

ORIGINAL ARTICLE

Determination the Knowledge, Attitudes and Perceptions of Mothers (Caregiver) Towards Immunization of their Children in South Punjab Region of Pakistan

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ABSTRACT

Aim: To assess the knowledge, attitudes and perceptions of mothers (caregiver) towards immunization of their children.

Methodology: This community based cross-sectional KAP study was conducted in 15 UCs of south Punjab. Multistage random sampling technique, lottery method and bottleneck method was used to select the tehsils, UCs and households for the study. Households with children between eighteen to twenty-four months of age and Mothers/Caregivers with age between twenty to fifty years were included in the study. The semi-structured questionnaire was used to calculate the knowledge and attitude score of the study participants. Data were analyzed in SPSS version 25.

Results: Parents/caregivers had good knowledge (50.80%), moderate knowledge (42.40%) and poor knowledge (6.80%) regarding routine immunization. Also, parents/caregivers had a positive attitude (86.40%), neutral attitude (8.70%) and negative attitude (4.90%). The majority of children (67.40%) were fully immunized followed by partially immunized children (25.80%) and non-immunized children (6.80%).

Conclusion: The study concluded that parents were well aware regarding immunization and its health-related outcomes and showed positive attitude towards immunization. Majority of the children were completely immunized for all the childhood vaccine preventable diseases and the ratio of non-immunized children was very low as compared to completely and partially immunized population have awareness regarding immunization.

Keywords: Knowledge, attitude, practice, Southern Punjab, Pakistan, Developing Country

INTRODUCTION

Vaccination for all the school-going children is mandatory in the United States of America and vaccination rates of children from nineteen to thirty-five months of age remains significantly high in the major states of the country. However, immunization rates of young adults were not satisfactory for the rest of the diseases as compared to the routine immunization of childhood diseases.¹ In the last decade, it was also observed that immunization coverage in different states varied from 71% to 94% for different diseases in the USA; 74.6% children ranging from 6 to 23 months of age received at least one dose of influenza vaccine². Similarly, in the adults the coverage of influenza vaccination reduced with the increase in the age in the previous year, but slight and slow improvement in the immunization coverage has been observed for young adults in the recent years in the USA³.

Quality and safety of the vaccine is also a great concern of the parent which is taken into account by them while making decisions for the immunization of their kids⁴. Although the vaccines and immunoglobulins are designed to induce immunity against a specific pathogen but their adverse drug reactions have been observed⁵. The ratio of such adverse events to the successful protection by immunization is very rare but still holds a very strong sense of insecurity of the parents to vaccinate their children⁶. Notwithstanding that there are multiple assumptions and perceptions of the common people related to vaccine use and immunization. Some of the people also do not consider safe because they firmly believe that the vaccine is adulterated with some of the very harmful ingredients which may impact major organs and functions of human body⁷.

Pakistan has a very vibrant and dynamic healthcare system which comprises of 1,279 public sector hospitals, 5,527 Basic Health Units, 686 Rural Health Centers and 5671 dispensaries. The country has 220,829 physicians, 22,595 dentists and 108,474 nurses. The government expenditure on public healthcare services has amounted to PKR 203.74 billion for the fiscal year 2019-20

which is 3.29% higher than the spending made in previous years⁸. Despite this significant healthcare pending and formation of advanced infrastructure, the country health indicators showed the reverse situation where neonatal mortality is 42 deaths per 1,000 live births, infant mortality is 62 deaths per 1,000 live births, and under-5 mortality is 74 deaths per 1,000 live births⁹. Infant and child mortality rates are observed higher in rural areas than in urban settings¹⁰.

Notwithstanding the emergent healthcare delivery system of Pakistan which includes public and private sector organizations, public health sector strategies and partnerships with the national as well as international organizations, the immunization coverage across the country has yet not reached satisfactory benchmark.¹¹ National immunization coverage of the country is 54% including 66% in urban areas and 48% in rural settings¹². The province of Punjab has maximum immunization rate of 65.6% whereas Baluchistan has the least coverage of immunization i.e. 16.4%¹³. Children under the age of 5 years make up 15% of the population and this age group constitutes of 50% mortality rate of the country only because of partial or incomplete vaccination¹⁴. According to an estimate, the onset of infectious diseases accounts for 70% of children's deaths, countrywide¹⁵. Such a high burden of infectious diseases render serious challenges to the economic development of the country, and it is also a major hurdle in the attainment of SDGs (Sustainable Development Goals)¹⁶.

