental well-being (EWB) at baseline in at the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean of EWB at baseline in at the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the mean of SWB at baseline in at the control group. ❑ The study reported that the environmental well-being was measured, environmental well-being refers to caregivers’ perception about environmental factors such as spiritual aspects, job responsibility, physical safety and security, financial hardships, accessibility of health system, transportation, home environment, and leisure opportunities

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ☐ Generally, the study indicates the mean of SWB at baseline in the result section and the tables of the study. ☐ Use absolute means. Do not use adjusted means. ☐ Code as “-” if the study has no information.
<p>336. Control group (Co) baseline standard deviation (SD) of an environmental well-being (EWB) score measured in QoL measure. SDBaselineEWB_Co</p>	<p>What was the SD of environmental well-being (EWB) at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of EWB at baseline in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of EWB at baseline in the control group. ☐ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ☐ Generally, the study indicates the SD of EWB at baseline in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>337. Control group (Co) baseline standard deviation (SE) of an environmental well-being (EWB) score measured in QoL measure. SE_BaselineEWB_Co</p>	<p>What was the SE of environmental well-being (EWB) at baseline in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of EWB at baseline in the control group.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SE of EWB at baseline in the control group. ❑ Data in parentheses following means could be either SD or SE. Check the table headers/footers for this information, or the analysis section of the report. ❑ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ❑ Generally, the study indicates the SE of EWB at baseline in the result section and the tables of the study. ❑ Code as “-” if the study has no information.
QOL Outcome in distal points	
Distal period	<p><u>Instruction:</u></p> <ul style="list-style-type: none"> ❑ Distal period refers to the most distal QoL outcome data collection time point after completion of the intervention.
Treatment group	
<p>338. Sample size of treatment subjects in data reported at distal period in total QOL scores N_DistalQoL_Tx</p>	<p>What was the sample size of a treatment group at analysis?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the total number at analysis of participants. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the number that was analyzed after eliminating the lost to follow-up, attrition/drop-out, or exclusion. ❑ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment

Variables	Criteria and Instructions
	<p>design studies and single-group pre-post studies.</p> <ul style="list-style-type: none"> ☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ☐ Generally, this information was indicated on the result section or any place else. ☐ Code as “-” if the study has no information.
<p>339. The mean of a distal summary score of QoL scores or a total score of QoL score MeanSumDisatalQoL_Tx</p>	<p>What was the mean of a summary score of QoL scores at distal period in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of a summary score of QoL scores at distal period in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of a summary score of QoL scores at distal period in the treatment group. ☐ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ☐ Generally, the study indicates the mean of a summary score of QoL scores at distal period in the result section and the tables of the study. ☐ Use absolute means. Do not use adjusted means. ☐ Code as “-” if the study has no information.
<p>340. Treatment group (Tx) distal standard deviation (SD) of a summary score measured in QoL measure. SDSumDistalQoL_Tx</p>	<p>What was the SD of a summary score of QoL scores at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of a summary score of QoL scores at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code for the SD of a summary score of QoL scores at distal period in the control group. ☐ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ☐ Generally, the study indicates the SD of a summary score of QoL scores at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>341. Treatment group (Tx) distal SE of a summary score measured in QoL measure. SESumDistalQoL_Tx</p>	<p>What was the SE of a summary score of QoL scores at distal period in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of a summary score of QoL scores at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of a summary score of QoL scores at distal period in the control group. ☐ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ☐ Generally, the study indicates the SE of a summary score of QoL scores at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>342. Treatment group outcome mean of physical well-being (PWB) at distal period in QOL measures Mean DistalQoL_PWB_Tx</p>	<p>What was the mean of physical well-being/physical role/physical superdomain/ at distal period in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of PWB at distal period in the treatment group.

Variables	Criteria and Instructions
	<p>☐ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ Code for the mean of PWB at distal period in the treatment group.</p> <p>☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies.</p> <p>☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results.</p> <p>☐ Generally, the study indicates the mean of PWB at distal period in the result section and the tables of the study.</p> <p>☐ Code as “-” if the study has no information.</p>
<p>343. Treatment group outcome SD of PWB at distal period in QOL measures SDDistalQoL_PWB_Tx</p>	<p>What was the SD of physical well-being/physical role/physical superdomain/ at distal period in the treatment group?</p> <p><u>Criteria:</u></p> <p>☐ Enter the SD of PWB at distal period in the treatment group.</p> <p>☐ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ Code for the SD of PWB at distal period in the treatment group.</p> <p>☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies.</p> <p>☐ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results.</p> <p>☐ Generally, the study indicates the SD of PWB at distal period in the result section and the tables of the study.</p> <p>☐ Code as “-” if the study has no information.</p>

Variables	Criteria and Instructions
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>344. Treatment group outcome SE of PWB at distal period in QOL measures SEDistalQoL_PWB_Tx</p>	<p>What was the SE of physical well-being/physical role/physical superdomain/ at distal period in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ② Enter the SE of PWB at distal period in the treatment group. ② Code “-” = Not reported/Unable to <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ② Code for the SE of PWB at distal period in the treatment group. Data in parentheses following means could be either SD or SE. Check table headers/footers for this ② Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies. ② A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ② Generally, the study indicates the SD or SE of PWB at distal period in the result section and the tables of the study. ② Code as “-” if the study has no information.
<p>345. Treatment group outcome mean of mental or psychological well-being (MWB) at distal period in QOL measures MeanDistalQoL_MWB_Tx</p>	<p>What was the mean of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at distal period in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ② Enter the mean of MWB at distal period in the treatment group. ② Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ② Code for the mean of MWB at distal period in the treatment group. ② Outcome data for the treatment group will be entered for the treatment group

Variables	Criteria and Instructions
	<p>for both the control vs treatment group and single-group pre-post studies.</p> <ul style="list-style-type: none"> ☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ☐ Generally, the study indicates the mean of PWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>346. Treatment group outcome SD of MWB at distal period in QOL measures SDDistalQOL_MWB_Tx</p>	<p>What was the SD of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at distal period in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of MWB at distal period in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of MWB at distal period in the treatment group. ☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies. ☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ☐ Generally, the study indicates the SD of MWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	

Variables	Criteria and Instructions
<p>347. Treatment group outcome SE of MWB at distal period in QOL measures SEDistalQOL_MWB_Tx</p>	<p>What was the SE of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at distal period in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of MWB at distal period in the treatment group. ☐ Code “-” = Not reported/Unable to <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of MWB at distal period in the treatment group. Data in parentheses following means could be either SD or SE. Check table headers/footers for this ☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies. ☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ☐ Generally, the study indicates the SD or SE of MWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>348. Treatment group outcome mean of social well-being (SWB) at distal period in QOL measures MeanDistalQOL_SWB_Tx</p>	<p>What was the mean of SWB at distal period in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of SWB at distal period in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of SWB at distal period in the treatment group. ☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the mean of SWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>349. Treatment group outcome SD of SWB at distal period in QOL measures SDDistalQOL_SWB_Tx</p>	<p>What was the SD of SWB at distal period in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of SWB at distal period in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of SWB at distal period in the treatment group. ☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies. ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the SD of SWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>350. Treatment group outcome SE of SWB at distal period in QOL measures SEDistalQOL_SWB_Tx</p>	<p>What was the SE of SWB at distal period in the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of SWB at distal period in the treatment group. ☐ Code “-” = Not reported/Unable to <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of SWB at distal period in the treatment group. Data in parentheses following means could be

Variables	Criteria and Instructions
	<p>either SD or SE. Check table headers/footers for this</p> <ul style="list-style-type: none"> ☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies. ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the SD or SE of SWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>351. Treatment group outcome mean of environmental well-being (EWB) at distal period in QOL measures MeanDistalQOL_EWB_Tx</p>	<p>What was the mean of EWB at distal period in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of EWB at distal period in the treatment group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of EWB at distal period in the treatment group. ☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies. ☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ☐ Generally, the study indicates the mean of EWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>352. Treatment group outcome SD of EWB at distal period in QOL measures SDDistalQOL_EWB_Tx</p>	<p>What was the SD of EWB at distal period in the treatment group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of EWB at distal period in the treatment group.

