ORIGINAL ARTICLE

AWARENESS AND FEARS REGARDING IMMUNIZATION AMONG GUARDIANS OF CHILDREN VISITING HBS GENERAL HOSPITAL ISLAMABAD

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ABSTRACT

Objective: To assess awareness and fears among the guardians regarding immunization and to determine the causes responsible for none/partial immunization of children.

Study Design: Descriptive Cross-sectional.

Place and Duration of Study: HBS General Hospital Islamabad, 06 months (July to December 2024).

Methodology: Total 200 guardians of none or partially immunized children according to expanded Programme of immunization (EPI) were interviewed from indoor and outpatient department. They were asked about demographic details, reasons for none or partial immunization, and their attitude and misconceptions regarding immunization were assessed. Data was analyzed using SPSS version 19 to calculate descriptive statistics.

Results: Maximum children (87%) were partially immunized and only 13% were unimmunized. Polio coverage was maximum among all the vaccines. However, the reported coverage of pentavalent vaccine was 2% and it was minimum among all the vaccines. Difficult access, careless attitude, unawareness, refusal by males, adverse effects; child sickness and misconceptions regarding vaccine source and fear of infertility were identified as accountable reasons for poor vaccine coverage. Almost half of the guardians (54.5%) had no idea about vaccine preventable diseases. Nearby EPI center was available to only 49.5% of study population.

Conclusion: This study revealed that difficult access, carelessness and unawareness are leading causes of lack of immunization. People have misconceptions regarding source, adverse effects and indication. Awareness raising strategies are needed in community.

Keywords: *Awareness, Immunization, Guardians, Practices, Misconceptions, Fears, Vaccination.*

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INTRODUCTION

Immunization is a fundamental part of the global health promotion because communicable diseases share the major burden of mortality and morbidity throughout the world. It is estimated that 117 million of the children born from 1994-2023 were provided with routine childhood immunization. This routine immunization resulted in prevention of almost 508 million lifetime cases of diseases amenable to be prevented by vaccination. This had also prevented 32 million hospitalized cases and almost 1,129,000 premature deaths[1]. In Pakistan, under <5-year mortality is very high. Statistics show that 86/100000 live born children die before reaching the age of 5 years. Vaccine preventable diseases account for half of this mortality[2,3].The estimated coverage rate of complete immunization among Pakistani children fluctuates between 43-84%. Approximately 01 out of 05 children in urban areas and 02 out of 03 children in rural areas are unimmunized[4]. Fund allocation for vaccination program of Pakistan was increased in 2011 from 154 to 230 billion dollars. Although more than half of this fund is fixed for polio eradication campaign, yet Pakistan is amongst the two polio endemic countries[4].

Expanded Program of Immunization (EPI) was launched in

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Pakistan 1976, and currently vaccination against 12 communicable diseases had been included in this program. It is providing vaccinations to all children free of cost all over Pakistan. Vaccines included in EPI program are providing immunity against tuberculosis, polio, diphtheria, pertussis, tetanus, hepatitis B, haemophilus influenza B, measles, pneumococcal, typhoid, rubella, rota viral diarrhea. Moreover, on national immunization days, EPI workers provide door to door service of oral polio vaccine administration[5]. It is estimated that discontinuing EPI program in Pakistan can lead to 1000 deaths daily[6].

CAPSULE SUMMARY

Awareness and fears among guardians regarding immunization and the causes responsible for none/ partial immunization of children were assessed. Knowledge of the people was insufficient with multiple confusions and misconceptions Easy access of the vaccination center in addition to carelessness were the major concerns of the participants.

Responsible factors for reduced coverage of vaccination identified in studies conducted nationally and internationally are unawareness, negligence, societal troubles, inaccessibility of vaccination centers, misinterpretations and lack of trust on vaccination [7,8]. Situation is the same in both urban and rural areas although children residing in urban areas have better immunization comparatively. Various researches have identified the problems faced by EPI workforce related to vaccine availability, cold chain maintenance, safety matters, transportation services and lack of awareness, responsible for the under coverage of immunization[9]. According to Ministry of health Government of Pakistan in Punjab vaccination coverage is a bit improved as compared to past. It is now almost 89% in Punjab, in Azad Jammu and Kashmir it is 88%, Khyber Pakhtunkhwa 68% and in Baluchistan it is 37%[10].In urban slums of Rawalpindi and Islamabad it is 72%, which is poor considering the educational level of the local population. The aim of this study was to evaluate the awareness of guardians about immunization and identify the probable reasons of poor immunization. It was conducted in HBS General Hospital, which is providing advanced health services for the children of highly populated areas of Tarlai, Taramari and some areas of Azad Kashmir. People from poor socioeconomic and educational background visit this hospital, which make it favorable place for identifying common myths and misconceptions related to immunization in this community. Identifying underlying reasons of poor vaccination coverage will help in targeted public awareness, which will contribute to improved vaccination of children.

