

An Assessment of Parental Knowledge, Belief and Attitude toward Childhood Immunization among Minorities in Rural Areas of District Faisalabad, Pakistan

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Abstract Childhood immunization protects children from a variety of serious and potentially fatal and life threatening communicable diseases. Now immunization of children has been one of the securest and most efficient measures against avertable diseases in all over the world including Pakistan. In many societies where more than one racial, ethnic and religious minorities group exist, and one group is inclined to dominant the others. This generally conduces to social and economic disfavor for the secondary groups. That's why this study was designed to explore the gap toward health facilities and assess the parental knowledge, belief and attitude toward childhood immunization. A sample of 160 Christian minorities was selected conveniently from District Faisalabad through multistage sampling techniques. Majority of the respondents 95% were aware of child immunization, and 81.3% respondents agreed that child immunization were impotent for the children for their healthy future. 85% of the respondents were in the opinion that childhood immunization is more beneficial than harmful, and 90% of the respondents confessed that child immunization is not prohibited in our religion.

Key words: Immunization, religious, minorities, adoption, vaccinators and awareness

1. Introduction

Healthy and well-nourished children are best to learn and develop in different ways and in different outlooks. Immunization is a safe and effective method of preventing many severe infectious diseases. The word immunity refers to the body's capacity to defend itself against a particular disease or infection. Immunization is the procedure whereby a person is made immune or opposed to an infectious disease and different type of maladies, typically by the direction of a vaccination. Vaccination arouses the body's own immune system to defend the individual against the following communicable diseases such as diphtheria, pertussis, measles, tetanus, Hepatitis's B, polio and tuberculosis (WHO, 2010). Every year millions of the children around the globe are being saved from diseases and demises because of

immunization. Vaccines have wiped out smallpox, abolished wild polio virus in the developed nations, and significantly abridged the number of cases of measles, diphtheria, pertussis and other communicable diseases in the underdeveloped societies. Vaccines secure and provide effective defence system against transferable diseases (CDC, 2009). In Pakistan, expanded program on immunization was going ahead in the year of 1978 with the ultimate purpose of declining morbidity and mortality rooted by six vaccine avertable diseases by untiring efforts on the part of the governments of Pakistan. In addition, vaccination against Hepatitis B was included in EPI in July 2001. In 1980, Polio's third coverage was just 2% which was improved to 54% by the efforts of the government of Pakistan in 1990. However, after the tumble of 26 years, mortality from the vaccine escapable diseases is still high in Pakistan. It is noted that in Pakistan the child mortality is higher than other underdeveloped countries (Mangrio, *et al.* 2008). The researchers were particularly interested to assess the parental knowledge, belief and attitude toward child immunization, because adoption of immunization is directly associated with attitude and belief system of the mothers. Researchers were also interested to explore the minorities' attitude about the childhood vaccination, because many parts of the world minorities groups are marginalized in health sector. If we talk about the developed countries such as U.S.A and other Western countries there are also a huge disparity are found. Immunization adoption rates among minorities are lower than whites in USA. Large inequalities and disparities exist between minorities and the rest of American citizens in major part of health sector. Infant mortality is measured a worldwide indicator of a nation's health status. Compared with the national average in 1996 of 7.2 deaths per 1,000 live births, the largest discrepancy is among blacks with a death rate of 14.2 per 1,000 in 1996 which is almost 2½ times that of white infant (6 deaths per 1,000 in 1996). American Indians as a whole have an infant death rate of 9 deaths per 1,000 in 1995, but some Indian inhabitants have an infant mortality rate almost twice that of the overall national mortality rate (United States, 1999). Hispanic populations have lower childhood immunization adoption rates that if we compare other US national citizens such as non-Hispanic white and Asian populations; the Hispanic rate transcended only the African-American rate (CDC, 2002). In 1996 to data was available on adoption rate of immunization by race and ethnicity among US children. In 1996 showed clear disparities in minorities' population: white 89%, black 76%, and Hispanic 74%, with a 13% difference between rates for white and black children and a 15% difference between white and Hispanic children. In 1999, rates were similar across the groups: white 88%, black 81%, and Hispanic 87%, with a 7% difference between rates for white and black children, and a 1% difference between white and Hispanic children. This data indicate that in 1999 the gaps between blocks of the nation are decreased (Szilagyi, *et al.* 2002). Regarding the availability of medical facilities, White children have access to doctors at twice the rate of minority children due to the massive discrepancy in health care sector. Black and Hispanic children are mostly found in emergency rooms and hospital outpatient departments (Susan, *et al.* 2004). In the United States, African-Americans have been particularly marginalized and experience higher than average death rates and morbidity. African Americans have higher risk of death from almost every major cause than do whites (Weeks, 2005). Now, we talk about Pakistani's (National) perspective in the health sector. Pakistanis a very diverse society with a verity of racial and religious minorities. Pakistan is an Islamic state where relatively 3.72% people belong to a variety of minority groups. Some people argued that, the religious minorities have to face societal discrimination in various walks of life in Pakistan. They are socially and economically not offered equal opportunities in many field of life. The minorities have no access to appropriate health facilities. Socio-economic problems of the minorities in Pakistan, causes of social discrimination against minorities, non-Muslims in an Islamic state, forms and manifestation of social discrimination against minorities in Pakistan, legal and constitutional discrimination against minorities, and a critical review of the steps of the government for the welfare of the minorities (Michel, 2007).

