ONLINE EXCLUSIVE

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Q/ Which interventions are effective in managing parental vaccine refusal?

EVIDENCE-BASED ANSWER

A/ IT'S UNCLEAR whether educational initiatives alone alter vaccine refusal. Although about a third of parents cite herd immunity as motivation for vaccination, its efficacy in addressing vaccine hesitancy isn't clear (strength of recommendation [SOR]: **B**, systematic reviews not limited to randomized controlled trials [RCTs]).

Multifaceted interventions (encompassing improved access to vaccines, immunization mandates, and patient education) may produce a ≥25% increase in vaccine uptake in groups with vaccine hesitancy and low utilization (SOR: **B**, extrapolated from a meta-analysis across diverse cultures).

Correcting false information about influenza vaccination improves perceptions about the vaccine, but may decrease intention to vaccinate in parents who already have strong concerns about safety (SOR: **C**, low-quality RCT).

Discussions about vaccines that are more paternalistic (presumptive rather than participatory) are associated with higher vaccination rates, but lower visit satisfaction (SOR: **C**, observational study).

Providers should thoroughly address patient concerns about safety and encourage vaccine use (SOR: **C**, expert opinion).

Evidence summary

A systematic review analyzed 30 predominantly US studies with more than 8000 patients published between 1990 and 2012 (4 RCTs, 7 nonrandomized clinical trials, 13 before/after intervention trials, and 6 evaluation studies) to evaluate interventions that decreased parental vaccine refusal and hesitancy.[1] Interventions included: change in state law, changes in state and school policies, and family-centered education initiatives.

Four studies that evaluated the impact of state laws concerning personal exemption (in addition to religious exemption) consistently found that total nonmedical exemption rates were higher in states that allowed personal exemptions. One nationwide survey found that total nonmedical exemption rates were 2.54 times higher (95% confidence interval [CI], 1.68-3.83) in states that allowed personal exemption than in states where only religious nonmedical exemption was allowed.

Fifteen studies evaluated the impact of educational initiatives on parental attitude towards vaccination; 8 of them reported statistically significant changes. None of the studies demonstrated a change in vaccination rates, however. Citing the generally low quality of the studies, the review authors concluded that they didn't have convincing evidence that educational interventions reduced vaccine hesitancy.

Herd immunity is an iffy motivator

A systematic review analyzed 29 studies from western nations (17 qualitative and 12 quantitative, 4650 patients) regarding willingness to immunize children for the benefit of the community.[2] Of the 17 qualitative studies,

only 2 (164 patients) identified benefit to others as a motivating factor in parents' decisions to immunize their children. In the 12 quantitative studies, a wide range of parents (1% to 60%) rated the concept of benefit to others as a reason for immunization. Overall, approximately one-third of parents listed herd immunity as a motivating reason. The authors concluded that the high heterogeneity of the studies made it unclear whether herd immunity was a motivating factor in childhood immunizations.

Multifaceted interventions, education, and tailored approaches may all work

A systematic review of international studies published between 2007 and 2013 investigated interventions to increase uptake of routinely recommended immunizations in groups with vaccine hesitancy and reduced use.[3] Authors identified 189 articles (trial types and number of patients not given) that provided outcome measures.

Interventions that resulted in at least a 25% increase in vaccine uptake were primarily multifaceted, including elements of: targeting undervaccinated populations, improving access or convenience, educational initiatives, and mandates. Interventions that produced a greater than 20% increase in knowledge were generally educational interventions embedded in routine processes such as clinic visits.

The authors noted wide variation between studies in effect size, settings, and target populations. They concluded that interventions tailored to specific populations and concerns were likely to work best.

Corrective information doesn't help with the most worried parents

A subsequent RCT tested whether correcting the myth that the flu vaccine can give people the flu would reduce belief in the misconception, increase perceptions that the flu vaccine is safe, and increase vaccination intent.[4] Respondents to a national online poll of 1000 people received one of 3 interventions: correctional education (information debunking the myth), risk education (information about the risks of influenza infection), or no additional education.

Corrective information about the flu vaccine reduced the false belief that the vaccine can cause the flu by 15% to 20% and that the flu vaccine is unsafe by 5% to 10% (data from graphs; $P<.05$ for both effects). However, corrective information actually decreased parental intention to vaccinate among the group most concerned about the adverse effects of the vaccine (data from graph and text: +5% in the low-concern group vs –18% in the high-concern group; $P<.05$).

A presumptive approach works—but at a cost

A subsequent observational study videotaped 111 patient-provider vaccine discussions.[5] Researchers categorized the initiation of the vaccine discussion as presumptive (eg, "We have to do some shots.") or participatory (eg, "What do you want to do about shots?"). Using a presumptive style was more likely to result in acceptance of all recommended vaccines by the end of the visit (90% vs 17%; $P<.05$), but it decreased the chance of a highly rated visit experience (63% vs 95%; $P<.05$).

Recommendations

The 2015 Centers for Disease Control and Prevention (CDC) *Pink Book* recommends a combination of strategies, aimed at both providers and the public, for increasing and maintaining high immunization rates. The *Pink Book* advises providers to be ready to address vaccine safety concerns raised by parents.[6]

In a 2012 guideline, the CDC encouraged providers to listen attentively, be ready with scientific information and reliable resources, and use appropriate anecdotes in communicating with vaccine-hesitant parents.[7] The guideline recommended against excluding families who refuse vaccination from the practice. JFP

Although about a third of parents cite herd immunity as a motivation to vaccinate, its efficacy in addressing vaccine hesitancy isn't clear.

References

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