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Research Article

ASSESSMENT OF PARENT'S KNOWLEDGE, ATTITUDE AND BARRIERS TOWARDS IMMUNIZATION IN THE CHILDREN HOSPITAL, LAHORE

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Abstract:**Introduction:** It is well said that prevention is better than cure. Childhood immunization prevents the child from infectious disease which may increase the rates of morbidity, mortality and death in under-five year of children. Parent's knowledge, attitude and barriers towards immunization are the main factors which may influence the immunization status of children.**Aim of the study:** The aim of the study was to assess the knowledge and attitude of parents and the barriers towards immunization that affect the immunization status of child.**Methodology:** A cross-sectional, quantitative study was done in The Children hospital, Lahore on parents of admitted children. Data was collected from 133 parents through convenient sampling technique by using an adopted questionnaire.**Results:** the study results show that the majority of the parents have good knowledge and they are concerned about their child immunization and show positive attitude. Meanwhile, the some parents lack knowledge but show little bit positive attitude towards child immunization. On the other side, the parents also show their response about barriers of immunization which cause hindrance in the way of completing their child immunization course.**Conclusion:** The majority of the parents have knowledge about the significance of immunization. They also show the positive attitude towards immunization of their children. The government should arrange educational campaigns especially for the awareness of mothers at urban and rural level for the progress of immunization.**Keywords:** Immunization, Attitude, Vaccination, Disease prevention, Infectious diseases, Communicable disease**Corresponding author:****Ayesha Ramzan,**

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INTRODUCTION:

Immunization is the process whereby an individual made immune or made resistant to an infectious disease through administering vaccine. A vaccine is administered into the body of an individual whereby vaccines stimulate the individual's immune system to protect the person from diseases. (Adefolalu, Kanma-Okafor et al. 2019)

Immunization is considered as one of the most successful and safe public health intervention as it prevent at least 3 million deaths every year from vaccine preventable diseases (Adefolalu, Kanma-Okafor et al. 2019). Immunization helps in preventing fatal communicable diseases of childhood and provides immunity against these diseases. Meanwhile immunization is also the most cost-effective means of preventing the child from morbidity, disability and mortality in under-five year children. A report made by The World Health Organization (2009) estimated that every year about 1.5 million infants and children die and about three million become deaf, crippled or mentally retarded only due to infections from vaccines preventable diseases (Gul and Khalil 2016).

In developed countries, the immunization program has gained success in controlling preventable infectious diseases through vaccine, the developing countries still require better control on certain diseases like measles with limited resources. Due to immunization, the world is near close to eradicate the polio, with only three countries; Afghanistan, Nigeria and Pakistan. The coverage of immunization in Pakistan needs improvements. There can be a number of reasons behind inadequate immunization in Pakistan. The issue of vaccine, purchase, its storage, transport and administration are already known contributing factors in inefficiency of immunization program.

Expanded program of immunization(EPI) was launched in Pakistan in 1978 with the help of world Health Organization to prevent the children from seven communicable diseases earlier now they are nine including (tuberculosis , diphtheria , pertussis ,measles , pneumonia , rotavirus , polio , rubella , tetanus and pneumococcal meningitidis). Immunization is one of the best way to protect the children from communicable diseases; through immunization immunity is produced by using small amount of killed and weakened organisms that causes that particular disease

Immunization saved millions of lives every year. However, millions of children are deprived of this

and lack access to basic immunization. They die from the infectious disease against which vaccines are available. The failure or success of immunization depends on parent's knowledge and attitude regarding immunization. The knowledge and attitude of mothers play an important role in achieving complete immunization program in the first year of child life. The good knowledge or misconceptions of parents and positive or negative attitude towards child vaccination has vital role in the success or failure of immunization program. Some parents thought the childhood vaccination can cause some kind of health problems fever, systemic infections and infertility, especially in girls. For the progress or success of expanded program of immunization, it is necessary to find out the parents knowledge and attitude towards immunization in Pakistan. Therefore the study was undertaken to assess the knowledge of parents towards childhood vaccination and what kind of hurdles or barriers they have to face for the health of their child.