METHODOLOGY

This was a descriptive cross-sectional study, which was completed in six months from 1st July to 31st December 2024 after taking written approval from Institutional ethical review committee. Sample size was calculated by using Open-epi calculator, keeping 95% confidence interval and 5% margin of error, taking 73% prevalence of completed immunization as per EPI protocol in Rawalpindi/Islamabad[11]. The sample size came out to be 189. Data was collected from 200 guardians of children visiting OPD or medical wards of HBS General Hospital in Islamabad using consecutive nonprobability sampling. Consent of the guardians was taken before data collection. Guardians of the unimmunized children or children with partial (incomplete) immunization status were included in the study. Children with no history of any vaccine, including polio drops, were considered unimmunized, while those with history of incomplete EPI schedule were characterized as partially immunized. A self-structured questionnaire, comprising variables indicating demographic data, vaccination status, accessibility to EPI center, guardian's views and practices about immunization, was designed following a thorough review of literature and discussion with fellow consultant pediatricians. It was further evaluated through a pilot study and few revisions were made based on its results. The questionnaire was presented to caregivers and their uninterrupted responses of the guardians were recorded. At the end of interview correct knowledge of immunization was shared with the guardians. SPSS version 19 was used for data analysis. Frequencies and percentages for the categorical variables were calculated.

RESULTS

Data was collected from the 200 guardians. A great majority 179 (89.5%) were able to understand Urdu. Out of 200 guardians, 182 (91%) were the parents, 14 (7%) were the grandparents and 4 (2%) were among the other group. Regarding age distribution 87 (43.5%) were unaware of their age, 57 (28.5%) were in the age range of 20-30 years, 34 (17%) of the guardians were from 31-40 years age group and 22 (11%) belonged to <20 years of age. When guardians were enquired about the number of children, 96 (48%) had 3-5 children in the family, 71(35.5%) guardians had <3 children and 33(16.5%) had > 5 children in family. Vaccination status of the children according to the EPI schedule was evaluated and the causes for the incomplete or no

Table 1: Frequency distribution of children Immunized according to the EPI Schedule

Immunization status	Frequency	Percentage (%)
Partially Immunized	174 (n=200)	87
Polio Vaccination coverage	120 (n=174)	69
BCG + Polio	15(n=174)	9
Measles +Polio	15(n=174)	9
BCG	11(n=174)	6.5
Pentavalent -1	3(n=174)	2
Measles	8(n=174)	4.5
Un immunized	26 (n=200)	13

immunization were enquired from the guardians. Distribution of the Immunization status of the children as per EPI schedule is given below in Table 1.

Table 2: Reasons for no/incomplete immunization identified by the guardians (n=200)

Reason	Frequency(n=200)	Percentage (%)
Absence of awareness	29	14.5
Not important/ useful	47	23.5
Poor availability	58	29
Experienced adverse events	17	8.5
Resistance by male members of family	18	9
Misconceptions about vaccines	13	6.5
Not halal	5	2.5
Affects health	11	5.5
Infertility issues	2	1

Reasons for non/partial vaccinations were identified and the commonest reason identified by 29% guardians was difficult access. Detailed results are given below in Table 2.

To assess the awareness of guardians about the diseases, which can be prevented by immunization, 54.5% had no idea about it. Three or greater than three diseases were identified by 19.5% while 24% mentioned polio, 1.5% identified only measles and 0.5% only mentioned pertussis. It was observed that taking decision for the child immunization was not the authority of the mothers, only 118 (59%) had the authority to decide for their child's health while rest of the mothers 82 (41%) said that autonomy for decision-making was in the hands of the husband or his mother. Out of 82, 23 mothers could not vaccinate their children because family did not allow them.

During the immunization days, almost 174 (87%) guardians gave the response that their children were taking polio drops. Reasons for avoiding the polio drops identified by the remaining 26 guardians are given in Table3.

Table 3: Reasons for avoiding polio drops (n=26)

Reasons	Frequency (n=26)	Percentage (%)
Useless	8	30.76
Haram product	3	11.53
Causes Infertility	3	11.53
Social customs	12	46.15

Majority of the respondents (62%) agreed to the necessity of immunization, 25% did not agree with it while 13% responded with "do not know". When the guardians were enquired about further need of information regarding immunization, 154 (77%) guardians were interested to have more knowledge about immunization, while rest (23%) were least interested. During the data collection guardians were counseled about the importance of immunization. Because of counselling 66.5% agreed to immunize their children in future while the rest 16.5% did not agree and remaining 17% were indecisive. Difficult access was identified as the main reason for incomplete immunization. Door-to-door immunization service was suggested by 88% guardians to address the low coverage rate.

