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How Can We Communicate About Vaccines With Adolescents and Their Parents?

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Abstract

Objective—To describe parents’ and adolescents’ perceptions about vaccination.

Methods—Qualitative interviews of 22 mothers/grandmothers and 25 10- to 14-year-olds.

Results—Themes emerged in 3 focus areas. (a) Understanding: Both adults and adolescents had difficulty understanding concepts of risks, benefits, prevention, and vaccination. (b) Decision making: Adults saw vaccination as an opportunity to help their adolescent develop skills for transition to adulthood. Adolescents worried about being lied to (reinforced by being told “it won’t hurt”), physical pain, and cleanliness. (c) Preventing sexually transmitted infections: Adults were divided between those who felt their child would not need such a vaccine and those who wanted to “be safe” to protect their child in the future.

Conclusions—At the same time that even basic concepts about vaccination should be explained to both adults and adolescents, adolescence represents a time for learning about responsible decision making. Discussion regarding the risks and benefits of vaccines can be part of transitioning to adult decision making.

Introduction

As new vaccines are added to the adolescent vaccination regimen,^{1,2} it has become especially important to overcome the challenges of communicating about risks and benefits of vaccines with adolescents and their families. These challenges are particularly prominent in light of publicity about both real and perceived risks of vaccination^{3–5} and because some vaccines are associated with the stigma of preventing sexually transmitted infections.^{1,2,6} Discussing vaccination with adolescents is especially difficult because of their distorted perceptions of risks and because adolescents spend little time thinking about preventive measures or risks and benefits of such measures.⁷ Nevertheless, adolescents need to understand about vaccines both for their own health and because they are the next generation of parents; their personal experiences with vaccination can shape their attitudes about vaccination for their own children (our unpublished data from a previous qualitative study⁴ regarding vaccination of infants).

Existing studies have not used qualitative techniques to broadly explore attitudes toward risk and benefits of vaccination from the point of view of the 10-year-old to 14-year-old targets of adolescent-vaccination programs and their parents.^{8–16} With the goal of informing strategies for vaccinating adolescents, we wanted to learn how both young adolescents and their parents perceived vaccination and the process by which they evaluated the risks and benefits of vaccination. The objectives of this study were to describe qualitatively both adolescents’ and parents’ (a) understanding of concepts related to vaccination, (b) decision

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making about vaccination, and (c) response to the idea of a vaccine that prevented a sexually transmitted infection.

Methods

Research Design

We performed a qualitative study during June to September 2003 by conducting open-ended interviews with 25 individuals 10–14 years of age and, separately, 22 parents (18 mothers and 4 grandmothers). We chose this approach because qualitative research strategies provide a framework for developing in-depth descriptions of social phenomena, comprehension, and behaviors that are based on complex beliefs and are difficult to measure in a standardized quantitative manner.¹⁷

Settings

The settings were a private practice in New Haven, Connecticut as well as the Adolescent Medicine Clinic at the Primary Care Center of the Yale–New Haven Hospital in New Haven. The private practice is a practice of 6 clinicians and serves suburban New Haven. The Adolescent Medicine Clinic at Yale serves as general medical clinic for inner-city adolescents in New Haven. All adolescents seen at the Yale–New Haven Hospital Primary Care Center are seen in the Adolescent Clinic; patients are insured through Medicaid, State Children’s Health Insurance Program (SCHIP), or not insured.

Subjects and Sampling

We chose participants using the qualitative technique of purposeful sampling.^{17,18} At the adolescent clinic at Yale–New Haven Hospital Primary Care Center, we approached all 10-year-olds to 14-year-olds being seen in the clinic during certain days of June to August 2003. At the private pediatric practice, we approached all 10-year-olds to 14-year-olds being seen during certain days of August and September 2003. All interviews were conducted by the same interviewer (ALB). In Connecticut in 2003, children should have received at least one vaccination against hepatitis B before entering seventh grade; thus participants may have had a recent experience with vaccination. Participants received a \$5 gift certificate to a local music store. We enrolled participants until no new concepts were identified by the additional interviews and the relationships among categories were well established, that is, theoretical saturation.¹⁷ We obtained written consent or assent from participants; the project was approved by the Yale School of Medicine’s Institutional Review Board.