There are very few studies found in Pakistan about parent's knowledge and attitude regarding immunization. Therefore the study was undertaken to assess the knowledge gap of parents towards childhood vaccination and what kind of hurdles or barriers they have to face for the health of their child.

Significance:

Immunization play an important role in reducing the burden of infectious diseases , prevent illness and reduced disability and death among younger children, it is a cost effective way to immunize the mass regarding contagious diseases. For the effectiveness of vaccination the most important factor is parents knowledge and their attitude it contribute a lot in success of expanded program of immunization. The results of the study will be helpful in identifying the parents knowledge and attitude towards immunization and what barrier they have to face.

Problem statement:

To achieve the optimal level of immunization in developing countries is still questionable. It is observed that most parents have knowledge of childhood immunization but they do not show positive attitude toward immunization or they have some odds belief about immunization such as it can cause some health issue in children. To immunize their child they have to face some problems or hurdles such as lack of time , lack of knowledge regarding immunization , far off immunization centers and busy schedule. There is need to assess the knowledge and attitude of parents toward

immunization and what kind of barrier they have to face to immunize their child.

Research question:

- What kind of knowledge and attitude parents have towards immunization?
- Is there any barriers parents have to face for immunizing their child?

Purpose:

Assessing the knowledge of the parents and what type of attitude they show pertaining to the childhood vaccination and Assessing the barrier which they have to face to vaccinate their child.

Aim of the study:

The aim of this study is to determine the knowledge and attitude of parents towards immunization of children and what kind of barriers they have to face for immunizing their child.

LITERATURE REVIEW

A study was done in Sri Lanka to find out the knowledge, attitude of parents at the Teaching Hospital, Peradeniya in 2017. The data was collected from 141 parents by using probability sampling technique. The findings of the study about parents knowledge indicate that 44% of the participants have above average, 9.2% have average and 46.8% have below average knowledge. Majority of the respondents showed positive attitude towards child immunization (Herath, Kudagammana et al. 2018).

A cross-sectional study was conducted on Immunization knowledge and practices among mothers while visiting Immunization Clinic of Department of Community Medicine, SMHS Hospital, Srinagar.. Purposive sampling technique was used and 60 mothers were included in the study to collect the data. The study demonstrate that majority of the mothers are educated but they lack knowledge, however, they have positive attitude and good practices towards immunization (Wani, Dar et al. 2017).

A study was conducted in pondicherry a city of India on mothers who attend the well-baby clinics to assess their knowledge, attitude and practices. The study results showed that almost 70-80% of the mothers had awareness about immunization whereas the other required education. Ovn the whole 30% mothers had no awareness that immunization can be given to children during minor ailments like fever, common cold and mild diarrhea etc. (Dharmalingam, Raghupathy et al. 2017)

A study conducted in Egypt showed that the 44% of the studied mothers had poor knowledge, 24% of the mothers had fair knowledge and 31% had the good knowledge related to child immunization, while 70% of the mothers had good attitude, 29.4% had fair attitude and the only 0.6% had poor attitude. The results of the study about mothers poor knowledge may be due to lack of awareness and educational program in rural areas and the positive attitude of mothers showed that vaccination is compulsory for their child to get admission in school (Ramadan, Soliman et al. 2016).

A cross-sectional survey was conducted in a tertiary care hospital of Karachi, Pakistan. The information were taken from 165 mothers with at least one child to assess their knowledge and attitudes towards EPI vaccination. concerned that mother's attitude and knowledge regarding immunization have much influence for the health of the baby during infancy, education of the mother regarding preventable diseases have improved the coverage of childhood immunization (Gul and Khalil 2016)

A descriptive study was done in Khartoum State Ummbada locality (Albugaa) on knowledge, attitude and practice of mothers with children less than five years toward vaccination. The results revealed that the majority of mothers (90%) had good knowledge on vaccination, about 52% had poor knowledge. The 55% of the mothers had negative attitudes toward child immunization, and 66% of mothers good practice (Musyimi 2015).

