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Interventions that improve HPV vaccination uptake and intention: an umbrella review summary

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Background

Human papillomavirus (HPV) plays a role in nearly every instance of cervical cancer, approximately 90% of anal cancers, and a substantial proportion of oropharyngeal, penile, vaginal, and vulval cancers¹. The majority of

HPV-related cancers can be prevented through vaccination, particularly through gender-neutral HPV vaccination programmes, given during early adolescence². However, achieving HPV elimination calls for an 90% vaccination coverage

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rate among both girls and boys, a target that most countries fail to meet³. It is, therefore, critically important to understand factors that promote the uptake of HPV vaccination. Many researchers have focused their attention on this issue, and as a result, there is a significant amount of data that exists on the topic. These findings have all been gathered together and combined in various systematic reviews to give a better understanding of what works to promote HPV vaccination uptake. We conducted a comprehensive analysis (an umbrella review)^{4,5} of all the available research information published since 2011 that had already been summarised on the topic (in existing systematic reviews) to explore the various ways to encourage children, adolescents, and young adults aged nine to 26 years to get the HPV vaccine. We found 10 summaries of existing research that, between them, reported on 110 individual research studies which were published between 2004 and 2020.

Achieving HPV elimination calls for a 90% vaccination coverage rate among both girls and boys, a target that most countries fail to meet. It is, therefore, critically important to understand factors that promote the uptake of HPV vaccination.

HPV vaccine intention

Some research summaries have looked into people's willingness to get vaccinated (Figure 1). These summaries covered a wide range of educational efforts that aimed to encourage individuals to perceive the vaccination positively. The factors that affected these efforts included when, for how long, and how such information was presented.

Talking to people in person, and sometimes supplementing this with written information, using Facebook to initiate conversations, classroom-style group talks or role-playing (depending on who was involved), helped to encourage

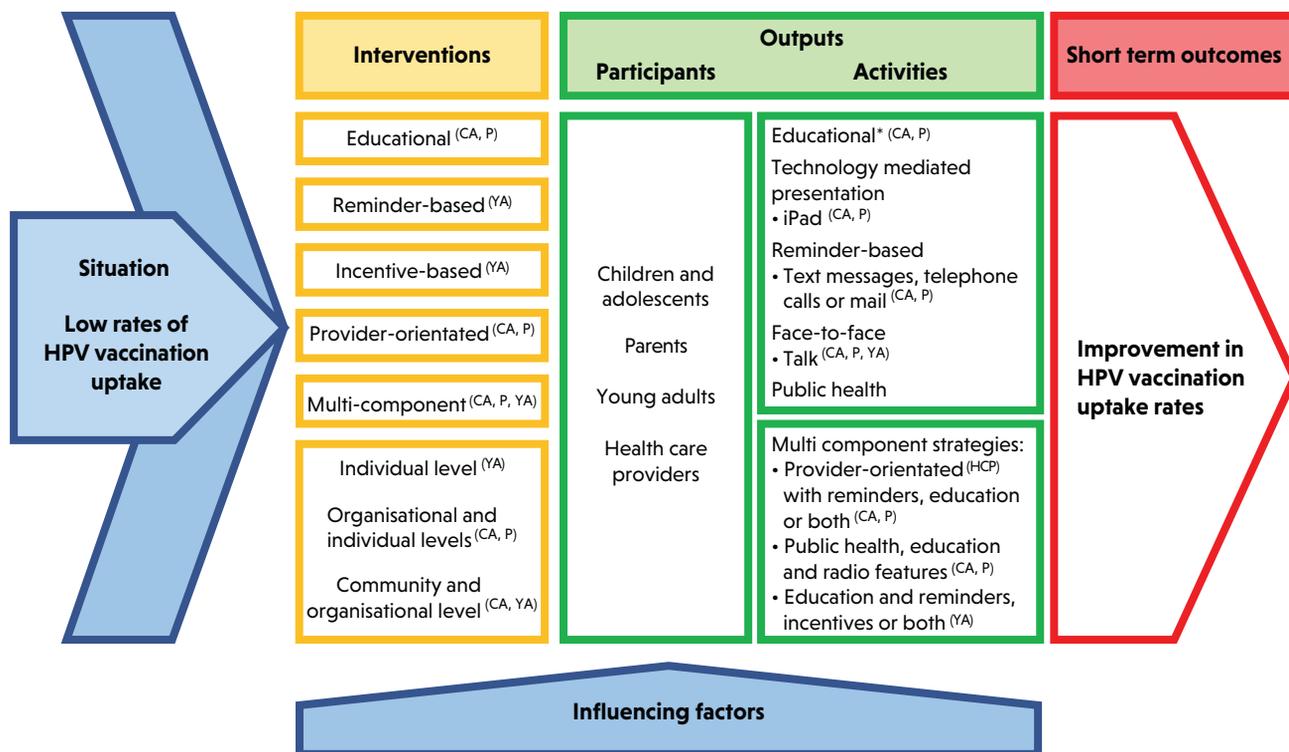
children, adolescents, parents, and young adults to consider getting the HPV vaccine. Handing out written materials, like pamphlets or booklets, sometimes with extra things like question-and-answer sessions and quizzes (depending on who was receiving the information) were effective in getting people to think about getting the HPV vaccine. Additionally, using technology like videos or iPads, sometimes along with written materials, helped convince children, teenagers, and parents to consider getting the HPV vaccine. For young adults, however, sending information through text messages helped them to become more interested in getting the vaccine.

Talking to people in person, and sometimes supplementing this with written information [...], helped to encourage children, adolescents, parents, and young adults to consider getting the HPV vaccine. For young adults, sending information through text messages helped them to become more interested in getting the vaccine.