Data Collection

Open-ended interviews were conducted using standardized interview guides. Questions included, “What are vaccines?” “Why do people need to get vaccines?” “Can you tell me about a time when you (or for parents: your child) got a vaccine?” We explored the details of their experience using probes that were designed to elicit attitudes to vaccination and experiences with communication about risks and benefits of vaccines. We also asked a question based on a hypothetical vaccine that mimicked the hepatitis B vaccine; the question was also followed by a series of probes to extract detail. Our goal with this question was to obtain ideas about vaccination that participants considered important without having them feel inhibited about discussing a vaccine that they may know as a requirement for school attendance. Plus, we wanted to hear how participants would respond to a possible vaccine against a sexually transmitted infection. We based this question on a vaccine like the hepatitis B vaccine so that it would parallel a real decision-making experience that participants would have had. We recognized that it was not a perfect parallel because the hepatitis B vaccine may not consistently be explained to parents in the context of sexually

transmitted infections; however, it was the closest real-life experience available to use to ground the question (human papilloma virus vaccine was approved in 2006—after our study). We audio taped the interviews, which were then transcribed in their entirety by an independent transcriptionist.

Data Analysis

We analyzed transcribed data using common coding techniques for qualitative data and the constant comparative method of qualitative data analysis.^{17,18} Using these techniques, as themes emerged, we created a detailed coding structure of themes expressed by the adolescents and parents and categorized themes into broader topic areas. To construct the coding structure, 2 researchers (ALB, ACW) independently read each of the transcripts line-by-line to identify themes. They then met and developed the coding structure through a negotiated process and iteratively revised it as new insights were elicited. It was reviewed several times by all members of the research team; and coded data was entered into a software package (NUD*IST, QSR N6, Doncaster, Victoria, Australia). To ensure that data analysis was systematic and verifiable, we used interview guides, audio taped the interviews, had the interviews transcribed by an independent transcriptionist, and tracked analytic decisions and changes in the coding structure. To minimize threats to validity, we used purposeful sampling, all coding was performed by 2 researchers, and all members of the research team reviewed the code structure.^{18,19}

Results

Of the 25 adult–adolescent sets approached, one set and one mother refused to participate; all participating adolescents were vaccinated (see Table 1 for characteristics of participants). The results will be described according to the 3 topic areas in which themes emerged and that served as the focus for the study: (a) understanding of concepts related to vaccination, (b) decision making about vaccination, and (c) response to the idea of a new vaccine for a sexually transmitted infection (Table 2).

Understanding of Concepts Related to Vaccination

Adults and adolescents had trouble understanding the concepts of risks, benefits, and what vaccines are. Most parents and adolescents could list benefits of vaccination and a few could list risks. However, many did not understand the actual terms risk and benefits. To discuss these issues, we had to use other words, for example, “good side,” “problems.” When we asked them to define the words, “risk” and “benefit,” many could not. Many participants were confused about what are vaccines and frequently mistook other things as vaccinations. For example, depo-provera, phlebotomy, and testing for tuberculosis were consistently listed as being vaccines.

We asked parents and adolescents why vaccines are recommended. Adults understood that the reason to vaccinate their children was to prevent disease. Parents’ desire to vaccinate and thereby protect their child from disease was heightened by their sense that germs are prevalent everywhere and that life is unpredictable. The following quotes are from 3 different mothers expressing this sentiment:

I want him to get it to protect him from more sickness out in the street or in school or whatever.

Because they’re drinking out of each other’s water bottles in slurps and there’s lots of close quarters, close contact.

The thing about it is, you don’t know what may happen ... We can’t be prepared for everything ... we’re living in some serious times right now.