A previous study showed the parents attitude and knowledge towards immunization is quite low and they show little concern regarding the vaccination of their child (Yousif, Albarraq et al. 2013).

A study was conducted in Quetta and Peshawar divisions of Pakistan on the Knowledge, attitudes and perceptions towards polio immunization. The results of the study showed that the participants had poor knowledge (74.3%) and negative attitudes (84.8%) towards polio immunization. the only 38.8% exhibit the good knowledge towards polio immunization. The participants considered the Religious belief as the major barrier towards polio immunization (Khan, Ahmad et al. 2015) .

A study was performed in the Assessment of Knowledge, Attitude and Practice of Parents towards Immunization of Children. The study showed that the parents included in the study have a high level of knowledge regarding importance of immunization and vaccination preventive measures. This high level

awareness had led to positive attitude of parents and good practice pattern among them. The most of the parents had good KAP (87.2%) towards importance of immunization of children (Khan, Ahmad et al. 2015).

METHODOLOGY

Study design:

A cross-sectional study design of descriptive nature was selected for this study.

Study setting:

The study setting was The Children's hospital Lahore.

Target population:

The target population was those parents who have children Under-age five. The study population was the parents of children who were admitted in the general wards of The Children hospital Lahore.

Total population:

The 400 children were admitted in general medical wards of Children Hospital Lahore.

Target population:

The parents of 200 hundred children age under five years were selected with age between 20 to 45.

Sampling technique:

The method of sampling was used in study is convenient sampling. Information will be collect from the parents by self-administered questionnaire.

Sample size:

The sample size in this study will be 133, which is calculated by the *Slovins formula of sampling* (1960).

If N=Population, n=Sample size, E= Margin of error

$n = N / 1 + (N) (e)^2$

$n = 200 / 1 + (200) (0.05)^2$

$n = 200 / 1 + (200) (0.0025)$

$n = 200 / 1.5$

=133

Study period:

The study period was consisting of three months from 1st October 2019 to 31st December 2019, in Lahore.

Data collection plan:

A modified version questionnaire will be adopted. The data will be collected from parents via

convenient method of sampling. The face to face interview method was used and responses were recorded in a pretested structured questionnaire.

Informed consent:

Parents were invited freely to participate in the study without any pressure. Verbal and written informed consent was taken from parents, They are freely to use their name.

Study instrument:

An adopted questionnaire was used to obtain the information regarding knowledge, attitude and barrier towards childhood immunization from the article (Radhakanth, Kumar et al. 2019) and (Khan, Ahmad et al. 2015). The questionnaire was composed of four main sections to collect data on parent's demographics, parent's knowledge and attitude on childhood immunization and barriers towards immunization. Responses from all the participants were recorded by choosing options of Nominal scale (Yes or No) to assess the parent's knowledge and attitudes and barriers.

Data analysis:

The data was processed using the software statistical package for social science (SPSS) (Version 21). This study is a kind of descriptive nature, so all the descriptive statistics were obtained through SPSS software.

Including criteria:

The only parents of children admitted in The Children hospital Lahore . Those parents who have children under age five. Respondents aged 20 to 45.

Excluding criteria:

The parents of children other than The Children hospital, Lahore and who were in OPD or rehabilitation centers were excluded from the study. Respondents who aged below 20 and above 45 also excluded and the parents of children above 5 years are also excluded.

Ethical consideration:

The sufficient information was provided to the parents in study. The parents were assured about their confidentiality and also provide them respect for their rights of willingness. Helsinki principles are followed that there would be no harm (physical social and economic) to any participant and their information will be remained confidential and anonymous and their participation was voluntarily.

RESULTS:

The data collected through survey was entered and analyzed using SPSS v21. Statistical Computer Software for data analysis.