Variables	Criteria and Instructions
	<p>☐ Code “-” = Not reported/Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ Code for the SD of EWB at distal period in the treatment group.</p> <p>☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies.</p> <p>☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results.</p> <p>☐ Generally, the study indicates the SD of EWB at distal period in the result section and the tables of the study.</p> <p>☐ Code as “-” if the study has no information.</p>
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>353. Treatment group outcome SE of EWB at distal period in QOL measures SEDistalQOL_EWB_Tx</p>	<p>What was the SE of EWB at distal period in the treatment group?</p> <p><u>Criteria:</u></p> <p>☐ Enter the SE of EWB at distal period in the treatment group.</p> <p>☐ Code “-” = Not reported/Unable to</p> <p><u>Instructions:</u></p> <p>☐ Code for the SE of SWB at distal period in the treatment group. Data in parentheses following means could be either SD or SE. Check table headers/footers for this</p> <p>☐ Outcome data for the treatment group will be entered for the treatment group for both the control vs treatment group and single-group pre-post studies.</p> <p>☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results.</p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Generally, the study indicates the SD or SE of EWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
Control group	
<p>354. Sample size of control subjects in data reported at distal period N_QoLOutcome_CoSample</p>	<p>What was the sample size of a control group at analysis? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the total number at analysis of participants. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the number that was analyzed after eliminating the lost to follow-up, attrition/drop-out, or exclusion. ☐ No data should be entered here for single group pre-post studies. ☐ Generally, this information was indicated on the result section or any place else. ☐ Code as “-” if the study has no information
<p>355. The mean of a distal summary score of QoL scores or a total score of QoL score in the control group MeanSumDisatalQoL_Co</p>	<p>What was the mean of a summary score of QoL scores at distal period in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of a summary score of QoL scores at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of a summary score of QoL scores at distal period in the control group. ☐ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ☐ Generally, the study indicates the mean of a summary score of QoL

Variables	Criteria and Instructions
	<p>scores at distal period in the result section and the tables of the study.</p> <ul style="list-style-type: none"> ☐ Use absolute means. Do not use adjusted means. ☐ Code as “-” if the study has no information.
<p>356. The SD of a distal summary score of QoL scores or a total score of QoL score SDSummaryDistalQoL_Co</p>	<p>What was the SD of a summary score of QoL scores at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of a summary score of QoL scores at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of a summary score of QoL scores at distal period in the control group. ☐ The study reported that overall of quality of life or well-being in caregivers during caring for older adults with chronic illness. ☐ Generally, the study indicates the SD of a summary score of QoL scores at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>357. The SE of a distal summary score of QoL scores or a total score of QoL score SESummaryDistalQoL_Co</p>	<p>What was the SE of a summary score of QoL scores at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of a summary score of QoL scores at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of a summary score of QoL scores at distal period in the control group. ☐ The study reported that overall of quality of life or well-being in

Variables	Criteria and Instructions
	<p>caregivers during caring for older adults with chronic illness.</p> <ul style="list-style-type: none"> ☑ Generally, the study indicates the SE of a summary score of QoL scores at distal period in the result section and the tables of the study. ☑ Code as “-” if the study has no information.
<p>358. Control group outcome mean of physical well-being (PWB) at distal period in QOL measures MeanDistalQoL_PWB_Co</p>	<p>What was the mean of physical well-being/physical role/physical superdomain/ at distal period in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☑ Enter the mean of PWB at distal period in the control group. ☑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☑ Code for the mean of PWB at distal period in the control group. ☑ Use absolute means. Do not use adjusted means. ☑ No data should be entered here for single group pre-post studies. ☑ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ☑ Generally, the study indicates the mean of PWB at distal period in the result section and the tables of the study. ☑ Code as “-” if the study has no information.
<p>359. Control group outcome SD of PWB at distal period in QOL measures SDDistalQoL_PWB_Co</p>	<p>What was the SD of physical well-being/physical role/physical superdomain/ at distal period in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☑ Enter the SD of PWB at distal period in the control group. ☑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☑ Code for the SD of PWB at distal period in the control group.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ No data should be entered here for single group pre-post studies. ❑ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report. ❑ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ❑ Generally, the study indicates the SD of PWB at distal period in the result section and the tables of the study. ❑ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>360. Control group outcome SE of PCS at distal period in QOL measures SEDistalQoL_PWB_Co</p>	<p>What was the SE of physical well-being/physical role/physical superdomain/ at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SE of PWB at distal period in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SE of PWB at distal period in the control group. ❑ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report. ❑ No data should be entered here for single group pre-post studies. ❑ A physical component of QoL or well-being for caregivers is reported as physical well-being or physical health in tables of results. ❑ Generally, the study indicates the SD or SE of PWB at distal period in the result section and the tables of the study.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if the study has no information.
<p>361. Control group outcome mean of mental or psychological well-being (MWB) at distal period in QOL measures MeanDistalQoL_MWB_Co</p>	<p>What was the mean of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of MWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of MWB at distal period in the control group. ☐ Use absolute means. Do not use adjusted means. ☐ No data should be entered here for single group pre-post studies. ☐ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ☐ Generally, the study indicates the mean of MWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>362. Control group outcome SD of MWB at distal period in QOL measures SDDistalQoL_MWB_Co</p>	<p>What was the SD of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of MWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of MWB at distal period in the control group. ☐ No data should be entered here for single group pre-post studies.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report. ❑ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ❑ Generally, the study indicates the SD of MWB at distal period in the result section and the tables of the study. ❑ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>363. Control group outcome SE of MWB at distal period in QOL measures SEDistalQoL_MWB_Co</p>	<p>What was the SE of psychological well-being/mental health/emotional health/emotional well-being/mental superdomain at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SE of MWB at distal period in the control group. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Code for the SE of MWB at distal period in the control group. ❑ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report. ❑ No data should be entered here for single group pre-post studies. ❑ A mental component of QoL or well-being for caregivers is reported as psychological well-being or psychological health in tables of results. ❑ Generally, the study indicates the SD or SE of MWB at distal period in the