When we asked adolescents why vaccines are given to them, they gave a variety of responses: so that they could go to school, to prevent them from getting sick, to test for diseases, or they did not know why they got vaccinated.

Decision Making About Vaccination

Adults—Adults accepted vaccination as a routine part of life and not as something they truly made a choice about. As one mother said,

I felt that she had to get it. So I don't think I did have a choice. I think she had to have it for school purposes, and for her welfare, in case she got hurt, playing somewhere or stepped on something ... It's almost like second nature. You know, you go to the doctor; your kid gets a shot.

At the same time, both inner-city and suburban mothers saw it as an opportunity for an educational time with their child. The following are quotes from 2 different mothers:

It gave me a chance to talk to him about hepatitis B ... he's entering the teen years and he'll be going to college. He got the hepatitis shot ... it's for their protection from everything that he knows. I talk to them about sex. There could be beautiful women out there, beautiful young ladies that could have AIDS virus or whatever and they could catch it.

Similarly, these adults felt it was a time to begin to help their adolescent have some responsibility and to develop skills for transition to adulthood.

By her getting older, she needs to think for herself now [about getting vaccinated]. She's like 13 now ... How's she going to help herself if she won't think for herself ... They got to be accountable for something—for what they're doing ... If you're 16, you're going to jail. You're going to be charged like an adult.

Adolescents—The majority of adolescents felt that decision making should be in the realm of adults. For example, one boy said,

Cause he [in reference to a friend] might not take the needle. He might be scared and ... then he's going to wind up having a disease. So I think someone that's older than him should make the decision.

But having adults make decisions for these adolescents presented a conflict for them and represented a tension with their developing sense of having control over their own bodies. As one girl said, "A lot of people say, 'Oh, it's my body,' and stuff like that, so I should choose what happens to my body." Adolescents also felt that their parents might not be able to make the best decisions for them because their parents do not always know what they are doing. As one boy said, in reference to a friend, "There might be things that his parents might not know about—like, especially, drugs and stuff. And so it's partly his decision." In addition, adolescents expressed concerns that they were being deceived or lied to in the vaccination process and being told that "it won't hurt" reinforced their sense of deception.

These adolescents studied were focused on the needle. They consistently worried about physical pain and the size of the needle, and they worried that the needle could be dirty. One adolescent said, "I don't like shots too much ... I just don't like needles. But it doesn't hurt, once it's done ... I just don't like the thought of them going into my skin." Another explained, "Like dirty needles or things, contamination. I mean, they're putting a foreign substance through a needle into your blood."

Despite acceptance of a disenfranchised state with regard to determining whether they would be vaccinated, adolescents expressed a developing awareness of why vaccines were important.

It's something you have to do. The whole two seconds that I was getting the shot, maybe I didn't like it ... Two seconds, but it's going to help you in the long run.

Response to Idea of Vaccine for a Sexually Transmitted Infection

Adults—In response to the hypothetical scenario that described a vaccine for a sexually transmitted infection and the question of how they would decide whether to have their adolescent vaccinated, adults had 2 types of responses that we have labeled: “rejection” (believing that their child would not need that vaccine) and “be safe” (a vaccine like that would be great to protect child in the future). The following quotes are from 2 different mothers in the “be safe” category who wanted to protect their adolescent because they felt that one can never know what will happen:

I'd say yes because ... you talk to your kids and you tell them the danger of stuff, but when they're behind your back, then they do something different.

I feel we have a very good communication between us, but it could happen. Especially the sexual. Hopefully, they won't be on drugs either, but you never know. But the sexual part of it, I mean, some day they're going to be exposed to it.

The following quotes are from mothers in the “rejection” category, mothers who felt that their child would not be at risk for a sexually transmitted infection.

I know she's not going to go out and have unprotected sex ... So I don't know if I'd say, “Yeah, give it to her.” ... I mean, you know, just because you want to protect some kids who are sexually active, well, my child isn't ... I'm not going to give my daughter a vaccine that she might not need.