Table No. 1 Socio-Demographic Characteristics

	N (100)	Percentage (%)
Respondents		
Mother	104	78
Father	29	22
AGE GROUP		
20-30 years	48	36
31-40years	66	49
41-45years	19	14
MARITAL STATUS		
Married	129	98
widow	03	02
EDUCATION		
No Formal Education	33	24
Elementary or Middle School	20	15
High School	17	12
College or Higher Education	63	47
SOCIOECONOMIC STATUS		
Low	44	33
Middle	83	62
High	06	04

Socio-Demographic characteristics:

The study conducted on one hundred parents of admitted children in The Children hospital, Lahore. The table 1 shows the results of frequency distribution of respondent's socio-demographic data. The results show that majority of the respondents were mothers 108 (78%), while the fathers were 29 (22%).

The 48 (36%) of the participants belongs to age group 20-30, 66 (39%) of the respondents belongs to 31-40 years and the 19 (14%) of the respondents were belongs to age group 41-45 years. The marital status comprised of married and widow. This shows majority of the respondents belongs to age group 31-40 years.

The 129 (98%) respondents in the study were married and only 3 (2%) were widow.

The respondents who have no any formal education were 33(24%), respondents who have education till elementary level or middle school were 20 (15%), 17 (12%) of the respondents have education till high school and the 63 (47%) of the respondents have higher education. These results indicate that majority of the respondents included in study were educated and few of the them were having no any formal education.

The 83 (62%) of the respondents belong to middle socioeconomic status and 6 (4%) belongs to high class status, while 44 (33%) belong to low socioeconomic status.

Table No. 2 PARENT'S KNOWLEDGE TOWARDS IMMUNAIZATION

SR. No	Items	Yes	No	Don't Know
1.	I vaccinate my child to protect him/her	122(87%)	11(8%)	0(0%)
2.	I believe that vaccinations are safe for children in general	118(89%)	12(9%)	03(2%)
3.	I am confident in information provided by healthcare professional	111(83%)	14(10%)	08(6%)
4.	I am satisfied with amount of information provided by healthcare professional	103(77%)	22(16%)	08(6%)
5.	I vaccinate my child to help protect the wider community	109(82%)	10(7%)	14(10%)
6.	I am concerned that vaccines can cause autism in healthy children	08(6%)	55(41%)	70(52%)
7.	I am concerned that vaccines are not tested enough for safety	30(22%)	63(47%)	40(30%)
8.	First dose in vaccination given at birth	100(100%)	0(0%)	0(0%)

Table 2 shows the response given by parent about knowledge towards immunization of children in the form of yes, no and don't know. The first 5 items shows high percentage of YES response indicates that parents believe Vaccination is safe for their child, and it would protect them. They are also show somehow confident on information provided by professionals. also showing information sharing by professionals is inadequate. However 6,7 item indicate that the information provided by professional is inadequate as majority of people don't know about autism. The 8 item also show that all parents have good knowledge about BCG vaccination at birth. To summarize, the table 2 indicate that parents are not satisfied with the information they have about the immunization and majority are not confident of the information they have.

Table No. 3 ATTITUDE TOWARDS IMMUNAIZATION

SR. No	Items	Yes	No	Don't Know
1.	I am concerned about the distress to children of the injection itself	68(51%)	60(45%)	05(4%)
2.	I am concerned that children get too many vaccines during the first two years of life	61(45%)	63(48%)	07(7%)
3.	I am concerned that child's immune system could be weakened by Vaccinations	11(8%)	95(71%)	27(21%)
4.	I am concerned that vaccines are given to children to prevent diseases that they are not likely to get	55(41%)	62(46%)	16(12%)
5.	I prefer children to get natural immunity from the diseases rather than immunity from vaccines	20(15%)	99(74%)	14(10%)
6.	I am concerned that vaccines are given to children to prevent diseases that are not serious	21(16%)	98(73%)	14(10%)
7.	Vaccinations are not needed because others have vaccinated their children and diseases have been controlled	18(13%)	103(77%)	12(9%)

Table 3 shows the response of parent's attitude toward immunization that consist of 7 items. The response of item 1 and 2 indicates that parents are worried about pain of injection or more vaccines and their safety. The item 3 indicates immune system damage are not prominent. However 4, 5 indicates that there are some who prefer natural immunity and have some doubts regarding vaccines while majority of them prefers vaccination. The 6 and 7 item depicts that vaccination prevent child from infectious diseases and all of the children should be vaccinated. To summarize, Table 3 depicts that majority of the parents have positive attitude towards the immunization.