Variables	Criteria and Instructions
	<p>result section and the tables of the study.</p> <ul style="list-style-type: none"> ☐ Code as “-” if the study has no information.
<p>364. Control group outcome mean of social well-being (SWB) at distal period in QOL measures MeanDistalQoL_SWB_Co</p>	<p>What was the mean of SWB at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of SWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the mean of SWB at distal period in the control group. ☐ Use absolute means. Do not use adjusted means. ☐ No data should be entered here for single group pre-post studies. ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the mean of SWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>365. Control group outcome SD of SWB at distal period in QOL measures SDDistalQoL_SWB_Co</p>	<p>What was the SD of SWB at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of SWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of SWB at distal period in the control group. ☐ No data should be entered here for single group pre-post studies. ☐ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the SD of SWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	
<p>366. Control group outcome SE of SWB at distal period in QOL measures SEDistalQoL_SWB_Co</p>	<p>What was the SE of SWB at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of SWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of SWB at distal period in the control group. ☐ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report. ☐ No data should be entered here for single group pre-post studies. ☐ A social domain of QoL or well-being for caregivers is reported as social health in tables of results. ☐ Generally, the study indicates the SD or SE of SWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>367. Control group outcome mean of environmental well-being (EWB) at distal period in QOL measures MeanDistalQoL_EWB_Co</p>	<p>What was the mean of EWB at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the mean of EWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code for the mean of EWB at distal period in the control group. ☐ Use absolute means. Do not use adjusted means. ☐ No data should be entered here for single group pre-post studies. ☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ☐ Generally, the study indicates the mean of SWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>368. Control group outcome SD of EWB at distal period in QOL measures SDDistalQoL_EWB_Co</p>	<p>What was the SD of EWB at distal period in the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD of EWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SD of EWB at distal period in the control group. ☐ No data should be entered here for single group pre-post studies. ☐ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report. ☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ☐ Generally, the study indicates the SD of EWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>*** If the SD is not available, the SD can be calculated from the SE</p>	

Variables	Criteria and Instructions
<p>369. Control group outcome SE of EWB at distal period in QOL measures SEDistalQoL_EWB_Co</p>	<p>What was the SE of EWB at distal period in the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE of EWB at distal period in the control group. ☐ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ Code for the SE of EWB at distal period in the control group. ☐ Data in parentheses following means could be either SD or SE. Check table headers/footers for this information, or the analysis section of the report. ☐ No data should be entered here for single group pre-post studies. ☐ An environment or spiritual domain of QoL or well-being for caregivers is reported as environmental health in tables of results. ☐ Generally, the study indicates the SD or SE of EWB at distal period in the result section and the tables of the study. ☐ Code as “-” if the study has no information.
<p>Additional sections <u>if means, SD/SE and sample size are not available</u>, please collect data on alternative statistics (t-test or F-test)</p>	
<p>t-statistics: Information for the treatment group vs the control group at outcome (post-interventions)</p>	
<p>t statistic or F statistics</p>	
<p>370. t value-post-test or F value post-test comparison between the treatment and control groups for the total QoL in QOL measures Total_Outcome_t-test or F-test_2Grp</p>	<p>What was the t value-post-test comparison between the treatment and control groups for the total QoL scores? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the t value-post-test comparison between the treatment and control groups for the total scores. ☐ Code “-” = Not reported/Unable to determine/No.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Be sure to use the t value that compares the means of the treatment vs the control groups. ❑ Do not use a t test that compares mean differences or change scores. ❑ Do not use a paired t-test. ❑ Code as “-” if the study has no information.
<p>371. t value-post-test or F value post-test comparison between the treatment and control groups for physical well-being (PWB) in QOL measures PWB_Outcomet-test_2Grp</p>	<p>What was the t value-post-test comparison between the treatment and control groups for PWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the t value-post-test comparison between the treatment and control groups for PWB. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Be sure to use the t value that compares the means of the treatment vs the control groups. ❑ Do not use a t test that compares mean differences or change scores. ❑ Do not use a paired t-test. ❑ Code as “-” if the study has no information.
<p>372. t value-post-test or F value post-test comparison between the treatment and control groups for mental or psychological well-being (MWB) in QOL measures MWB_Outcomet-test_2Grp</p>	<p>What was the t value-post-test comparison between the treatment and control groups for MWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the t value-post-test comparison between the treatment and control groups for MWB. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Be sure to use the t value that compares the means of the treatment vs the control groups. ❑ Do not use a t test that compares mean differences or change scores. ❑ Do not use a paired t-test. ❑ Code as “-” if the study has no information.

Variables	Criteria and Instructions
<p>373. t value-post-test or F value post-test comparison between the treatment and control groups for social well-being (SWB) in QOL measures SWB_Outcomet-test_2Grp</p>	<p>What was the t value-post-test comparison between the treatment and control groups for SWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the t value-post-test comparison between the treatment and control groups for SWB. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Be sure to use the t value that compares the means of the treatment vs the control groups. ❑ Do not use a t test that compares mean differences or change scores. ❑ Do not use a paired t-test. ❑ Code as “-” if the study has no information.
<p>374. t value-post-test or F value post-test comparison between the treatment and control groups for environmental well-being (EWB) in QOL measures EWB_Outcomet-test_2Grp</p>	<p>What was the t value-post-test comparison between the treatment and control groups for EWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the t value-post-test comparison between the treatment and control groups for EWB. ❑ Code “-” = Not reported/Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Be sure to use the t value that compares the means of the treatment vs the control groups. ❑ Do not use a t test that compares mean differences or change scores. ❑ Do not use a paired t-test. ❑ Code as “-” if the study has no information.
Degrees of freedom (DF)	
<p>375. Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for the total QoL scores TotalOutcomet-testDF_2Grp</p>	<p>What was the degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for PWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome.

