

FACTORS INFLUENCING CHILDHOOD VACCINATIONS

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ABSTRACT

Aim. Examination of parental perspectives on vaccination. *Materials and Methods.* Administering a survey to 980 parents residing in Tashkent and evaluating their results. *Outcomes.* The medical expertise of parents was examined. Increased medical education among parents correlates with greater responsibility in immunization practices. *Conclusion.* Enhancing parental access to information through media and social networks will result in a rise in vaccination rates.

Key words: Immunization, vaccination, vaccine, national immunization calendar.

INTRODUCTION

A rising unfavorable sentiment against the active immunization of children is evident globally, despite the clear medical and social efficacy of vaccination. Discussions concerning the adverse effects of vaccines, which mislead parents into believing that vaccines may be detrimental, are founded on erroneous information from questionable online sources, interviews with popular yet frequently unqualified individuals, and media content that blatantly misrepresents the findings of scientific studies. Certain parents advocate for unconventional approaches to preventing infectious diseases, employing measures that diverge significantly from medical practices [1]. Claims that immunizations induce side effects must be substantiated by credible and dependable scientific evidence. Nonetheless, the mere presence of evidence demonstrating the safety and efficacy of vaccines does not invariably persuade parents to immunize their children. This paper not only presents critical vaccine safety data but also examines the significant role of communication,

particularly dialogue, in fostering public confidence in vaccination, ultimately aiming to enhance vaccination coverage and avert future outbreaks of vaccine-preventable diseases [2].

Children cared for by parents or nannies exhibit a lower immunization coverage compared to those enrolled in public preschools. Parents who homeschool their children exhibit excessive caution with immunizations due to concerns about their potential effects on their children's health. [3, 4]

Aim.

To examine the influence of parental attitudes towards vaccination and medical knowledge on vaccination rates in children. To formulate strategies based on the acquired results.

Materials methods.

Interview. A survey was administered to parents to assess their views on child vaccination. The questionnaire comprised 30 enquiries, encompassing general information on parents and children, parental education and attitudes towards immunization, along with specialized questions pertaining to the organizational facets of vaccination. The research encompassed 980 parents who attended family clinics in Tashkent. Among these, 570 individuals in the control group received all vaccinations. The offspring of the remaining 410 mothers did not receive all immunizations mandated by the national vaccination schedule (patient group). Analysis of data. Method of case-control study. Comprehensive indicators and their associated errors were computed to analyse the acquired data. The odds ratio was utilised to compare indicators between the main and control groups. The Student's t-test was employed to evaluate the disparity between indicators ($p < 0.05$). A link among the indicators was also discovered.

Results and discussion.

The majority of mothers in both groups said that they believe they possess adequate knowledge regarding immunizations when queried about their understanding of the subject (Figure 1).

The results indicate that, in the primary group, women who deemed their knowledge level adequate were 1.2 times fewer than those in the control group. Individuals with inadequate knowledge were 1.8 times more prevalent. The statistics indicate that enhancing parents' understanding of vaccination positively influences the efficient execution of immunization initiatives (IN-2.0) ($p < 0.001$). When enquired regarding adverse effects following vaccination, the statistics contradicted the aforementioned findings. It was determined that $92.4 \pm 1.0\%$ of moms in the experimental group and $78.2 \pm 2.1\%$ of those in the control group were cognizant of various adverse effects ($p < 0.001$). The remaining respondents indicated a lack of

adequate information regarding side effects. The plethora of information on adverse effects cultivates a negative perception of vaccination and results in a postponement of its timely administration (OR-2.2) ($p<0.001$).