2. Methods and Materials

This study was designed to assess the parental knowledge, belief and attitude towards childhood immunization. The researches use a statistically suitable sample of 160 respondents to study the perception about childhood immunization of the respondents in Faisalabad. There are eight towns in District Faisalabad namely Jinnah Town, Lyallpur Town, ChackJhummara Town, Samundari Town, Iqbal town, Jaranwala Town, Madina Town and TandliaWala Town. At the first stage LyallpurTown was selected randomly out of eight Towns. There are thirty seven Union Councils in Lyalpur Town. Sixteen Union Councils are existing in rural areas out of thirty seven Union Councils. The second stage five Union Councils were selected randomly out of sixteen rural Union Councils. At the third stage thirty two (Christian minorities) respondents from each Union Council were selected by using convenient sampling technique. The sample size was consisted of 160 respondents. Data were collected through face to face interview with the help of a well-designed interview schedule. Before actual data collection questionnaire was pre- tested to examine the work ability and sensitivity of the questionnaire. Descriptive analysis such as frequency distribution, percentage distribution and cross tabulation was made by using SPSS to describe the relationship between dependent and independent variable.

3. Result and Discussion

In this study all the respondents were mothers, who had at least one child, because the respondents, having children, have practical experience about child immunization. Majority of the respondent 51.2% were belonging to the young age group 18-30 years, whilst the 4.4% respondents belong to the 41 and above year of age group. The mean age was 31.45 years with 7.56 S.D. also depicted that the younger age group. Majority of the respondents 63.1% were illiterate. This shows that minorities group in Pakistan mostly are illiterate, while the only 9.4% respondents had ten year and above school education. The mean education was 4.9 year schooling with S.D. 2.03 years. Due to the low education, majority of the respondents 75.6% had less than 10000 rupees monthly household income and mean income was 90542 rupees. Data indicates that majority of the respondents 56.9% belong to the joint family system and 84.4% were associated with catholic sect.

Table: 1 Socio economic characteristics of the respondents

Age of the respondents	Frequency	Percentage	Mean	Standard Dev.
18-30	82	51.2	26.82	3.21
31-40	71	44.4	36.90	4.45
41 and above	7	4.4	45.32	2.86
Total	160	100.0	31.45	7.56
Education of the respondents	Frequency		Percentage	
Illiterate	101		63.1	
Primary	25		15.6	
Middle	14		8.8	
Matric	5		3.1	
Matric and above	15		9.4	
Total	160		100.0	
	Mean = 4.9 Standard Deviation = 2.03			
Household monthly Income (Rs)	Frequency	Percentage	Mean	Standard Dev.
Up to 10000	121	75.6	70525	1500.77
10001-15000	30	18.8	12956	2102.42
15000 and above	9	5.6	16575	2524.35
Total	160	100.0	90542	3025.12
Family Type	Frequency		Percentage	
Nuclear	33		20.6	
Joint	91		56.9	
Extended	36		22.5	
Total	160		100.0	
Sect of the respondents	Frequency		Percentage	
Catholic	135		84.4	
Protestant	25		15.6	
Total	160		100	