Variables	Criteria and Instructions
	<p><input type="checkbox"/> Code “-” = Unable to determine/No.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information.</p>
<p>376. Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for PWB PWBOutcomet-testDF_2Grp</p>	<p>What was the degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for PWB?</p> <p><u>Criteria:</u></p> <p><input type="checkbox"/> Enter the Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome.</p> <p><input type="checkbox"/> Code “-” = Unable to determine/No.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information.</p>
<p>377. Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for MWB MWBOutcomet-testDF_2Grp</p>	<p>What was the degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for MWB?</p> <p><u>Criteria:</u></p> <p><input type="checkbox"/> Enter the Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome.</p> <p><input type="checkbox"/> Code “-” = Unable to determine/No.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information.</p>
<p>378. Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for SWB SWBOutcomet-testDF_2Grp</p>	<p>What was the degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for SWB?</p> <p><u>Criteria:</u></p> <p><input type="checkbox"/> Enter the Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome.</p> <p><input type="checkbox"/> Code “-” = Unable to determine/No.</p> <p><u>Instructions:</u></p> <p><input type="checkbox"/> Code as “-” if the study has no information.</p>
<p>379. Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for EWB EWBOutcomet-testDF_2Grp</p>	<p>What was the degrees of freedom (df) associated with t test comparing treatment and control groups at outcome for EWB?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Enter the Degrees of freedom (df) associated with t test comparing treatment and control groups at outcome. ❑ Code “-” = Unable to determine/No. <u>Instructions:</u> <ul style="list-style-type: none"> ❑ Code as “-” if the study has no information.
Exact significance level	
<p>380. Exact significance level associated with two group independent t-test or F test for the total QoL scores in QOL measures TotalOutcomeExactSig_2Grp</p>	<p>What was the exact significance level associated with two group independent t-test for the total QoL scores?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the exact significance level associated with two group independent t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Do not use a cutoff value for statistical significance in this space. ❑ Code as “-” if the study has no information.
<p>381. Exact significance level associated with two group independent t-test for PWB in QOL measures PWBOutcomeExactSig_2Grp</p>	<p>What was the exact significance level associated with two group independent t-test for PWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the exact significance level associated with two group independent t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Do not use a cutoff value for statistical significance in this space. ❑ Code as “-” if the study has no information.
<p>382. Exact significance level associated with two group independent t-test for MWB in QOL measures MWBOutcomeExactSig_2Grp</p>	<p>What was the exact significance level associated with two group independent t-test for MWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the exact significance level associated with two group independent t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Do not use a cutoff value for statistical significance in this space. ❑ Code as “-” if the study has no information.
<p>383. Exact significance level associated with two group independent t-test for SWB in QOL measures SWBOutcomeExactSig_2Grp</p>	<p>What was the exact significance level associated with two group independent t-test for SWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the exact significance level associated with two group independent t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Do not use a cutoff value for statistical significance in this space. ❑ Code as “-” if the study has no information.
<p>384. Exact significance level associated with two group independent t-test for EWB in QOL measures EWBOutcomeExactSig_2Grp</p>	<p>What was the exact significance level associated with two group independent t-test for EWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the exact significance level associated with two group independent t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ Do not use a cutoff value for statistical significance in this space. ❑ Code as “-” if the study has no information.
P-value	
<p>385. Value that p was reported being less than for independent group t-test for the total QoL scores TotalOutcomeP-value_Lesst-test</p>	<p>What was the p-valve was reported being less than for independent group t-test for the total QoL scores?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the p-valve was reported being less than for independent group t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the p value the authors selected as the threshold for statistical significance, usually .10, .05, .01, or .001. ❑ Code as “-” if the study has no information.

Variables	Criteria and Instructions
<p>386. Value that p was reported being less than for independent group t-test for PWB PWBOutcomeP-value_Lesst-test</p>	<p>What was the p-value was reported being less than for independent group t-test for PWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the p-value was reported being less than for independent group t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the p value the authors selected as the threshold for statistical significance, usually .10, .05, .01, or .001. ❑ Code as “-” if the study has no information.
<p>387. Value that p was reported being less than for independent group t-test for MWB MWBOutcomeP-value_Lesst-test</p>	<p>What was the p-value was reported being less than for independent group t-test for MWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the p-value was reported being less than for independent group t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the p value the authors selected as the threshold for statistical significance, usually .10, .05, .01, or .001. ❑ Code as “-” if the study has no information.
<p>388. Value that p was reported being less than for independent group t-test for SWB SWBOutcomeP-value_Lesst-test</p>	<p>What was the p-value was reported being less than for independent group t-test for SWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the p-value was reported being less than for independent group t-test. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the p value the authors selected as the threshold for statistical significance, usually .10, .05, .01, or .001. ❑ Code as “-” if the study has no information.
<p>389. Value that p was reported being less than for independent group t-test for EWB EWBOutcomeP-value_Lesst-test</p>	<p>What was the p-value was reported being less than for independent group t-test for EWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the p-value was reported being less than for independent group t-test. ❑ Code “-” = Unable to determine/No.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the p value the authors selected as the threshold for statistical significance, usually .10, .05, .01, or .001. ☐ Code as “-” if the study has no information.
Direction of Effect items	
The treatment group vs the control group	
<p>390. Effect in the hypothesized direction for the treatment group VS the control group at the total QoL scores TotalOutcomeDirecEffect2Grp</p>	<p>What was the effect in the hypothesized direction for the treatment group vs the control group for the total QoL scores? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Treatment group outcome score better than control group outcome score ☐ Code 0 = Treatment and control group outcome scores the same ☐ Code -1= The control group outcome score is better than the treatment group score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code as “-” if a single group study that did not compare independent treatment and control groups but instead compares post-intervention data to baseline data in the same subjects. ☐ Code as “-” if the study did not report.
<p>391. Effect in the hypothesized direction for the treatment group vs the control group at outcome for PWB PWBOutcomeDirEffect2Grp</p>	<p>What was the effect in the hypothesized direction for the treatment group vs the control group for PWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Treatment group outcome score better than control group outcome score

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code 0 = Treatment and control group outcome scores the same ☐ Code -1= The control group outcome score is better than the treatment group score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code as “-” if a single group study that did not compare independent treatment and control groups but instead compares post-intervention data to baseline data in the same subjects. ☐ Code as “-” if the study did not report.
<p>392. Effect in the hypothesized direction for the treatment group vs the control group at outcome for MWB MWBOutcomeDirEffect2Grp</p>	<p>What was the effect in the hypothesized direction for the treatment group vs the control group for MWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Treatment group outcome score better than control group outcome score ☐ Code 0 = Treatment and control group outcome scores the same ☐ Code -1= The control group outcome score is better than the treatment group score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code as “-” if a single group study that did not compare independent treatment and control groups but instead compares post-intervention data to baseline data in the same subjects. ☐ Code as “-” if the study did not report.
<p>393. Effect in the hypothesized direction for the treatment group vs the control group at outcome for SWB SWBOutcomeDirEffect2Grp</p>	<p>What was the effect in the hypothesized direction for the treatment group vs the control group for SWB?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code 1 = Treatment group outcome score better than control group outcome score ☐ Code 0 = Treatment and control group outcome scores the same ☐ Code -1= The control group outcome score is better than the treatment group score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code as “-” if a single group study that did not compare independent treatment and control groups but instead compares post-intervention data to baseline data in the same subjects. ☐ Code as “-” if the study did not report.
<p>394. Effect in the hypothesized direction for the treatment group vs the control group at outcome for SWB EWBOutcomeDirEffect2Grp</p>	<p>What was the effect in the hypothesized direction for the treatment group vs the control group for SWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = Treatment group outcome score better than control group outcome score ☐ Code 0 = Treatment and control group outcome scores the same ☐ Code -1= The control group outcome score is better than the treatment group score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code as “-” if a single group study that did not compare independent treatment and control groups but instead compares post-intervention data to baseline data in the same subjects. ☐ Code as “-” if the study did not report.
<p>The treatment outcome vs treatment baseline</p>	