Pakistan is in a member of GAVI (Global Alliance for Vaccine and Immunization) which helps the country to buy economical vaccines used for the routine immunization of the children. Along with those multiple international agencies including the UNICEF and the USAID (United States Agency for International Development) who are supporting the country in system development by improving infrastructure and supply chain mechanism for immunization¹⁷. Aim of all the international partners and the official vaccination program at the national and provincial level is to improve coverage of vaccination and reduction in the prevalence of the vaccine-preventable diseases in the country¹⁸. New vaccines included hepatitis B in 2002 followed by Hib in 2009 and PCV10 in 2002 was introduced. In 2015 the inactivated polio vaccine was introduced. Moreover, other diseases have not been

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eliminated from the country yet like tetanus, diphtheria, pertussis, poliomyelitis and childhood tuberculosis.

MATERIAL AND METHODS

This community based cross-sectional study was conducted in 15 UCs of South Punjab. Multistage random sampling technique, lottery method and bottleneck method was used to select the tehsils, UCs and households for the study. Households with children between eighteen to twenty-four months of age and Mothers/Caregivers with age between twenty to fifty years were included in the study. The semi-structured questionnaire was used to calculate the knowledge and attitude score of the study participants. Data were analyzed in SPSS version 25.

RESULTS

Parents/caregivers overall knowledge regarding routine immunization

Description	Yes (%)	Partially(%)
Infectious diseases are one of the main causes of childhood mortality	228(86.40)	-
Some of the diseases can cause permanent damage to your child	228(86.40)	-
Vaccination is the best measure to prevent many childhood diseases	220(83.30)	-
Lack of vaccination is a risk factor for children	188(71.20)	-
Infectious diseases can be transmitted from one person to another	185(70.10)	-
Vaccines for many diseases are available in healthcare facilities	218(82.60)	-
Vaccination of children is free	208(78.80)	-
Health facilities offering vaccination are easily reachable	204(77.30)	-
Vaccinators move from house to house for immunization of children against some diseases	216(81.80)	-
Do you know about special vaccination days in your area?	185(70.10)	-
Do you believe that vaccines are safe for your child?	205(77.70)	31(11.70)
Have you ever witnessed any child suffering from any health issue because of vaccination?	202(76.50)	-

Table showed the overall knowledge regarding the various routine immunization among parents/caregivers. Majority of the respondents (86.40%) reported that infectious diseases are the important causes of childhood mortality and some diseases can cause permanent damage to the children. Nearly two-third of respondents were aware (70.10%) about the fact that infectious diseases can be transmitted from one person to another and information related to special vaccination day in their area of residence. Moreover, 77.70% of respondents were of the view that vaccines are safe for their children whereas 76.50% of respondents added that they have witnessed any child suffering from any health issue because of vaccination.

Parents/caregivers attitude towards routine immunization

Description	Yes (%)	Partially(%)
Have any mobile vaccinators team visited your house?	254(96.20)	-
Do you have an EPI vaccination card for your children?	243(92.00)	-
Are all your children have completed the EPI vaccination course?	252(95.50)	3(1.10)
Have the last child completed the EPI vaccination course?	249(94.30)	5(1.90)

Table showed parents/caregivers attitude towards routine immunization. Most of the parents (96.20) reported that vaccinators have visited their house. Of the 264 parents, 243 parents confirmed that they have a vaccination card for their children. Moreover, parents revealed that their 95.50% of their all

children have completed the EPI vaccination course while 94.30% of the last child have completed the EPI vaccination course.

Parents/Caregivers overall knowledge regarding routine immunization

Overall Knowledge	Frequency (%)
Good	134(50.80)
Moderate	112(42.40)
Poor	18(6.80)

Overall knowledge regarding routine immunization showed that 50.80% of parents/caregivers had good knowledge followed by moderate knowledge (42.40%) and poor knowledge (6.80%).

Parents/Caregivers overall attitude regarding routine immunization

Attitude Type	Frequency (%)
Positive	228(86.40)
Neutral	23(8.70)
Negative	13(4.90)

Table showed an overall attitude regarding routine immunization among parents/caregivers. Of the 264 respondents, 86.40% had a positive attitude towards routine immunization followed by neutral (8.70%) and negative attitude (4.90%).

