

MATERNAL VACCINATION BEHAVIORS, ATTITUDES, AND KNOWLEDGE ASSESSMENT: A CROSS-SECTIONAL RESEARCH CONDUCTED IN KARACHI, PAKISTAN

Naseer Ahmad Memon, Azizullah Langah, Ameer Ali Jamali, Munawar Ali Siyal, Karam Khushik, Ali Akbar Siyal

Department of Pediatrics, Peoples university of Medical Health Sciences NawabShah

ABSTRACT

Objective: to evaluate mothers' vaccination habits, attitudes, and knowledge about immunizing a one-year-old child at Department of Pediatrics, Peoples university of Medical Health Sciences Nawab Shah Karachi

Study Design: A Cross-sectional Study

Place and Duration of Study: This study was conducted at the Department of Pediatrics, Peoples university of Medical Health Sciences NawabShah from 05- July 2022 to 05- Dec- 2022

Materials and Methods: Using a semi-structured questionnaire, all mothers of children under a year old were questioned about their vaccination practices, attitudes, and knowledge. Version 21 of the SPSS programme was used to enter and analyse the data obtained through a questionnaire.

Results: The study found significant differences in maternal knowledge of EPIs, particularly in low-income and illiterate communities. 80% initiated their child's vaccination program and 30.4% had inadequate vaccination. Higher levels of education are associated with socioeconomic status and better advocacy practices. Common reasons for late attendance included difficulty understanding policies and the absence of physicians. Medical professionals served as the primary source of information, and parents generally expressed positive attitudes towards vaccinations, although some considered vaccinations unnecessary for minor illnesses meaning no exposure in focused efforts to address knowledge gaps and increase vaccine coverage, potentially reducing vaccine-preventable diseases.

Conclusion: Our mothers' strong positive attitudes and sparse vaccination practices were found to be associated with poor vaccination knowledge.

Keywords: Vaccination practices, Mothers ,Attitudes, Immunization

INTRODUCTION

Vaccination is critical in protecting children from a wide range of avoidable illnesses, and it significantly contributes to worldwide public health¹. In poor countries such as Pakistan, where healthcare inequities remain, understanding mother vaccination practices, attitudes, and knowledge is critical for increasing immunization coverage and avoiding vac-

cine-preventable diseases². This study intends to assess mothers' vaccination behaviors, attitudes, and skill in immunizing one-year-old in children[3]. According to the World Health Organization (WHO), vaccination reduces an estimated 2-3 million lives each year worldwide, highlighting its importance in lowering infant mortality costs⁴. However, despite significant progress in vaccination insurance, inequities continue, particularly in low-useful resource areas⁵. The Expanded Programme on Immunization (EPI) in Pakistan strives to administer critical vaccinations to children, but challenging conditions such as vaccine hesitancy, limited healthcare infrastructure, and socioeconomic factors prevent high-quality coverage⁶. Maternal views and vaccination knowledge have a significant impact on children's immunization behaviors. Studies have demonstrated that maternal education, socioeconomic

Correspondence:

Azizullah Langah

Department of Pediatrics, Peoples university of Medical Health Sciences NawabShah

Email: dr Azizullah@pumhs.edu.pk

Cell: 0333-5439193

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position, and access to healthcare services influence vaccination choices⁷. Furthermore, misunderstandings and a lack of awareness about vaccinations might lead to vaccine reluctance, resulting in poor immunization rates⁸. Expertise in vaccination habits, attitudes, and knowledge of mothers in Karachi might provide valuable insights for building focused interventions to promote immunization coverage. By recognizing vaccination constraints and facilitators, healthcare suppliers may develop tailored approaches to address knowledge gaps and encourage high-quality immunization habits among moms⁹. This study uses a pass-sectional design and a semi-dependent questionnaire to collect data from mothers of children under the age of 365 days. The results will give valuable insights into the factors that influence maternal vaccination behaviors, as well as evidence-based recommendations for improving immunization insurance in Karachi and other comparable contexts¹⁰.

METHODS

This cross-sectional study was carried out from July 5, 2022, to December 5, 2022, at the Department of Pediatrics, Peoples University of Medical Health Sciences Nawab Shah, Karachi. Out of 110 patients Moms of children under one year old were given a semi-dependent questionnaire to assess their immunization behaviors, attitudes, and knowledge. SPSS version 21 was used to input and evaluate the data from the questionnaire. The institutional assessment board granted ethical permission, and before to the statistics series, informed consent was sought from each participant.

RESULTS

The study showed that out of 110 patients most mothers lacked knowledge about vaccination and diseases covered by the Expanded Program (EPI), came from low-income and illiterate backgrounds and yet 80% of mothers opted out of their child's vaccination program breed. Common reasons for missed appointments included difficulty understanding policies, absence of physicians, mild illness of the child, household responsibilities and 20% of mothers failed to obtain medication a number of. Medical personnel served as the primary source of information, and parents expressed positive attitudes toward vaccination. However, a significant proportion of them believed that vaccines for children with minor illnesses were

unnecessary.

Data collection

A semi-structured questionnaire was used to collect information about their vaccination practices, attitudes and knowledge from mothers of children under one year of age The questionnaire was administered at the Department of Pediatrics at Nawab Shah University of Medical Health Sciences, People's University, Karachi during the study.