Variables	Criteria and Instructions
<p>395. Effect in the hypothesized direction for the treatment outcome VS the treatment baseline at the total QoL scores TotalOutcomeBaseline_TxDirEffect</p>	<p>What was the effect in the hypothesized direction for treatment outcome vs treatment baseline for the total QoL scores? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = The treatment group outcome score is better than treatment baseline score ☐ Code 0 = The treatment baseline and outcome scores are the same ☐ Code -1= The treatment group baseline score is better than the treatment group outcome score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code this item if baseline data and outcome data are reported for a treatment group (single-group study). ☐ Code as “-” if no baseline and outcome data to compare for the treatment group. ☐ Code as “-” if the study did not report.
<p>396. Effect in the hypothesized direction for treatment outcome vs treatment baseline for PWB in QOL measures PWBOutcomeBaseline_TxDirEffect</p>	<p>What was the effect in the hypothesized direction for treatment outcome vs treatment baseline for PWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = The treatment group outcome score is better than treatment baseline score ☐ Code 0 = The treatment baseline and outcome scores are the same ☐ Code -1= The treatment group baseline score is better than the treatment group outcome score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code this item if baseline data and outcome data are reported for a treatment group (single-group study).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if no baseline and outcome data to compare for the treatment group. ☐ Code as “-” if the study did not report.
<p>397. Effect in the hypothesized direction for treatment outcome vs treatment baseline for MWB in QOL measures MWBOutcomeBaseline_TxDirEffect</p>	<p>What was the effect in the hypothesized direction for treatment outcome vs treatment baseline for MWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = The treatment group outcome score is better than treatment baseline score ☐ Code 0 = The treatment baseline and outcome scores are the same ☐ Code -1= The treatment group baseline score is better than the treatment group outcome score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code this item if baseline data and outcome data are reported for a treatment group (single-group study). ☐ Code as “-” if no baseline and outcome data to compare for the treatment group. ☐ Code as “-” if the study did not report.
<p>398. Effect in the hypothesized direction for treatment outcome vs treatment baseline for SWB in QOL measures SWBOutcomeBaseline_TxDirEffect</p>	<p>What was the effect in the hypothesized direction for treatment outcome vs treatment baseline for SWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = The treatment group outcome score is better than treatment baseline score ☐ Code 0 = The treatment baseline and outcome scores are the same ☐ Code -1= The treatment group baseline score is better than the treatment group outcome score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code this item if baseline data and outcome data are reported for a treatment group (single-group study). ☐ Code as “-” if no baseline and outcome data to compare for the treatment group. ☐ Code as “-” if the study did not report.
<p>399. Effect in the hypothesized direction for treatment outcome vs treatment baseline for EWB in QOL measures EWBOutcomeBaseline_TxDirEffect</p>	<p>What was the effect in the hypothesized direction for treatment outcome vs treatment baseline for EWB? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = The treatment group outcome score is better than treatment baseline score ☐ Code 0 = The treatment baseline and outcome scores are the same ☐ Code -1= The treatment group baseline score is better than the treatment group outcome score <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ For some variables a higher score is better while for other variables a smaller score is better. ☐ Code this item if baseline data and outcome data are reported for a treatment group (single-group study). ☐ Code as “-” if no baseline and outcome data to compare for the treatment group. ☐ Code as “-” if the study did not report.
<p>The control group outcome vs the control group baseline</p>	
<p>400.Effect in the hypothesized direction for the control group outcome vs the control group baseline for the total QoL scores in QOL measures TotalOutcomeBase_CoDirEffect</p>	<p>What was the effect in the hypothesized direction for the control group outcome vs the control group baseline for the total QoL scores? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Code 1 = The control group outcome score is better than control group baseline score ☐ Code 0 = The control group outcome score and the control group baseline score are the same

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code -1= The control group baseline score is better than the control outcome score. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ For some variables a higher score is better while for other variables a smaller score is better. ❑ Code as “-” if the study did not report baseline and outcome data for a control group. ❑ Code as “-” for single group studies that compare outcome and baseline data in single treatment group.
<p>401. Effect in the hypothesized direction for the control group outcome vs the control group baseline for PWB in QOL measures PWBOutcomeBase_CoDirEffect</p>	<p>What was the effect in the hypothesized direction for the control group outcome vs the control group baseline for PWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Code 1 = The control group outcome score is better than control group baseline score ❑ Code 0 = The control group outcome score and the control group baseline score are the same ❑ Code -1= The control group baseline score is better than the control outcome score. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ For some variables a higher score is better while for other variables a smaller score is better. ❑ Code as “-” if the study did not report baseline and outcome data for a control group. ❑ Code as “-” for single group studies that compare outcome and baseline data in single treatment group.
<p>402. Effect in the hypothesized direction for the control group outcome vs the control group baseline for MWB in QOL measures MWBOutcomeBase_CoDirEffect</p>	<p>What was the effect in the hypothesized direction for the control group outcome vs the control group baseline for MWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Code 1 = The control group outcome score is better than control group baseline score

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code 0 = The control group outcome score and the control group baseline score are the same ❑ Code -1= The control group baseline score is better than the control outcome score. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ For some variables a higher score is better while for other variables a smaller score is better. ❑ Code as “-” if the study did not report baseline and outcome data for a control group. ❑ Code as “-” for single group studies that compare outcome and baseline data in single treatment group.
<p>403. Effect in the hypothesized direction for the control group outcome vs the control group baseline for SWB in QOL measures SWBOutcomeBase_CoDirEffect</p>	<p>What was the effect in the hypothesized direction for the control group outcome vs the control group baseline for SWB?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Code 1 = The control group outcome score is better than control group baseline score ❑ Code 0 = The control group outcome score and the control group baseline score are the same ❑ Code -1= The control group baseline score is better than the control outcome score. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ For some variables a higher score is better while for other variables a smaller score is better. ❑ Code as “-” if the study did not report baseline and outcome data for a control group. ❑ Code as “-” for single group studies that compare outcome and baseline data in single treatment group.
<p>404. Effect in the hypothesized direction for the control group outcome vs the control group baseline for EWB in QOL measures EWBOutcomeBase_CoDirEffect</p>	<p>What was the effect in the hypothesized direction for the control group outcome vs the control group baseline for EWB?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code 1 = The control group outcome score is better than control group baseline score ❑ Code 0 = The control group outcome score and the control group baseline score are the same ❑ Code -1= The control group baseline score is better than the control outcome score. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ For some variables a higher score is better while for other variables a smaller score is better. ❑ Code as “-” if the study did not report baseline and outcome data for a control group. ❑ Code as “-” for single group studies that compare outcome and baseline data in single treatment group.
Additional Outcome Data: Mean difference or change scores	
A treatment group	1
Mean change in the treatment group	
<p>405. Treatment group change score mean of the total QoL scores in QOL measures Total_MeanQoLChange_Tx</p>	<p>What was the mean difference of the total QoL scores between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of quality of life scores between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these).

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>406. Treatment group change score mean of PWB in QOL measures PWB_MeanQoLChange_Tx</p>	<p>What was the mean difference of PWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of quality of life scores between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>407. Treatment group change score mean of MWB in QOL measures MWB_MeanQoLChange_Tx</p>	<p>What was the mean difference of MWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of quality of life scores between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>408. Treatment group change score mean of MWB in QOL measures SWB_MeanQoLChange_Tx</p>	<p>What was the mean difference of SWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of quality of life scores between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>409. Treatment group change score mean of MWB in QOL measures EWB_MeanQoLChange_Tx</p>	<p>What was the mean difference of EWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of quality of life scores between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
SD change in the treatment group	
<p>410. Treatment group change score SD of the total QoL scores in QOL measures Total_SDChange_Tx</p>	<p>What was the SD difference of the total QoL scores between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD difference of the total QoL scores between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>411. Treatment group change score SD of PWB in QOL measures PWB_SDChange_Tx</p>	<p>What was the SD difference of PWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD difference of PWB between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the treatment group samples. ☐ Change scores must NOT be percent change, these must be absolute values. ☐ These values must be reported in the study (do NOT calculate these). ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>412. Treatment group change score SD of MWB in QOL measures MWB_SDChange_Tx</p>	<p>What was the SD difference of MWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD difference of MWB between baseline and outcome scores for the treatment group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the treatment group samples. ☐ Change scores must NOT be percent change, these must be absolute values. ☐ These values must be reported in the study (do NOT calculate these). ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>413. Treatment group change score SD of SWB in QOL measures SWB_SDChange_Tx</p>	<p>What was the SD difference of SWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SD difference of SWB between baseline and outcome scores for the treatment group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>414. Treatment group change score SD of EWB in QoL measures EWB_SDChange_Tx</p>	<p>What was the SD difference of EWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD difference of EWB between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
SE change in the treatment group	
<p>415. Treatment group change score SE of the total QoL score Total_SEChange_Tx</p>	<p>What was the SE difference of the total QoL scores between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SE difference of the total QoL scores between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No.

