

## KNOWLEDGE, ATTITUDE & PRACTICES AMONG PARENTS LIVING IN URBAN AREAS OF MULTAN ABOUT ROUTINE VACCINATION OF THEIR CHILDREN UNDER FIVE YEARS OF AGE

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### ABSTRACT

**Objective:** To determine the knowledge, attitude and practices among parents of children under 5 years of age living in urban areas of Multan city about routine vaccination status of their children.

**Method:** Close-ended questionnaire distributed in printed forms among parents of less than five years old children by random selection in urban areas of Multan City.

**Study setting:** Urban areas of Multan City, Pakistan

**Study design:** Descriptive cross-sectional study

**Results:** Total participants were 100. 53 were females and 47 were males. 92% parents had awareness about Government operated immunization program for children under five years of age and were convinced that infectious diseases can be prevented by vaccination. 6% thought that there is no danger for their kids to get vaccinated. 2% parents showed satisfaction with the program. 91% parents had got their kids vaccinated. 96% showed good response to health workers. 58% parents encouraged their neighbours to get children vaccinated. Socioeconomic status and education of parents had a great influence on the knowledge, attitudes and practices among parents about vaccination of their children.

**Conclusion:** This field study shows that EPI coverage for under five years child in the area is satisfactory. The programme has reduced mortality rate and infectious diseases up to 98%. Healthcare workers are also working hard for the success of vaccination programmes. Parents are well aware about the importance of vaccination but still there is need for more awareness programmes to get them educated about the importance of vaccination of their children.

### INTRODUCTION

One of the most important discovery in the world of Science is Vaccination. It is one of the most budget friendly way to minimize the prevalence of contagious and fetal diseases. It was in 1978 when EPI was introduced in Pakistan. The vaccines included in EPI were against tuberculosis, poliomyelitis, diphtheria, pertussis, tetanus and measles. Hepatitis B vaccine, Hemophilus influenza type b vaccine, pneumococcal vaccine, inactivated polio vaccine

and rotavirus vaccine were also included in EPI in 2002, 2009, 2012, 2015 & 2017 respectively. A child must have 6 visits, five for first year and one during second year of his/her life to complete his/her vaccination against childhood infectious diseases. In Pakistan, EPI is effectively working in urban as well as in rural areas to protect the children from deadly infectious diseases.

The aims of EPI are:

- ☐ To reduce infant mortality rate
- ☐ To reduce infant morbidity
- ☐ To protect newborn & mother against tetanus

- To reduce maternal mortality rate
- To achieve Sustainable Development Goal (SDG) 3 for the country.

Majority of parents have positive attitude and practice towards the vaccination of their children. Parents are now much concerned about their child health and they are aware that vaccination is very effective against infections and beneficial for their children. In Pakistan Expanded Programme of Immunization targets around 5.8 million children below 1 year age and 5.9 million pregnant women annually to protect them and their newborns from tetanus and other deadly infectious diseases through routine immunization services.<sup>[1]</sup>

## METHODOLOGY AND MATERIALS

This survey was conducted on parents having children less than 5 years of age selected through convenient sampling in urban areas of Multan district of Pakistan. The questionnaire was designed in the form of hard copy and was filled by 100 potential responders in which the specific population of parents having children less than five years old, was included. The period of survey was 11 August 2021 to 17 August 2021. The questionnaire had questions of socio-demographic status and 14 questions regarding knowledge, attitude & practice among parents about routine vaccination of their children under five years of age. Informed consent was obtained by all the parents participating in the study. Convenient sampling method was used for data collection and the distribution was presents as frequency and percentages. Descriptive analysis was performed using SPSS 21.

## RESULTS

Tot 100 participants were included in the study. 53% were females and 47% were males.

The participants having good socioeconomic status 54%. Most of the parents (92%) who were included in the study had a lot of knowledge and awareness about the vaccination programme for children under 5 years of age. 86% parents were aware that there is health care facility in their vicinity for vaccination of their children. 97% of parents think that vaccination is beneficial for their children (as shown in figure 2) and 92% parents feel that vaccination can protect their children from deadly infectious diseases. majority of the parents (77%) were of idea that vaccination can prevent death and disability in their children. Only few parents (20%) had misconception that vaccination has some hazardous ingredients that are not good for their children.

Majority of parents (95%) considered vaccination safe for their kids while 14% parents considered vaccine dangerous for their children. Regarding satisfaction with the programme for vaccination of children 82% parents were fully satisfied. Regarding their concern 76% parents considered taking off or leave from their work to get their kid vaccinated. 96% parents responded well to health care worker visited their homes for vaccination.