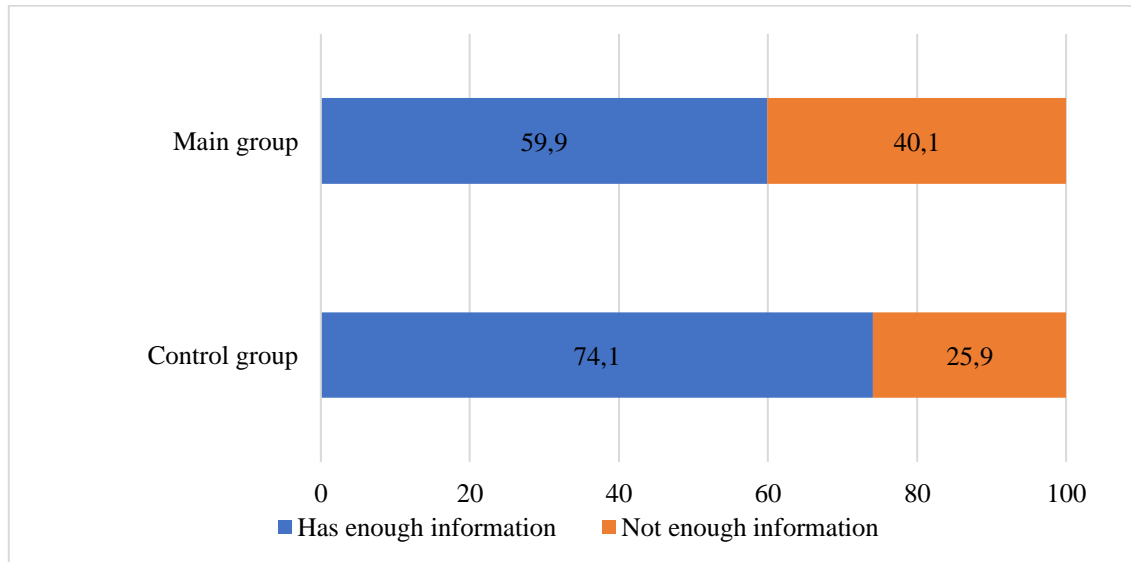


Figure 1. Distribution of respondents according to subjective assessment of their vaccination knowledge (%).

The subsequent conclusion can be derived from the results obtained. The timeliness of immunizations is influenced not only by external factors but also by mothers' understanding of vaccine consequences. The significant percentage of individuals in the primary group who are aware of this is attributable to their conviction that side effects are overstated or that infrequent adverse occurrences are prevalent. When queried about the source of their knowledge of side effects, many indicated that they had not consulted scientifically grounded materials. This implies the necessity to oversee information channels regarding immunization for mothers and furnish them with trustworthy information.

Upon analyzing the sources of information regarding vaccinations for parents, $49.8\pm1.9\%$ of the primary group indicated that they obtained information directly from healthcare experts. The percentage of these moms in the control group was almost 1.5 times more, amounting to $75.9\pm2.6\%$. $58.8\pm1.8\%$ of the main group and $28.6\pm2.9\%$ of the control group claimed that their moms independently sourced the requisite information from the Internet. The deficiency of knowledge on vaccinations from healthcare experts adversely impacts efforts in this domain (OR-3.1) ($p<0.001$). These findings reaffirm the aforementioned conclusions regarding the necessity of regulating the sources and dissemination of information. We assert that it is essential to focus on the role of physicians in enhancing public education regarding vaccinations, hence facilitating the dissemination of accurate information throughout the community.

Simultaneously, most parents indicated a wish for increased information regarding immunoprophylaxis. The indicator was $87.7 \pm 1.0\%$ in the main group and $83.1 \pm 1.9\%$ in the control group. The significant percentage of individuals interested in receiving information inside the groupings is a crucial aspect influencing the potential for propaganda efforts. The majority in both categories deemed it essential to enhance knowledge dissemination via the media. The indicator was $98.0 \pm 0.6\%$ in the experimental group and $89.7 \pm 2.0\%$ in the control group. This, consequently, signifies the necessity of delivering useful information via the media.

Vaccinations are administered at no cost to the populace and are financed by the government. The survey revealed that $98.5 \pm 0.4\%$ of the primary group and $97.1 \pm 1.0\%$ of the control group were aware of this issue.

Parental awareness of the national immunization schedule was $95.2 \pm 0.7\%$ in the main group and $84.3 \pm 2.2\%$ in the control group ($p < 0.001$). The diminished percentage of individuals in the control group who regarded themselves as knowledgeable about the national vaccination schedule, in contrast to the primary group, can be attributed to the latter's self-perception of awareness despite their inadequate understanding. The result was derived from the observation that among parents who claimed awareness, $76.6 \pm 1.4\%$ could not identify more than three immunizations, compared to $30.7 \pm 2.8\%$ in the control group.

In a research examining awareness of post-vaccination problems, $95.6 \pm 0.7\%$ of the study group and 86.4% of the control group indicated familiarity with the subject. The groups exhibited a statistically significant difference in this parameter ($p < 0.001$) (Table 1).

Table 1.

Distribution of parents' answers to the question "Do you know about post-vaccination complications" (%).

Are parents aware of post-vaccination complications?	Main group n=960		Control group n=960		Absolute risk	Relative risk
	Absolute	%	Absolute	%		
Yes	918	$95,6 \pm 0,7$	242	$86,4 \pm 2,0^{***}$	1,1	7,1
No	16	$1,7 \pm 0,4$	30	$10,7 \pm 1,8^{***}$	0,2	
I do not have complete information	26	$2,7 \pm 0,5$	8	$2,9 \pm 1,0$	0,9	

Note. *- difference between groups is reliable, * - $p < 0,05$, ** - $p < 0,01$, ***- $p < 0,001$.