DISCUSSION

Results obtained are comparable with studies conducted previously in other areas of Pakistan. Analysis of individual vaccine coverage revealed that it is relatively low for the vaccines requiring hospital visit for administration (pentavalent and measles) compared to the vaccines provided by door-to-door visits, like polio. This is in contrast to a study conducted before, which showed better coverage of BCG (65-75%) and pentavalent (45-65%) [12]. This supports that people are becoming careless to bother a hospital visit for vaccination, relying on door-to-door service. Meanwhile poor access to the health services may also be contributing to the low coverage in our setting as well.

Causes identified by the guardians for none or incomplete immunization in other reference studies are same as in our study. Among the reasons identified, poor access to the vaccination center (29%), carelessness (23.5%) and unawareness (14.5%) were the commonest causes[13,14]. Our study also identified misconceptions about vaccination a predominant problem which is inline with the other researches[9,15,16]. Few other important aspects highlighted by our research were apprehension about haram source of vaccine, male dominance, and concerns about infertility, which has also been recognized previously[17]. Our guardians also reported fear of side effects among the causes of incomplete immunization. Safety and efficacy of vaccine is continuously monitored. Safety testing is considered from the earliest stage of its development, until approved by FDA and is monitored on an ongoing basis for licensure. Literature supports that vaccines can cause side effects but mostly reported side effects are minor and subside within a few days. Severe allergic reactions and some specific adverse events associated with certain vaccines, like fits associated with pertussis vaccine, are rarely reported[18]. Therefore, the myths about the side effects in the community should be addressed. Routine immunization should be followed as per the recommended schedule, even if the child is suffering from chronic diseases and regardless of repeated hospitalization[19]. Child illness as a hindrance for immunization was is identified in our study. Community awareness sessions can address this problem. In addition, all vaccines are halal according to fatawa given by muslim ulama and scholars. Any constituent used in vaccines does not cause infertility and all the substances used are permissible in Islam[16].

Although polio is, presently, an alarming issue due to emergence of new cases, especially in KPK but our study showed better polio vaccine coverage than other vaccines. Refusal by people

considering it useless, haram source of vaccine and risk of infertility were the major reasons identified in our study for not getting polio drops, which are different from the study conducted previously in Peshawar[20]. Our study identified ignorance about vaccine-preventable diseases and difficulty in understanding Urdu among the majority of the study population. Although our media spreads public awareness about vaccination in Urdu, but we had included some areas of Kashmir in our study and the people in Kashmir better understood their local language. Translation of the awareness message in local language for better understanding should be considered. In a population where most of females are even ignorant of their age, immunization awareness cannot be expected much.

CONCLUSION

In spite of continuous efforts by the government, knowledge of the people about immunization is insufficient with multiple confusions and misconceptions related to requirement, vaccine source, benefits and hazards. Easy access of nearby vaccination center is still the major concern. People are also becoming more careless about children vaccination.

RECOMMENDATIONS

- Electronic and print media especially local channels and newspapers should spread awareness in local languages for addressing the language barrier.
- Ulamas of the area should be involved to educate and convince people and clear their misconceptions regarding religious point of view about vaccination .
- Training of EPI workers, focused on the flexibility of vaccination, allowing any unvaccinated child of <3 years of age to be vaccinated according to the amended age-related schedule.
- Mobile EPI services can address the poor access by providing door-to-door immunization; however, effective implementation requires addressing challenges related to labor, finances, transport services, and safety of the workers.

LIMITATIONS

It was a hospital-based, crossectional study so the findings were insufficient in scope and may not be fully representative of the general population. Study design selection also restricts its ability to establish the causal relationship between causes identified with the poor or incomplete immunization coverage. Consecutive sampling also limits the generalizability of the results and the study sample may not adequately represent all caregivers or children, eligible for immunization. Community-based studies, with appropriate sample size and probability sampling, are recommended to obtain more comprehensive and accurate information on immunization coverage.

ETHICAL APPROVAL: *Reference number: Appl #HBS/IRB/35/24, Date: 25-06-2024*

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- ***Ameena Saba:*** *Conception and design, Acquisition of data*
- ***Mahwish Rabia:*** *Critical revision*
- ***Tooba Riaz:*** *Aanalysis and interpretation of data*
- ***Samia Mehmood:*** *Drafting the article*
- ***Rabia Iqbal:*** *Drafting the article*

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