Table 2 indicates perception and belief about childhood immunization of the respondents. Majority of the respondents 61.9% and 19.4% agreed and strongly agreed that child immunization is important to their children respectively, while the 13.1% and 5.6% respondents were disagreed and strongly disagreed about this statement that "child immunization is important to their children" respectively. Similar study conducted by Zagminas *et al.* (2007) were of the opinion that majority of parents 89.0% in the favored that children's vaccination is essential, and 88.6% respondents were in the

opinion that children should be vaccinated regularly according to schedule for the betterment of their future survival. Data exhibited that majority of the respondents 65.6% disagreed and 24.4% strongly disagreed that child immunization is prohibited in our religion, whilst a small proportion were in the opinion that child immunization is prohibited in our religion. The repudiator people argued that child immunization is against the volition of God. It looks as it is the intervention of nature's will because the Creator, God does batter for its creation. This was the traditional and orthodox approach of some religious extremist people. NFHS (2006) survey pointed out that religious affiliation and adoption of child immunization in India was higher among Christians and Sikhs. Muslim households had lower complete vaccination coverage and they were higher non-vaccination families than Hindu families. In the light of this survey, religion plays an important role in adoption of childhood immunization. Another scholar Antai (2009) conducted his research, "The role of mother's religious affiliation and child immunization status in Nigeria"; he found that the religion plays a key role in the risk of non-immunization. He further argued that religion was importantly associated with the reduced risk of full immunization and belief system. Data indicated that majority of the respondents 63.1% claimed that when they immunized their children, they observed some type of side effects such as fever, rashes, pain and swelling. 26.9% respondents were in the opinion that our children had experienced the relapse of the communicable diseases in spite of fully vaccinated. A majority of the respondents 70.6% respondents agreed that timing of vaccination is very important on the other hand 29.4% respondents were not bother about the timing of vaccination due to the illiteracy and orthodox thinking. One of the scholars Strobino, (1996) finds out that mothers who perceived the timing of vaccination were more likely to be immunized their children than that of care takers who thought that it did not matter of grave concern.

Table 2: Distributing of respondents along with mean and standard deviation regarding perception and belief about childhood immunization

No	Attitudinal Statements	Strongly Agreed		Agreed		Disagreed		Strongly Disagreed		Mean	Std. Dev.
		F	%	F	%	F	%	F	%		
1	Do you think child immunization are important	(31)	19.4	(99)	61.9	(21)	13.1	(9)	5.6	2.68	0.45
2	Immunization is more beneficial than harmful	(29)	18.1	(105)	65.6	(15)	9.4	(11)	6.9	2.84	0.47
3	Vaccine for child immunization are save	(52)	32.5	(71)	44.4	(20)	12.5	(17)	10.6	2.88	0.51
4	Child Immunization is prohibited in religion	(9)	5.6	(7)	4.4	(105)	65.6	(39)	24.4	1.73	0.26
5	Found side effects after immunization of children	(20)	12.5	(101)	63.1	(30)	18.8	(9)	5.6	2.70	0.39
6	Found any relapse of the disease which you under go for immunization	(11)	6.9	(32)	20	(100)	62.5	(17)	10.6	2.07	0.26
7	Timing of vaccination did not matter	(15)	9.4	(32)	20	(103)	64.4	(10)	6.2	2.15	0.28
8	Do you think immunizations are keeping your children healthy	(91)	56.9	(41)	25.6	(15)	9.4	(13)	8.1	3.24	0.54

Scale: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree

A large majority of the respondents 56.9% strongly agreed and 25.6% agreed that immunization is keeping our children healthy and salubrious, whilst the 17.5% respondents were not agreed with this opinion. Researchers also asked the respondents that immunization is more beneficial than harmful majority of the respondents 18.1% and 65.6% strongly agreed and agreed respectively with this statement. A considerable majority of the respondents 76.9% agreed that immunizations were safe for their children; however, 23.1% respondents were afraid of its consequences. Similar result was found by Zagminas *et al.* (2007) who identified that 80.7% respondents reported that immunization was more beneficial than hazardous; Two-third of respondents 66.7% agreed that vaccines for children's immunization were safe for their physical growth.