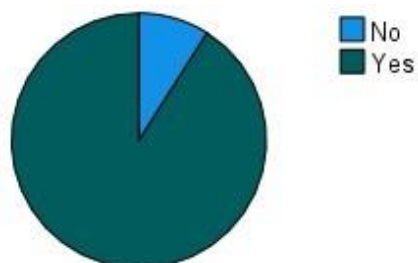
The parents included in the study were practicing the proper vaccination of their children with great enthusiasm, as the percentage of parents who got their children vaccinated is 91% (as shown in figure 1) which means the participated parents conducted good practice in regarding their kids' vaccination. 58% parents also motivated their neighbors to get their kids vaccinated.

**Table 1. Assessment of parents' knowledge, attitude and practices regarding their children vaccination**

| Variable                                                                 | Count | Total N | %   |
|--------------------------------------------------------------------------|-------|---------|-----|
| Is there any government programme working for children vaccination       | YES   | 92      | 92% |
|                                                                          | NO    | 8       | 8%  |
| Is there any health care facility in your vicinity                       | YES   | 86      | 86% |
|                                                                          | NO    | 14      | 14% |
| Is there any benefit of vaccination of children                          | YES   | 97      | 97% |
|                                                                          | NO    | 3       | 3%  |
| Do you think vaccine can prevent your children from death and disability | YES   | 77      | 77% |
|                                                                          | NO    | 23      | 23% |
| Do you think there are hazardous ingredients in vaccination              | YES   | 20      | 20% |
|                                                                          | NO    | 80      | 80% |
| Do you think it is safe to get your children vaccinated                  | YES   | 95      | 95% |
|                                                                          | NO    | 5       | 5%  |
| Do you think vaccination is dangerous for health                         | YES   | 14      | 14% |
|                                                                          | NO    | 86      | 86% |
| Are you satisfied with vaccination program                               | YES   | 82      | 82% |
|                                                                          | NO    | 18      | 18% |
| Did you respond well to health care worker visiting your home            | YES   | 96      | 96% |
|                                                                          | NO    | 4       | 4%  |
| Would you take off from your duty to get your kid vaccinated             | YES   | 76      | 76% |
|                                                                          | NO    | 24      | 24% |
| Have you got your kid vaccinated                                         | YES   | 91      | 91% |
|                                                                          | NO    | 9       | 9%  |
| Have you ever motivated your neighbours to get their kids vaccinated     | YES   | 58      | 58% |
|                                                                          | NO    | 42      | 42% |

**Figure. 1**

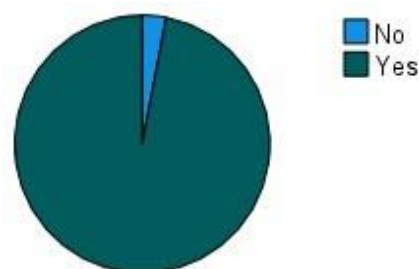
**Have you got your <5 year old child vaccinated?**



|     | N  | %     |
|-----|----|-------|
| No  | 9  | 9.0%  |
| Yes | 91 | 91.0% |

**Figure. 2**

**Is there any benefit of vaccination of children?**



|     | N  | %     |
|-----|----|-------|
| No  | 3  | 3.0%  |
| Yes | 97 | 97.0% |

## DISCUSSION

According to the findings, parents got their children immunized because the parents had a good knowledge of the risks and benefits of vaccination. (82% parents). Majority of parents feel that immunization is safe for their children (95% parents). some of the parents feel that immunization is an important requirement for school admission proceedings or day care attendance. Most parents supported that immunization is in favour of their children (95%) There were lot of reasons that were found during the study that why parents not show concern about the vaccination of their children or completion of complete vaccination schedule. One of the reasons was that there is incomplete or complete lack of information about vaccination among the parents as well as in healthcare workers. No health care facility in the vicinity (14%) was also one of the reasons. Some parents thought that vaccines are hazardous (20%). Study showed that about 25% parents didn't even know where in home was the EPI vaccination card of their child.<sup>[2]</sup>

It is found that most of parents were aware that an immunization programme like EPI is working in Pakistan for prevention against 11 deadly diseases of neonates and children. EPI is such an effective program that through this mortality rate due to deadly infectious can be reduced to an exceptional level. Parents must be aware of this benefit of immunization.<sup>[3]</sup> Disability due to an infection that can be prevented is drawback of any healthcare authority and the great hindrance to it is just the lack of awareness of people.<sup>[3]</sup> After EPI implementation in Iran, the infants and children mortality rate has been declined sharply from 1984 (79.4 per thousand live births) to 2013(16.8 per thousand live births) and also vaccine coverage has been increased.

However, in our research study, 77% of the parents think that vaccination plays an important role in decreasing mortality among their children.<sup>[5]</sup> Educated parents with higher education

were about five times more likely to be knowledgeable than those parents who did not attend school. Parents living in an urban area were about two folds more likely to be knowledgeable than those living in rural areas. This study also showed that parents with positive response towards infant vaccination were four times more likely to be knowledgeable than their counterparts. Study showed that a poor communication between parents and health care providers can be the cause that parents look for other invalid sources. In addition, a better PPC was associated to positive attitudes, in line with previous findings that focus on the role of the health care provider to encourage the parents for the vaccination.<sup>[6]</sup> In our study 53% of females were more aware and concerned for their children vaccination so female gender is more concerned for their children vaccination.