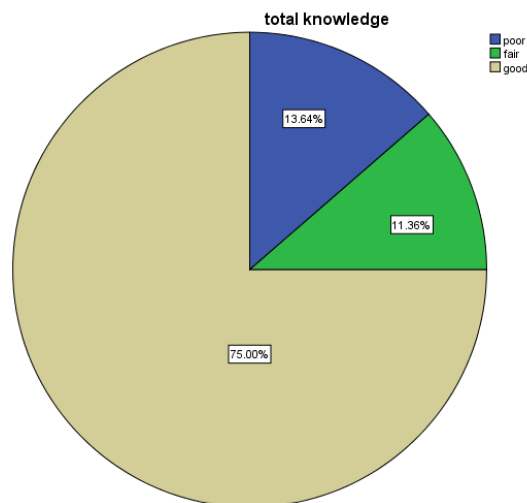
TABLE NO 4 BARRIER TOWARDS IMMUNIZATION

Sr. No	Items	Yes	No	Don't Know
1.	Lack of time / Busy schedule	53(39%)	80(61%)	0(0%)
2.	Lack of knowledge	39(29%)	94(71%)	0(0%)
3.	Religious belief	21(16%)	110(84%)	2(1%)
4.	Vaccination cause infertility etc.	12(9%)	100(75%)	21(16%)
5.	Vaccination is considered harmful	21(16%)	105(79%)	07(5%)
6.	Vaccination is not considered necessary	20(15%)	110(83%)	03(2%)
7.	Lack of immunization services	27(20%)	105(79%)	01(01%)
8.	Fear of side effects	42(31%)	75(57%)	12(12%)

Table No.4 contains 8 items about barriers towards immunization. Lack of time (39%), lack of knowledge (29%) and fear of side effect was the most common barrier toward immunization.

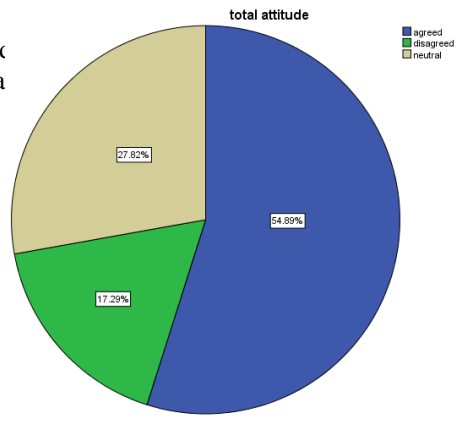
PARENT'S KNOWLEDGE TOWARDS IMMUNIZATION

Total knowledge of the parents regarding immunization was also checked which is depicted in pie chart 14% people have poor knowledge regarding immunization 11% have fair knowledge and 75% people have good knowledge about childhood immunization.