The findings can be encapsulated as follows: The significant proportion of individuals in the primary group who perceive themselves as informed about post-vaccination complications can be attributed to their exposure to various unfounded and exaggerated claims regarding vaccination on the Internet, leading them to consciously postpone their children's vaccinations to some degree.

The percentage of respondents in the main group who affirmed their awareness of vaccination based on epidemiological indications was significantly greater than that in the control group, at $90.8 \pm 0.9\%$ compared to $83.6 \pm 2.2\%$ ($p < 0.01$).

In response to enquiries regarding their views on preventive vaccination, $77.2 \pm 1.4\%$ of mothers in the main group and $92.1 \pm 1.6\%$ of mothers in the control group conveyed a favorable viewpoint. The percentage of individuals in the control group with a favorable view of vaccination was statistically substantially distinct from that of the main group ($p < 0.001$). The remaining respondents had a negative viewpoint on this matter. Analysis of the factors contributing to negative opinions revealed that a majority ($74.5 \pm 2.8\%$) feared potential consequences post-vaccination, while ($14.2 \pm 2.5\%$) expressed distrust in the expertise of medical professionals. The remainder provided several alternative justifications. A significant proportion of parents with a favorable perspective (89.4 ± 1.7) expressed their belief that immunizations will safeguard their children against infectious diseases.

Table 2 presents parents' comments on their knowledge of the vaccine name administered to their child and the country of its manufacture.

Table 2.

Distribution of parents by their knowledge of the names or country of manufacture of vaccines their children received (%).

Do parents know the information about the vaccines their child has received?	Main group n=960		Control group n=960		Absolute risk	Relative risk
	Absolute	%	Absolute	%		
Yes	618	64.4 ± 1.5	156	$55.7 \pm 3.0^*$	1,2	3,7
No	102	10.6 ± 1.0	76	$27.1 \pm 2.7^{**}$	0,4	
I forgot	240	25.0 ± 1.4	48	$17.1 \pm 2.3^*$	1,5	

Note. * - difference between groups is reliable, * - $p < 0,05$, ** - $p < 0,01$, *** - $p < 0,001$.

The percentage of parents informed about vaccines in the main and control groups was $64.4 \pm 1.5\%$ and $55.7 \pm 3.0\%$, respectively, with a statistically significant difference observed between the groups, favoring the main group ($p < 0.05$). The greater percentage of parents in the primary group who were aware of the vaccines their children had received compared to the control group can be attributed to the tendency of individuals with a negative attitude towards vaccination to consciously recall them due to apprehension regarding potential problems. This finding suggests that, while the percentage of parents with children who had immunizations late exceeds that of parents harboring negative attitudes towards vaccination, they exhibit a greater willingness to acquire knowledge regarding vaccinations. Delivering accurate information regarding vaccination to these parents is crucial for the prompt and efficient execution of vaccination efforts.

It was determined that $92.7 \pm 0.8\%$ of parents in the primary group and $70.0 \pm 2.7\%$ of parents in the control group were aware of the precise dates of their children's vaccinations. The primary group exhibited a statistically significant higher indication compared to the control group ($p < 0.001$). The parents of children who had late vaccines were more aware of their children's vaccination dates than the control group, likely because they adopted a more responsible attitude towards further immunizations following the delays. Furthermore, when parents unaware of vaccination dates were enquired about their lack of interest in this information, the majority ($72.5 \pm 1.8\%$) indicated that nurses routinely inform them of vaccination dates, thus diminishing their effort to memorize them. The timely information disseminated by patronage nurses regarding vaccine deadlines enhances the population's trust in primary health care professionals and motivates them to receive vaccinations punctually.

Conclusion. 1. According to parents' self-evaluation of their vaccination knowledge, it was noted that in the primary group, moms who deemed their information adequate were 1.3 times less prevalent than in the control group, while those with inadequate knowledge were 1.6 times more likely to be present. Enhancing parents' understanding of vaccination positively influences the efficient coordination of immunization initiatives.

2. Parents possess numerous avenues to get knowledge regarding vaccinations and their associated complications, with the Internet serving a pivotal role in this context. Without credible and accurate information from physicians, parents would remain susceptible to false and exaggerated claims on the side effects and problems of vaccination, adversely affecting vaccination rates.

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