Variables	Criteria and Instructions
	<p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>416. Treatment group change score SE of PWB PWB_SEChange_Tx</p>	<p>What was the SE difference of PWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SE difference of PWB between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>417. Treatment group change score SE of MWB MWB_SEChange_Tx</p>	<p>What was the SE difference of MWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SE difference of MWB between baseline and outcome scores for the treatment group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the treatment group samples. ☐ Change scores must NOT be percent change, these must be absolute values. ☐ These values must be reported in the study (do NOT calculate these). ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>418. Treatment group change score SE of SWB SWB_SEChange_Tx</p>	<p>What was the SE difference of SWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE difference of SPWB between baseline and outcome scores for the treatment group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the treatment group samples. ☐ Change scores must NOT be percent change, these must be absolute values. ☐ These values must be reported in the study (do NOT calculate these). ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>419. Treatment group change score SE of EWB EWB_SEChange_Tx</p>	<p>What was the SE difference of EWB between baseline and outcome scores for the treatment group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE difference of EWB between baseline and outcome scores for the treatment group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the treatment group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
A control group	
Mean change in the control group	
<p>420. Control group change score mean of the total QoL scores in QOL measure Total_MeanChange_Co</p>	<p>What was the mean difference of the total QoL scores between baseline and outcome scores for the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of the total QoL scores between baseline and outcome scores for the control group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the control group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>421. Control group change score mean of PWB in QOL scores PWB_MeanChange_Co</p>	<p>What was the mean difference of PWB between baseline and outcome scores for the control group? <u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Enter the mean difference of PWB between baseline and outcome scores for the control group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the control group samples. ❑ Change scores must NOT be percent change, these must be absolute values. ❑ These values must be reported in the study (do NOT calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>422. Control group change score mean of MWB in QOL scores MWB_MeanChange_Co</p>	<p>What was the mean difference of MWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of MWB between baseline and outcome scores for the control group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the control group samples. ❑ Change scores must not be percent change, these must be absolute values. ❑ These values must be reported in the study (do not calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>423. Control group change score mean of SWB in QOL scores SWB_MeanChange_Co</p>	<p>What was the mean difference of SWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Enter the mean difference of SWB between baseline and outcome scores for the control group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the control group samples. ❑ Change scores must not be percent change, these must be absolute values. ❑ These values must be reported in the study (do not calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>424. Control group change score mean of MWB in QOL scores EWB_MeanChange_Co</p>	<p>What was the mean difference of EWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the mean difference of EWB between baseline and outcome scores for the control group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the control group samples. ❑ Change scores must not be percent change, these must be absolute values. ❑ These values must be reported in the study (do not calculate these). ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
SD change in the control group	
<p>425. Control group change score SD of the total QoL scores Total_SDChange_Co</p>	<p>What was the SD difference of the total QoL scores between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Enter the SD difference of the total QoL scores between baseline and outcome scores for the control group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the control group samples. ❑ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>426. Control group change score SD of PWB PWB_SDChange_Co</p>	<p>What was the SD difference of PWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD difference of PWB between baseline and outcome scores for the control group. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is the difference between baseline scores and outcome scores for the control group samples. ❑ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ❑ Code as “-” if the study has no information. ❑ <u>Negative scores indicate higher scores at distal time.</u>
<p>427. Control group change score SD of MWB MWBChange_CoSD</p>	<p>What was the SD difference of MWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the SD difference of MWB between baseline and outcome scores for the control group.

Variables	Criteria and Instructions
	<p>☐ Code “-” = Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ This is the difference between baseline scores and outcome scores for the control group samples.</p> <p>☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects.</p> <p>☐ Code as “-” if the study has no information.</p> <p>☐ <u>Negative scores indicate higher scores at distal time.</u></p>
<p>428. Control group change score SD of SWB SWBChange_CoSD</p>	<p>What was the SD difference of SWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <p>☐ Enter the SD difference of SWB between baseline and outcome scores for the control group.</p> <p>☐ Code “-” = Unable to determine/No.</p> <p><u>Instructions:</u></p> <p>☐ This is the difference between baseline scores and outcome scores for the control group samples.</p> <p>☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects.</p> <p>☐ Code as “-” if the study has no information.</p> <p>☐ <u>Negative scores indicate higher scores at distal time.</u></p>
<p>429. Control group change score SD of EWB EWBChange_CoSD</p>	<p>What was the SD difference of EWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <p>☐ Enter the SD difference of EWB between baseline and outcome scores for the control group.</p> <p>☐ Code “-” = Unable to determine/No.</p> <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the control group samples. ☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
SE change in the control group	
<p>430. Control group change score SE of the total QoL scores in QOL measures Total_SEChange_Co</p>	<p>What was the SE difference of the total QoL scores between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE difference of the total QoL scores between baseline and outcome scores for the control group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the control group samples. ☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>431. Control group change score SE of PWB in QOL measures PWB_SEChange_Co</p>	<p>What was the SE difference of PWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE difference of PWB between baseline and outcome scores for the control group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the control group samples. ☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>432. Control group change score SE of MWB in QOL measures MWB_SEChange_Co</p>	<p>What was the SE difference of MWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE difference of MWB between baseline and outcome scores for the control group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the control group samples. ☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>434. Control group change score SE of SWB in QOL measures SWB_SEChange_Co</p>	<p>What was the SE difference of SWB between baseline and outcome scores for the control group?</p> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE difference of SWB between baseline and outcome scores for the control group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the control group samples. ☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
<p>435. Control group change score SE of MWB in QOL measures EWB_SEChange_Co</p>	<p>What was the SE difference of EWB between baseline and outcome scores for the control group? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the SE difference of EWB between baseline and outcome scores for the control group. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is the difference between baseline scores and outcome scores for the control group samples. ☐ A researcher will only code this item if the study includes a control group of subjects independent from the treatment group of subjects. ☐ Code as “-” if the study has no information. ☐ <u>Negative scores indicate higher scores at distal time.</u>
Effect siz (d or t or SMD)	
<p>436. Effect size (ESs) of the total QoL scores in QOL measures ES_totalScore</p>	<p>What was ESs of the total QoL scores in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the ESs of the total QoL scores in QoL measures. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is ESs of the total QoL scores in QoL measures between treatment and control group..