We talk about not doing drugs and abstinence. And we're really strict on that. He talks about it and we do talk about this type of thing. So we wouldn't figure he'd be at risk for that type of disease.

For these mothers, their response to the hypothetical scenario did not match reality because adolescents studied had been vaccinated against hepatitis B.

Adolescents—In response to the scenario about a vaccine to prevent a sexually transmitted infection, adolescents had ideas about the pros and cons of such a vaccine. Pros included “just get it and do what needs to be done,” “get the shot to keep healthy in the future,” “better safe than sorry,” and “get it if you can afford it.” Adolescents' ideas about the cons included “I would never do sex or drugs so I don't need it,” worry that they might get something from the shot, worry that it might be the wrong shot, feeling that sometimes adults lie to children hence the adolescent might not be told the truth about the injection, “don't take anything if healthy now,” worry about it hurting, and worry about needle.

Discussion

We described themes in 3 topic areas regarding vaccination of adolescents: understanding of vaccination, decision making about vaccination, and ideas about vaccines for sexually transmitted infections. The themes that emerged in each of these areas can inform the planning and implementation of campaigns to vaccinate adolescents.

This study is unique in examining the degree of understanding of the younger adolescent with regard to vaccination. Older adolescents (~18 years old) are known to have poor

knowledge about vaccination^{9,20} and our findings suggest that younger adolescents additionally have poor knowledge about vaccination and may be confused about whether they are receiving a vaccine, depo-provera, a test for tuberculosis, or undergoing phlebotomy. Because teens have little knowledge about vaccines and a limited understanding of the concepts of risks and benefits, health care providers will need to present information in a very concrete manner.

Ideas about decision making regarding vaccination were dominated by adolescents' attention to the cleanliness and honesty of providers. Studies have shown that when adolescents seek health care it is important to them that providers wash their hands and use clean instruments.^{21,22} Our observation that adolescents worry that needles used for vaccinations may be contaminated could be addressed during health care visits as part of a greater reassurance about and demonstration of the cleanliness of office practices. Existing data also shows that adolescents prefer providers who are honest and respectful;^{21,22} we found that adolescents were skeptical of being told that the injection will not be painful. This experience left them feeling deceived—possibly undermining any positive messages about the decision for vaccination—and suggests that providers use careful attention to word-choice when explaining vaccinations or other aspects of health care.

Decision making for adolescents was also entangled with their developmental process. Just as other authors have shown that older adolescents have low self-efficacy regarding hepatitis B vaccination,^{9,20,23} we found that adolescents are conflicted between the feeling that the adults should make the decision regarding vaccination for them and the emerging idea that they should be taking more responsibility for their own bodies. This conflict is appropriate for their developmental stage and may provide an opportunity to reinforce ideas that they should be learning to take responsibility for their bodies.

Because the study was conducted at a time when the approval of the human papilloma virus vaccine was impending, we were interested in perceptions related to vaccination against sexually transmitted infections. Several studies examining parents' perceptions of vaccines for adolescent-sexually transmitted infections have found, as we did, that many parents will accept these vaccines because they want to protect their children against disease.^{14,24–30} Our data suggest that even when parents “rejected” their adolescent's need for a vaccine against a sexually transmitted infection, these adolescents had received hepatitis B vaccine. This phenomenon may be explained by our finding that parents perceive vaccination to be a routine part of medical care. In contrast, because the vaccine against human papilloma virus is more overtly targeted at a sexually transmitted disease, vaccination rates have been threatened by associated stigma and concerns of sexual promiscuity.^{31,32} From our data, we can speculate that finding ways to administer that vaccine as part of a routine package of adolescent care may improve uptake.³¹