54% people having good attitude towards vaccination of their children were of good socioeconomic status in study regarding socioeconomic status and immunization association.<sup>[6]</sup> Results showed that parents having an intermediate monthly income were less knowledgeable when compared to low income. In the present study, many basic vaccines are provided by government either free or at very cheap cost but still children are not fully immunized for these vaccines. More awareness and education are needed to achieve this goal. Some parents (5%) consider vaccines unsafe and ineffective for their children, and the diseases are mild and uncommon.

Vaccination has a great importance in preventive care of the well child and vaccination coverage is still an important indicator of the outcomes of child health in all countries. Despite the fact that vaccination has been one of the singular public health successes of the past half century, there are many hurdles on the way to achieve our target of providing a complete vaccination coverage in different nations for all those who need it. Thus, all nations around the globe are trying hard to increase their vaccination coverage to achieve the target of immunizing the

unimmunized children. This survey tried to assess immunization coverage and those factors which are associated with vaccination among children aged 12 to 24 months.<sup>[7]</sup> The findings of this study shows , out of total children surveyed, those who were fully immunized were 91% whereas 9% of children were not fully immunized according to recommended schedule.

There are several factors to depict full immunization; parents' literacy of parents, mothers/caretakers knowledge status, place of delivery, birth order and sex of child.<sup>[7]</sup> No evidence is present to prove that sex of children or birth order can effect the immunization status of children in this study. In some societies where there is cultural discrimination between male and female children, boys have a greater chance to be vaccinated as compared to girls.<sup>[7]</sup>

We can not apply this result to the whole population. But there was an almost equal contribution of both mothers (53%) and fathers (47%). There was no gender bias. As the principles for immunization recommendations are same in the whole world, our findings should be of great interest to all health care professionals who are dealing with immunizations in children. In this respect, it would be interesting to learn about the situation in other countries.

According to one of the researches which was performed on an evaluation of an online vaccine forum to explore what really matters to parents' regarding immunization of their children. Many parents were much concerned about their children's vaccination recommended in the first 2 years of life. They hypothesize that the recent measles outbreaks in Europe was one of the reason that many parents were afraid of the disease and concerned whether and how well their children were protected after vaccination.

One of the study done in Sri Lanka showed that 44.0% of the participants had above average, 9.2% had average and 46.8% had below average knowledge.<sup>[9]</sup>

Findings in Quebec showed that 22.5% of

mothers were not certain about their intention to vaccinate their child.<sup>[9]</sup> Our results support the findings of previous research that stated mothers were more aware and conscious as compared to fathers regarding the immunization schedule of their children.<sup>[9]</sup> The research on global immunization coverage of DTP vaccine in Iranian children as compared to other countries according to their income showed that Iranian people fall in category of high income. Because of this vaccination in Iran has increased from 32% to 99% in 2014. WHO recommendation shows that Iran has optimum vaccination coverage so its vaccination is higher.<sup>[10]</sup>

A research was done about changes in the schedules of primary diphtheria - tetanus toxoids - pertussis immunization as control strategy for pertussis. Several different schedules meet WHO recommendations. These include 2-4-6 months, 6-10-14 weeks, 2-3-4 months and 3-4-5 months which are most commonly used worldwide. This research showed that highest reduction (about 36%) in incidence was obtained by adopting 6- 10-14 week's schedule. A communication campaign was also adopted in Flanders (Belgium) to improve compliance with vaccination schedule. It leads to a reduction of 16% in severe pertussis incidence and about 7 % in total incidence in infants.<sup>[10]</sup>

As it is evident in above referred research, some severe cases can be reduced in number without changing the schedule but by improving the communication methods and making efforts to improve the timeliness of vaccination and coverage.

Decreasing the communication gap between health care workers and public is very effective to obtain good results. Improving health care facilities and vaccination programs, raising awareness and educating public about benefits of vaccination, answering their questions about pros and cons of vaccination can result in their compliance with vaccination programs and it can lead to a reduction in incidence of various childhood diseases.

## CONCLUSION

This field study shows that EPI coverage for under five years child in the area is satisfactory. The programme has reduced mortality rate and infectious diseases up to 98%. Healthcare workers are also working hard for the success of vaccination programmes. Parents are well aware about the importance of vaccination but still there is need for more awareness programmes to get them educated about the importance of vaccination of their children..

## LIMITATIONS

There are some limitations to be considered in this study. These limitations are related to sample size mainly. The second limitation involves the method of data collection. This research is limited by the fact that the collected data is self-reported and cannot be individually verified.

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