Parents/caregivers practices regarding routine immunization

Description	Yes (%)	Partially(%)
Have you vaccinated your last child?	238(90.20)	-
Did you visit any healthcare facility for antenatal care?	223(84.50)	8(3.00)
Did you visit any healthcare facility for postnatal care?	208(78.80)	11(4.20)
Do you prefer private sector for vaccination of your children?	191(72.30)	2(0.80)
Did you initiate your child vaccination soon after their birth?	228(86.40)	3(1.10)

Above Table depicts the responses of the parents/caregivers regarding practices towards routine immunization, majority of the parents/caregivers (90.20%) had vaccinated their last child. Also, most of their mothers had visited healthcare facilities for antenatal care (84.50%, 3%) and postnatal care (78.80%, 4.20%) regularly and partially, respectively. Besides, nearly one-third of parents/caregivers (72.30%) were inclined towards the private sector to get their children vaccinated.

In addition to the aforesaid set of questions, 87.10% of respondents stated that they take their children to a healthcare facility for regular medical checkup. Of the 264 parents/caregivers, 217 (82.20%) visit healthcare facility followed by traditional healer/hakim (36, 13.60%), homeopathic doctor (2, 0.80%), religious healer/pir (1, 0.40%), pharmacy (5, 1.90%) and others (3, 1.10%).

DISCUSSION

Majority of the mothers and caregivers as the participant of the study had good knowledge regarding immunization, its role and significance to the health of their children. Along with that, a significant proportion of the mothers had moderate knowledge and a very small percentage of mothers had poor knowledge regarding immunization. This is consistent with the study in India on mothers from urban and rural and urban backgrounds to assess their knowledge and practices regarding vaccination; reported that 50.8% of the mothers from the rural background had sound knowledge regarding immunization. Another study comparing vaccination status of people living in the developed and developing areas also reported that parents had trust issues on vaccination, they reported concerns on the quality and safety of the vaccine, favored natural immunity and were influenced by peers for not vaccination children²¹.

A household survey conducted in English and Spanish families, identified the same nature of barriers to immunization as reported by the present study. Parents were afraid of vaccine-

related side effects, illness and allergies; along with that waiting time at the clinic and transportation issues to reach healthcare facility were the key hindrances to not vaccinating or late vaccination of the children²². A Pakistani study reported that 94% of the participants believed that vaccination could prevent childhood infections and 58% of the participants would recommend vaccination to others, 80% of the participants reported that they are influenced by friends and family to not vaccinate children, which is also in synchronization with the finding of the current study. The key barriers identified by that study included financial issues to vaccination reported by 45% of the participants, transportation issue recorded by 30% of the participants and 45% of the participants reported lack of education for immunization²³.

Another local study conducted endorsed the results of the current study and it identified key barriers to immunization as the non-acceptance of vaccination by the parents under influence by friends, family or religious leaders; socio-economical issues; lack of trust on the vaccination; health system-related issues majorly the availability of the vaccine at the healthcare facilities²⁴. The healthcare system plays a vital role to make it convenient for the people to vaccinate their children, a study conducted in Pakistan aimed to identify the barriers in the health system to identify barriers in the immunization reported that issues in the procurement of the vaccine, their storage, and distribution to the healthcare facilities needed to be improved in order to prevent stockout at the vaccination centers and assurance of trained qualified staff in the centers to make it convenient for the people to vaccinate their children²⁵.

Majority of the participants recorded suitable knowledge regarding the vaccination, and they identified the visiting healthcare workers as the key source of their information about vaccination. Also, the frequency of visit of healthcare worker at home was substantially suitable. But the results are inconsistent with another study performed in Rural Sindh which highlighted low knowledge of the parents about immunization and poor skills of the healthcare workers to communicate the beneficial narrative to the people. But the study also identified healthcare system issues and reported poor handling and unavailability of vaccines as a major systematic barrier to immunization which is consistent with the findings of the present study²⁶.

CONCLUSION

The study concluded that parents were well aware regarding immunization and its health-related outcomes and showed positive attitude towards immunization. Majority of the children were completely immunized for all the childhood vaccine preventable diseases and the ratio of non-immunized children was very low as compared to completely and partially immunized.

Conflict of interest: Nil

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