Despite a lack of clarity in the literature regarding the extent that directed education about vaccination is effective in improving understanding of vaccination and in supporting decision making around vaccination,^{24,33} both adolescents and their parents are interested in using the process of vaccination as an opportunity for education about vaccine-preventable diseases and about health care in general. Educational efforts are challenged by how little time is available during well-child checks^{34–36}: the challenge for taking care of these early adolescents is to develop a way to integrate educational issues for both parents and adolescents in a manner that is not overly burdensome for clinicians while also being effective for families. Pediatric providers may be able to use known predictors of parents who will “reject” vaccination to help identify those who will need extra care with communication about these vaccinations.^{14,27,33} In particular, having a standing, trusting

relationship with their provider plays an important role in parents obtaining vaccinations for their children—and reflects the importance of providers' viewpoints.^{4,33,37–39}

Our findings should be considered in light of limitations to generalizability and validity. In this study, we included a modest sample of English-speaking participants from families where children were typically vaccinated, who lived in one geographical area, and the adults were all female. However, the generalizability of qualitative research is not intended to derive from a random sample of patients who would be statistically representative. Instead, by using purposeful sampling and sampling to the point of theoretical saturation, a qualitative study describes in-depth a full range of attitudes to create a theoretical understanding of an issue. Because our data were collected before the vaccine against human papilloma virus was available, we cannot present a robust picture about how parents respond to that specific vaccine against a sexually transmitted illness. To maximize validity of the explanations of the data we collected, we used the methodological techniques of purposeful sampling, grounded theory, and coding by two researchers. Moreover, our findings are both credible as well as consistent with those of published studies using varied methodological approaches.

Implications

Expanding the immunization regimen for adolescents involves addressing controversial issues of politics, ethics, consent, sexuality, school-entry, and cost-effectiveness, as well as medical home and other delivery models.^{2,40–50} As the medical and public health communities work to address these issues, the findings from this study have several implications that can enhance the communication component of vaccinating adolescents. Even basic concepts should be explained to both adults and adolescents, communication should be concrete and rely on simple terms, and discussions regarding the risks and benefits of vaccines can be integrated as part of transitioning to adult decision making. Perception of the routine nature of vaccination will work in favor of vaccination programs for adolescents. Approaches for including adolescents in discussions about vaccination should be based on minimizing their sense of deception, addressing their fears of contaminated needles, validating their fear of pain, explaining vaccination to them in concrete terms, and acknowledging that parents do not always know what adolescents are, or will be, doing. Communication regarding new vaccines should address parents' desires to protect their children for the future when parents may no longer be nearby and can encourage parents to use vaccination as an opportunity to teach their children about decision making as well as about sexually transmitted infections.

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Table 1

Characteristics of Participants

Characteristic	Adolescents	Adults
Number of participants	25	22
Age in years, median (range)	12 (10–14)	42 (33–57)
Associated with hospital-based clinic, n	16	14
African American or Black, n	16	13
White, n	5	7
Hispanic, n	4	2

Table 2

Ideas Regarding Vaccination of Adolescents: Adolescents and Parents

	Topic Areas		
	Understanding of Concepts About Vaccinations	Decision Making About Vaccination	Ideas About Vaccine for a Sexually Transmitted Infection
Adults	<ul style="list-style-type: none"> • Had difficulty understanding concepts of vaccines, risks, benefits • Why do people get vaccines?: to prevent disease 	<ul style="list-style-type: none"> • Routine part of life, not a choice • Opportunity to educate adolescent and to work on transitioning to adult decision making 	<ul style="list-style-type: none"> • Reasons for acceptance of vaccine: to be safe and to protect adolescent in future • Reasons for rejection of vaccine: adolescent does not need it
Adolescents	<ul style="list-style-type: none"> • Had difficulty understanding concepts of vaccines, risks, benefits • Why do people get vaccines?: so that they can go to school, to prevent disease, to test for disease, or did not know why vaccinated 	<ul style="list-style-type: none"> • Adults should make decision • But adults do not always know what is best for adolescent • Feel a conflict with learning to take responsibility for their bodies • Afraid of needle, afraid of contamination of the needle 	<ul style="list-style-type: none"> • Reasons for: disease prevention, get it over with, okay if can afford it • Reasons against: do not need it, worry that would get sick from it, worry that being deceived, worry about needle