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ This code use <i>only crude SMD, but it did not use adjusted SMD</i>. ☐ Code as “-” if the study has no information.
<p>437. Effect size (ESs) of PWB scores in QoL measures ES_PWB</p>	<p>What was ESs of PWB scores in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the ESs of PWB scores in QoL measures. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is ESs of PWB scores in QoL measures between treatment and control group. ☐ This code use <i>only crude SMD, but it did not use adjusted SMD</i>. ☐ Code as “-” if the study has no information.
<p>438. Effect size (ESs) of MWB scores in QoL measures ES_MWB</p>	<p>What was ESs of MWB scores in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the ESs of MWB scores in QoL measures. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is ESs of MWB scores in QoL measures between treatment and control group. ☐ This code use <i>only crude SMD, but it did not use adjusted SMD</i>. ☐ Code as “-” if the study has no information.
<p>439. Effect size (ESs) of SWB scores in QoL measures ES_SWB</p>	<p>What was ESs of SWB scores in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the ESs of SWB scores in QoL measures. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is ESs of SWB scores in QoL measures between treatment and control group. ☐ This code use <i>only crude SMD, but it did not use adjusted SMD</i>.

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ☐ Code as “-” if the study has no information.
<p>440. Effect size (ESs) of EWB scores in QoL measures ES_EWB</p>	<p>What was ESs of EWB scores in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the ESs of EWB scores in QoL measures. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is ESs of EWB scores in QoL measures between treatment and control group. ☐ This code use <u>only crude SMD, but it did not use adjust SMD.</u> ☐ Code as “-” if the study has no information.
P value of ES	
<p>441. P value of the total QoL scores in QoL measures P value_totalScore</p>	<p>What was P value of the total QoL scores in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the P value of the total QoL scores in QoL measures. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is P value of the total QoL scores in QoL measures between treatment and control group. ☐ This code use <u>only p value of crude SMD, but it did not use p value of adjusted SMD.</u> ☐ Code as “-” if the study has no information.
<p>442. P value of PWB in QoL measures P value_PWB</p>	<p>What was P value of PWB in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ☐ Enter the P value of PWB in QoL measures. ☐ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ☐ This is P value of PWB in QoL measures between treatment and control group.. ☐ This code use <u>only p value of crude SMD, but it did not use p value of adjusted SMD.</u>

Variables	Criteria and Instructions
	<ul style="list-style-type: none"> ❑ Code as “-” if the study has no information.
<p>443. P value of MWB in QOL measures P value_MWB</p>	<p>What was P value of MWB in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the P value of MWB in QoL measures. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is P value of MWB in QoL measures between treatment and control group.. ❑ This code use <u>only p value of crude SMD, but it did not use p value of adjusted SMD.</u> ❑ Code as “-” if the study has no information.
<p>444. P value of SWB in QOL measures P value_SWB</p>	<p>What was P value of SWB in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the P value of SWB in QoL measures. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is P value of SWB in QoL measures between treatment and control group.. ❑ This code use <u>only p value of crude SMD, but it did not use p value of adjusted SMD.</u> ❑ Code as “-” if the study has no information.
<p>445. P value of EWB in QOL measures P value_EWB</p>	<p>What was P value of EWB in QoL measures? <u>Criteria:</u></p> <ul style="list-style-type: none"> ❑ Enter the P value of EWB in QoL measures. ❑ Code “-” = Unable to determine/No. <p><u>Instructions:</u></p> <ul style="list-style-type: none"> ❑ This is P value of EWB in QoL measures between treatment and control group.. ❑ This code use <u>only p value of crude SMD, but it did not use p value of adjusted SMD.</u> ❑ Code as “-” if the study has no information.

APPENDIX B: SUPPLEMENTARY FIGURES

**Supplementary files: Overall effect size of PEIs on QoL
and multiple components of QoL**

Summary Scores of Quality of Life Studies with the Outlier

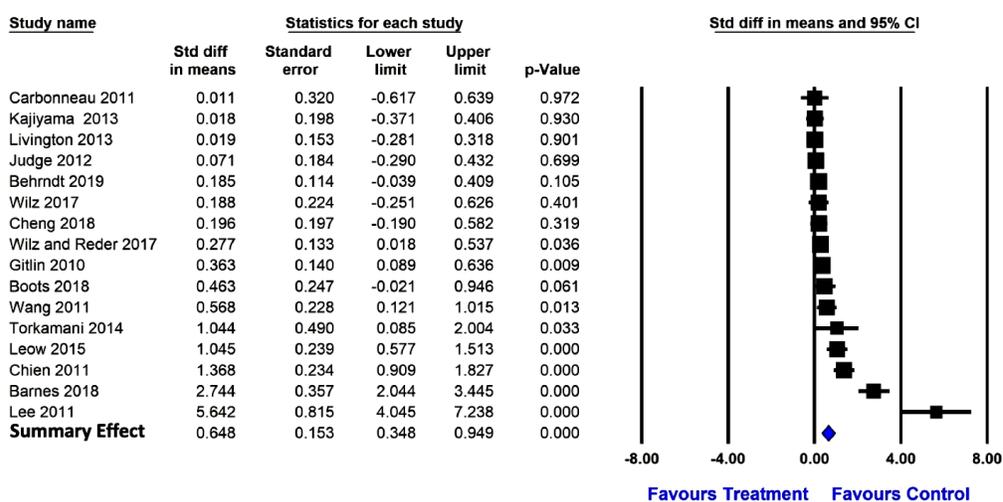


Fig S1. Forest plot of meta-analysis of PEIs on summary scores of QoL (outlier)