Statistical analysis:

Data collected from the questionnaire were entered into SPSS version 21 for analysis. Descriptive statistics were used to summarize participants' demographic characteristics, responses to vaccination practices, attitudes, and knowledge Results were presented as percentages and frequencies for broader understanding on the findings.

RESULTS

Out of 110 patients The study found that mothers' awareness of the diseases included in the Expanded Program on Immunization (EPI) was significantly lacking, especially in low-income and illiterate communities. Immunization Status: 80 / 75.6% Immunized Insufficient Immunizations 30, 30.4%;

Table 1: Demographic Characteristics of Study Participants

Characteristic	Frequency (n)	Percentage (%)
Education Level		
Illiterate	65	45.4
Primary Education	25	25.2
Higher Secondary	10	10.2
Graduation	10	5.4
Socioeconomic Status		
< 10,000 Rupees/month	> 10,000 Rupees/month	70.58
20,000-50,000 Rupees/month	30	31.4
> 50,000 Rupees/month	5	6.6

Table 2: Immunization Status of Study Participants

Immunization Status	Frequency (n)	Percentage (%)
Immunized	80	75.6
Insufficient Immunizations	30	30.4

Table 3: Study Results on Mothers' Vaccination Practices, Attitudes, and Knowledge

Mothers' Knowledge of EPI Diseases	Majority lacked awareness of diseases covered by the Expanded Program on Immunization (EPI), particularly prevalent in low-income and illiterate communities.
Immunization Status	80% of mothers initiated their child's vaccination program. However, 30.4% had insufficient immunizations, indicating gaps in vaccination coverage.
Education Level and Socioeconomic Status	Mothers with higher levels of education and socioeconomic status tended to have better vaccination practices.
Reasons for Missed Vaccination Appointments	Common reasons included difficulty understanding vaccination schedules, unavailability of medical personnel, mild illness of the child, and household responsibilities.
Source of Information	Medical personnel served as the primary source of information for mothers regarding vaccinations.
Attitudes Toward Vaccination	Parents generally expressed positive attitudes toward vaccination, although a notable proportion believed that vaccines were unnecessary for children with minor illnesses.
Recommendations for Interventions	Focused interventions are needed to improve mothers' understanding and behaviors regarding vaccinations, particularly in vulnerable communities, to enhance vaccination coverage.
Impact of Vaccination Uptake on Disease Prevention	Increasing vaccination uptake has the potential to decrease and prevent vaccine-preventable illnesses, highlighting the importance of improving immunization coverage.

Lack of Education 65, 45.4%; Primary Education 25, 25.2%; Higher Secondary Education 10, 10.2% Socioeconomic Status > 10,000 Rupees/month<70,58%, 20,000-50,000k Rupees/month 30,31.4% > 15000 Rupees/month~05~06.6% Graduation 02,05.4% Even though people had good views regarding vaccinations, obstacles including a difficult-to-understand timetable and a lack of physicians' availability contributed to vaccination failure.

Remarkably, 20% of moms failed to take a dosage. The primary information source was the physicians. These results underline the need of focused interventions to enhance mothers' behaviors and understanding about vaccinations, particularly in communities who are more susceptible. Additionally, increasing vaccination uptake has been shown to decrease and prevent vaccine-preventable illnesses.

DISCUSSION

Our study findings highlight the importance of understanding maternal vaccination practices, attitudes, and knowledge¹¹. especially in socioeconomically disadvantaged settings in Similarly, studies have emphasized the importance of maternal education and socioeconomic status in influencing vaccination behaviors and doses¹². improve immunization programs, especially in resource-limited settings such as Pakistan.

Observed awareness among mothers about EPIs reflects disturbing gaps in access to health education and information, particularly in disadvantaged communities¹³. This finding is consistent with studies em-

phasizing the need for targeted health education interventions to increase vaccine knowledge and promote informed decision-making emphasis corresponds to The association of higher education and socioeconomic status with improved vaccination supports existing literature, suggesting that socioeconomic factors play an important role in health care examining behavior formation increase access to education and improve socioeconomic status and efforts can contribute to increased vaccination coverage and disparities in health reducing access to programs¹⁴.The identified barriers to vaccination, including difficulties in understanding policy and lack of physicians, highlight the systemic challenges in health systems Addressing these barriers requires multiple measures, such as improving health care, developing communication channels, and implementing community-based outreach programs¹⁵.

Despite positive parental attitudes toward vaccination, the belief that vaccines are not necessary for minor illnesses emphasizes the importance of addressing misconceptions and it promotes timely vaccination¹⁶. This highlights the need for targeted communication campaigns to address vaccine-related myths and misconceptions and highlights the importance of adherence to vaccination schedules In conclusion, our study highlights the importance of targeted interventions to address knowledge gaps and barriers to vaccine access, especially in deprived communities the security is emphasized¹⁷. By addressing these challenges, we can work towards increasing vaccination coverage and reducing the burden of preventable diseases in Pakistan¹⁸.

CONCLUSION

This study highlights the Targeted interventions are essential to address knowledge gaps and barriers to vaccine access, especially in disadvantaged communities. Preventing misconceptions and improving health care are important steps to increase vaccination coverage and reduce preventable diseases in Pakistan.

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