Table 3: Distribution of the respondents along with mean and standard deviation regarding the knowledge and attitude toward childhood immunization

No	Perception Categories	To a Great Extent		To a Some Extent		Not at all		Mean	Std. Dev.
		F	%	F	%	F	%		
1	Satisfaction toward the immunization practices launching by the government	35	21.9	72	45	53	33.1	1.76	0.22
2	Face any negative reactions from family member regarding child immunization	5	3.1	8	5	147	91.9	1.00	0.21
3	Sex preference regarding child immunization	15	9.4	21	13.1	124	77.5	1.14	0.19
4	In your opinion, fears of temporary side effects play any huddles for adoption of vaccination.	25	15.6	65	40.6	70	43.8	1.58	0.24
5	Awareness about childhood immunization	29	18.1	123	76.9	8	5	2.03	0.36
6	How much knowledge about the name of common diseases	17	10.6	40	25	103	64.4	1.29	0.33
7	Have you know about the begging and completion period of childhood immunization	49	30.6	71	44.4	40	25	1.95	0.26

Scale: 1= Not at all, 2= To a some extent, 3= To a great extent

Table 3 shows the knowledge and attitude of the mothers towards childhood immunization. Data shows that majority of the respondents 66.9% were aware of childhood immunization 21.9% of the respondents were satisfied to a great extent, 45% to some extent and 33.1% respondents were not satisfied about the immunization practices launching by the government. Respondents argued that government should take necessary steps for improving the immunization as well as other basic medical facilities which are also necessary for our children. The finding of the study carried out by Asim, *et al.* (2010) is also in consonance to the findings of the present study. They also found that 52% respondents were somewhat satisfied with the existing immunization practices. They highlighted the need of providing vaccine at their door steps through qualified and well experienced staff. Data showed that majority of the respondents 91.9% professed they had no any reactions from our family members regarding the childhood immunization, whilst the lingering respondents 8.1% had somewhat obstacles toward their elders and other members of family regarding childhood immunization. These findings are lined up with Ambe, *et al.* (2001) when cross-sectional survey was conducted in Konduga, Nigeria. They found that 4% were not allowed to go for immunization by their husbands and other family members. In many developing and male dominant societies the people give preference their son over their daughters almost in every field of life. This phenomenon was also studied in this research. Data indicated that a large majority of the respondents 77.5% had no any sex preference in the matter of child immunization. The residual respondents had somewhat views about gender preference in adoption of immunization. NFHS (2006) survey explored the gender gap in child immunization. The vaccination rate was higher for boys 45.3% than for girls 41.5% in Indian community. Researchers also found the fear of temporary side effects played an important role in adoption of immunization to children. Half of the respondents 15.6% great extent and 40.6% some what extent were in the opinion that fear of side effects does affect our perception not to adopt the immunization to the children. One thing is to be noted here, two babies had been died due to the lethal vaccine injection in those days when the researchers were collecting the data on field. That's why some respondents had some reservations about the reliability and efficacy about immunization. Data demonstrates that 5% of the respondents had no any awareness about childhood immunization, in this way 64.4% of the respondents had no knowledge about the name of common diseases and 10.6% of the respondents had awareness to a great extent about the name of common diseases. These respondents were cognized the major types of immunization avertable diseases' names. Similar finding pointed out by Awodele, *et al.* (2010) who found that most of the mothers (99.1%) had very positive attitudes towards immunization and 55% and above were commonly knowledgeable about symptoms of vaccine avoidable diseases. (87.0%) had a satisfactory level of knowledge about childhood immunization in rural Nigeria. Awodele, *et al.* (2010) assessed the knowledge and attitude of mothers attending antenatal clinic in Lagos University Teaching Hospital in Nigeria, towards childhood immunization. The results showed that almost all (93.8%) the respondents were aware of immunization and that immunization could prevent childhood illness (98.1%). Although majority of the mothers were aware of the existence of immunization services, their knowledge of immunization schedule of vaccine preventable diseases is low and poor. Another study Angelillo, *et al.* (1999) also evaluated knowledge, attitudes, and behavior of mothers regarding the immunization in Cassino and Crotona, Italy. Overall, 57.8% of mothers were aware about all four compulsory vaccinations for infants (poliomyelitis, tetanus, diphtheria, hepatitis B). They further argued that knowledge