Figure 1

HPV vaccine intent.⁴

Accronyms in brackets indicate population(s) for whom an intervention worked. CA: children and adolescents; P: parents; YA: young adults; HCP: health care providers; * no details of interventions.



Various methods were used to encourage people to be vaccinated (...): educational programmes, using technology to provide information, sending reminders, and offering rewards or incentives to individuals.

HPV vaccine uptake

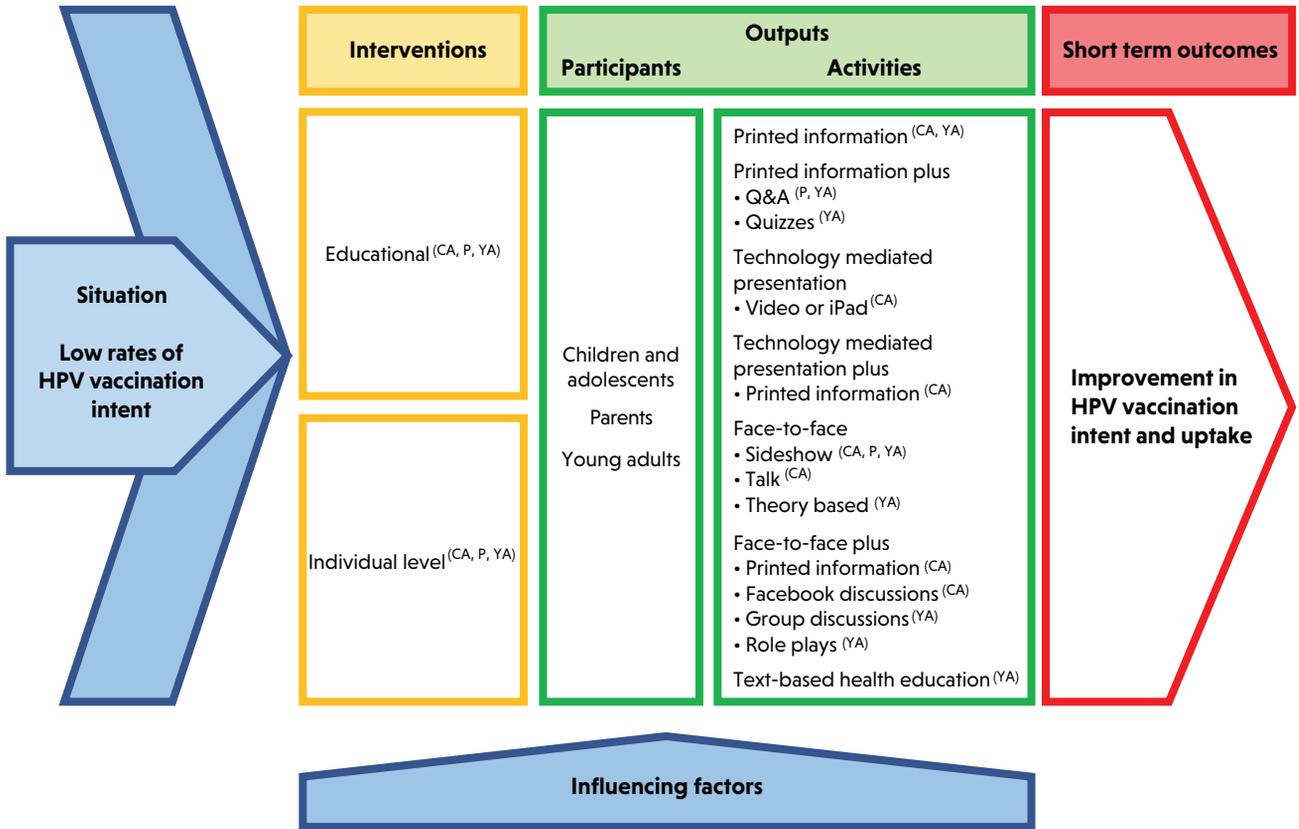
When looking at studies about vaccination uptake (Figure 2), we found that various methods were used to encourage people to be vaccinated. These methods included things like educational programmes, using technology to provide information, sending reminders, and offering rewards or incentives to individuals. In the educational programmes, some of the important things that affected their impact were the timing of the intervention, how information was given and who gave it. Other ways of encouraging

people to get vaccinated involved a combination of approaches, with strategies involving healthcare providers (professional education, using electronic health record reminders, vaccination coordinators, making home visits, using health information technology systems, nurse directives or protocols regarding HPV and having pre-written consent forms ready), public health initiatives and radio broadcasts which looked to effect change at both organisational and community level.

Figure 2

HPV vaccination uptake interventions.⁴

Accronyms in brackets indicate population(s) for whom an intervention worked. CA: children and adolescents; P: parents; YA: young adults; * no details of interventions.



There is no universal approach that guarantees success in increasing vaccination rates, as different situations and populations may require tailored strategies.

Conclusions

What we have found is that there is no single “magic bullet” solution to increasing HPV vaccination uptake or intention. There is no universal approach that guarantees success in increasing vaccination rates, as different situations and populations may require tailored strategies. However, talking to people in person, giving them written materials, and adding extra elements to these methods seem to help more to consider HPV vaccination. Additionally, the sending of reminders and using strategies that involve multiple parts, especially those that also involve healthcare providers, can be effective in encouraging vaccination.

More research is required to find out how well different methods work to encourage children, adolescents and young adults to accept the HPV vaccine. Most of the studies have taken place in the USA, with little evidence from Europe and less developed countries. ■

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