PARENT’S ATTITUDE TOWARDS IMMUNAIZATION

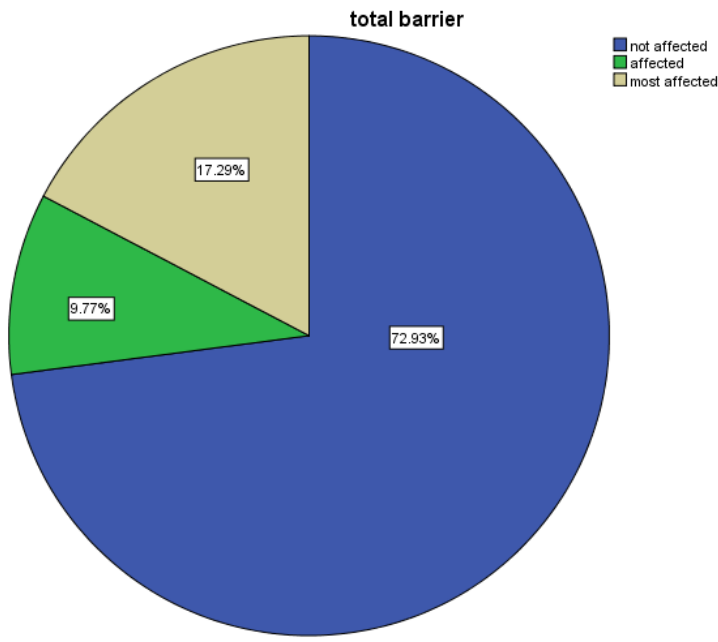
Pie chart no 02 shows the attitude having neutral attitude and 54% a



t 18 % parents are disagree 28%

BARRIERS TOWARDS IMMUNAIZATION

Pie chart no3 shows the barrier which have to parents face to immunizing their child , that 10% parents affected by the barriers ,17% most affected and majority of them 73% people are not affected with the barriers towards immunization.



DISCUSSION:

The demographic analysis of parents who participated in this study has shown that the majority of the participants were mothers. Mothers' knowledge and attitudes about immunization are important to understand, although the involvement of the father

has been shown to be associated with the child's vaccination status. Above half of the sample, the parents were educated.

In the present study, we tried to assess the parent’s knowledge, attitude and barriers that can influence on

the immunization status of their children. The study demonstrated the variations about parent's knowledge towards childhood immunization. Most of the parents knew that routine vaccines are safe and necessary for their children and they prevent their child from infectious diseases. On the other, some parents have little knowledge and few of them do not have any knowledge.

A study conducted in Nigeria revealed that the education level of mothers related to their knowledge and lead to encourage the immunization in children. The Knowledge of mothers regarding immunization was widespread in both educated and uneducated (Kabir Bello & Abarshi Dauda Daniel).

Trojanowska A et al., conducted a study and found that poor knowledge of parents about vaccines may influence on their future decision to prevent child from infectious diseases (Trojanowska, Zarzycka et al. 2016).

The attitude of parents also has an important influence on immunization status of children. The most of the parents were worried about pain of injection. Majority of the parent's response showed that they do not prefer natural immunity over immunity through vaccines. However, almost all the parents accept that the compliance to immunization schedule is important.

A study conducted in 2010 determined that knowledge of mothers about immunization was seen inadequate and the parents also show strong positive attitude towards immunization (Nisar, Mirza et al. 2010)

Radhakanth et al., concluded in a study conducted in Nellimarla reveal that attitude of parents towards immunization is significantly dependant on the level of education of the parents, their occupation and socio-economic status of the family. The study showed that the good knowledge of parents towards immunization with positive attitude.

Numerous researches have shown that different barriers exist in different communities and these barriers vary among countries, communities and states. The present study found that lack of time (37%), fear of side effects (31%), lack of knowledge (29%) was the main barriers towards immunization. A study conducted by (Khan, Ahmad et al. 2015) conclude that the False religious beliefs (39.06 %), lack of knowledge (33.7 %), fear of infertility by vaccines (32.16 %) and security issues (29.42 %)

were described as the main barriers towards immunization.

CONCLUSION:

On the basis of this study finding, it is concluded that the majority of parents have good knowledge and positive attitude towards immunization of their children. Majority of them are educated and few are uneducated. However, some of the educated and uneducated parents lack sufficient knowledge and showed the negative attitude about immunizing their child. The educational interventions should be done to remove the barriers that cause hindrance in the success of immunization program.

The educational programs on child immunization should be conducted in all over the country to enhance the knowledge of parents especially of less educated mothers. The emphasis should be done on maternal motivation and improvement of socioeconomic status for the achievement of universal immunization program.

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