was significantly greater among those mothers who had higher education and among those who were older at the time of the child's birth. 17% of the respondents had great extent awareness about the name of common diseases. Majority of the respondents 74% had some extent awareness about the beginning and completion period of immunization. Data of table 4 shows that the mothers were not consulted with other mothers about the childhood immunization. Majority of the respondents 71.9% were never discussed with neighbors and other mothers about child immunization and majority of the respondents 67.5% had never visit basic health unit (BHUs) for getting government medical facilities.

Table 4: Distribution of the respondents along with mean and standard deviation about their habits regarding Immunization

No	Attitudinal Statements	Frequently		Rarely		Never		Mean	Std. Dev.
		F	%	F	%	F	%		
1	Consulting with neighbors about child Immunization	13	8.1	32	20	115	71.9	1.16	0.19
2	Visit BHUs for acquiring medical facility	17	10.6	35	21.9	108	67.5	1.21	0.25

Scale: 1= Never, 2= Rarely, 3= Frequently

Table 5: Distribution of the respondents regarding feel temporary side effects of different types of immunization vaccination

Name of the Diseases	BCG				T	Polio				T	DPT/COMBO				T	Measles				T
	Yes		No			Yes		No			Yes		No			Yes		No		
	F	%	F	%		F	%	F	%		F	%	F	%		F	%	F	%	
Fever	81	50.6	79	49.4	100	75	46.9	85	53.1	100	76	47.5	84	52.5	100	105	65.6	55	34.4	100
Rash/Itchiness	51	31.9	68.1	53.1	100	21	13.1	139	86.9	100	51	31.9	109	68.1	100	69	43.1	91	56.9	100
Pain/ Swelling	111	69.4	49	30.6	100	26	16.3	134	83.7	100	57	35.6	103	64.4	100	83	51.9	77	48.1	100
Pus/Boil/Scar	143	89.4	17	10.6	100	5	3.1	155	96.9	100	52	32.5	108	67.5	100	35	21.9	125	78.1	100

Table 5 data shows the different types of immunization vaccination and their temporary side effects. Almost 50% and above respondents reported that each vaccine (BCG, Polio, DPT and Measles) caused by the mild fever. A large majority of the respondents 69.4% and 89.4% described that BCG vaccine was the main cause of pain, swelling and pus. In short, all types of vaccines have some type of mild side effects which were found out by the respondents to their children. The present finding supported by the Ahmed, (2010) who found that some vaccinations carry the risk of certain side effects, whereas the benefits of vaccinations are far outweighed the risks. Vaccinated child may experience pain, swelling or redness at the injection site. These side effects diminish after a few days. According to the Centers for Disease Control and Prevention (CDC), a temperature of 99.9 F or higher is a common side effect of vaccination. One of other scientists was also consonance with present research Goss, (2010)who perceived that some adverse reactions of vaccinations are placid such as tenderness, soreness, swelling, redness or itchiness at the site of injection and some other immunization. These reactions occur immediately after a child is given a shot. According to the CDC, side effects are possible from any vaccine. As an example, a common shot for children is DTP, which immunizes against diphtheria, tetanus and pertussis (also known as whooping cough). The CDC reports that 25 percent and above children who get the shot experience these mild reactions or develop a mild fever. Some children will also cry inconsolably, become tired or lose their Appetency. The CDC says that over 30 percent of children who are injected with the DTP vaccine become grumpy.

4. Conclusion

It is concluded that the knowledge of mothers about vaccination is not absolutely sufficient, while negative attitude (fear of mild side effect, social cultural values) significantly affects the immunization status. Majority of the respondents were in the opinion that child immunization is save then sever harmless, important for child survival, beneficial and it keeps our children healthy from different type of maladies. Some of the respondents have negative attitude, due to the lack of awareness and knowledge about childhood immunization. So it is suggested that more efforts should be made to enhance the knowledge about vaccination and to eradicate the negative attitude and belief system toward the childhood immunization by the community and volunteer participants.

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