APPENDIX B, cont'd

Physical Well-being Studies

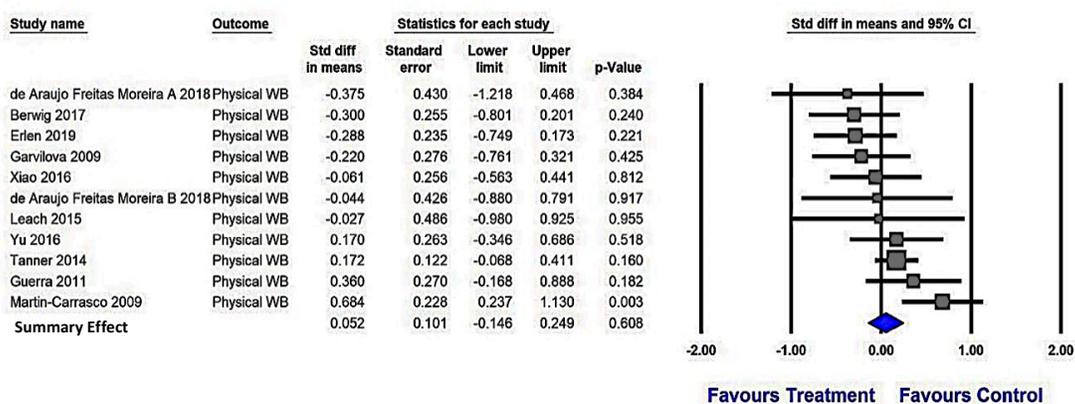


Fig S2. Forest plot of meta-analysis of PEIs on physical well-being

APPENDIX B, cont'd

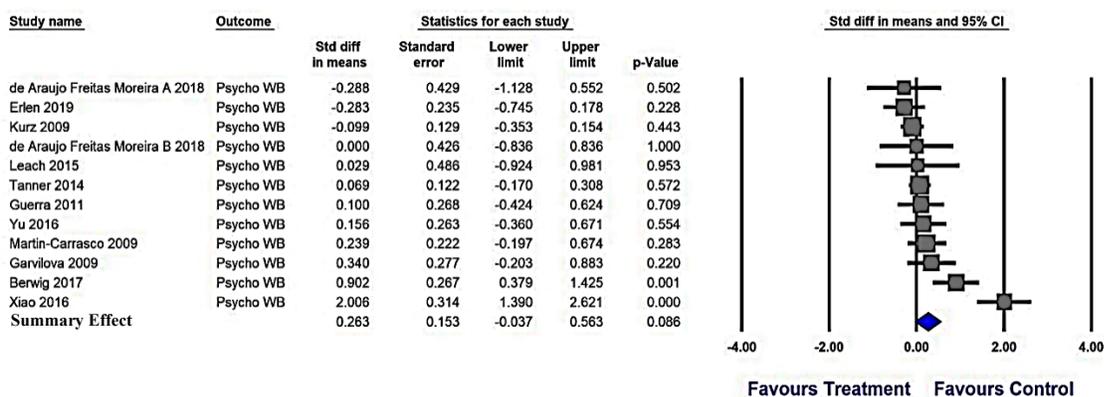
Psychological Well-being Studies with the Outlier

Fig S3. Forest plot of meta-analysis of PEIs on psychological well-being (outlier)

APPENDIX B, cont'd

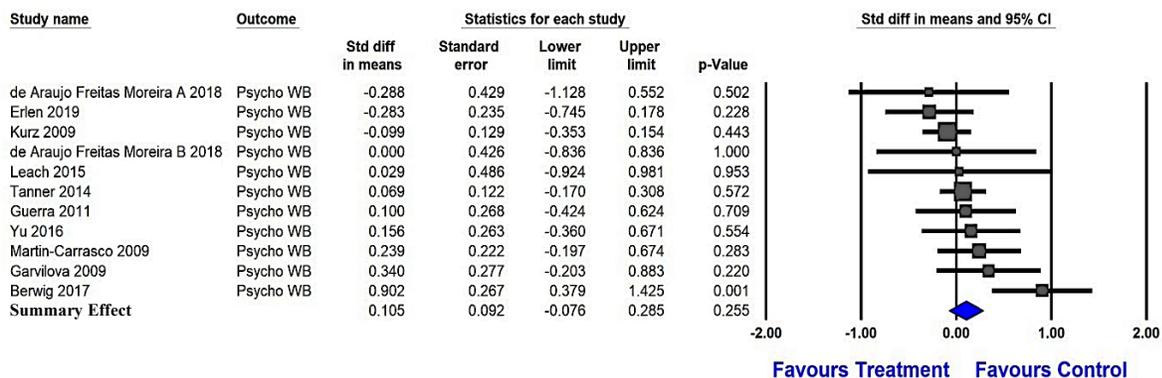
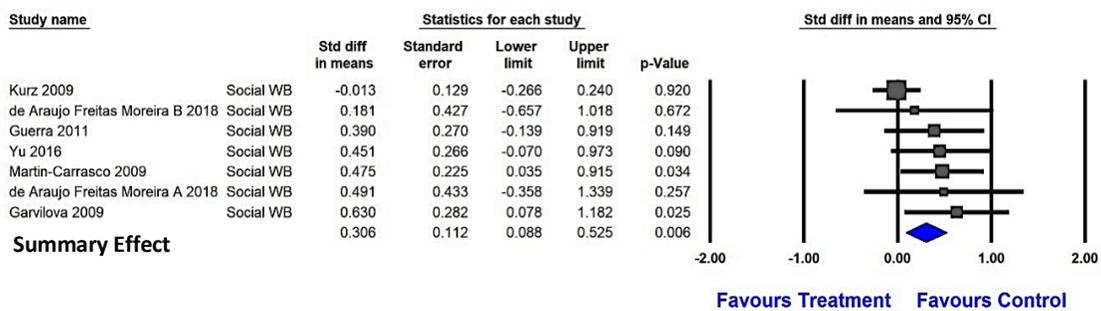
Psychological Well-being Studies without the Outlier

Fig S4. Forest plot of meta-analysis of PEIs on psychological well-being

APPENDIX B, cont'd

Social Well-being Studies**Fig S5.** Forest plot of meta-analysis of PEIs on social well-being

APPENDIX B, cont'd

Environment Well-being Studies

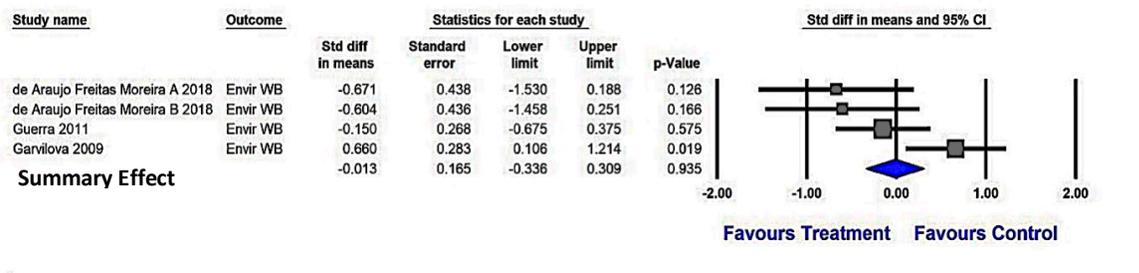


Fig S6. Forest plot of meta-analysis of PEIs on environment well-being

VITA

RUNGNAPHA KHIECHAUM

Rungnapha Khiewchaum was born in Rayong Province in Thailand and is the youngest child of Siri and Chumnean Khiewchaum. She studied high school at Rayongwittayakom and received her diploma in nursing from Boromarajonani Chonburi Nursing College. Rungnapha earned her Bachelor of Science in Nursing at Phrapokklao Nursing College, and Master of Science in Adult nursing at Mahidol University in Thailand. She worked as a nurse for about 15 years in a surgical intensive care unit (SICU) at Rayong hospital. She became a nursing instructor at Phrapokkloa Nursing College in 2013. In 2016, she entered the Ph.D. program at the University of Missouri Sinclair School of Nursing as a full-time international student. Between 2018 and 2020, she was selected by the Philanthropic Educational Organization (PEO) to receive an International Peace Scholarship. This scholarship supported her study and Ph.D. journey. She has received the Stephen A. Marek Memorial Ph.D. Scholarship, support from The Toni and Jim Sullivan Endowed Research Fund from the University of Missouri and a Thai Royal Scholarship to pursue her Ph.D. in nursing at the Sinclair School of Nursing. She has presented her research at the Gerontological Society of America (GSA) and the Midwest Nursing Research Society conferences. Her research has been published in the *Journal of Nursing and Health Care*, *the Journal of Phrapokklao Nursing College*, and *the Journal of the Thai Ministry of Public Health*.