

Original Article**AWARENESS OF GENERAL PUBLIC TOWARDS POLIO IMMUNIZATION IN RURAL PUNJAB PAKISTAN**Zafeer-UI-Hassan-Iqbal¹, Hira Ashraf², Bisma Farooq³¹Senior Medical Officer, THQ Hospital Kotli Sattian, District Rawalpindi.²Women Medical Officer, RHC Jokalian, District Mandi Bahauddin.³Women Medical Officer RHC Gogera, District Okara.**Correspondence:** Zafeer-UI-Hassan-Iqbal, Email: zafeer.ulhassan276@yahoo.com, Contact: 03355439647**Abstract**

Background: Poliomyelitis is the acute viral infections of children under the age of five years. Pakistan is among the three countries, along with Nigeria and Afghanistan that are endemic to polio. In 2012, government of Pakistan approved a National Emergency Action Plan (NEAP) for polio eradication. Parents are reluctant towards immunization due to some religious beliefs. In current study we are accessing the attitude and behavior of general population towards polio vaccination.

Methods: Cross-sectional study conducted during 2017 in 4 district of Punjab (Faisalabad, Sheikhpura, Kasur and Lahore) Pakistan. The pretested, piloted and validated instrument with a 20 items structured questionnaire was used for this research. The response rate was 84% during the course of Study.

Results: In study population 79% of the respondents were well aware of the term Polio. The positive response towards polio immunization was analyzed for only 62% of the parents. 70.46% of the parents strongly agreed with the medical therapeutics for the prevention and treatment of the disease whereas 29.54% of the respondents were found to believe that polio might be caused due to the evil effects

Conclusion: Study concluded that the general public is well informed about polio vaccination and giving vaccine to their children on regular basis.

Keywords: Polio, vaccination, immunization, beliefs, attitudes, pakistan

Introduction

Poliomyelitis is among the acute viral infections that primarily affect children under the age of five years with irreversible paralysis in lower limbs at a rate of 1 in every 200 infections (1). The crippling disease continues to affect the children in Pakistan as adequate measures have not been alleged to approach all the children for vaccine doses (2).

The Global Polio Eradication Initiative (GPEI) started in 1988 with its core objective of making 'polio free' world. This was a collaborative effort of national governments of five partners, World Health Organization (WHO), Rotary International, the US Centers for Disease Control and Prevention (CDC), the United Nations Children's Fund (UNICEF) and the Bill & Melinda Gates Foundation. This end polio campaign has driven remarkable decrease in polio cases from 350,000 in 1988 when polio was endemic to a point of 69 cases globally reported cases till 2017 (GPEI) (3). In 2012, government of Pakistan approved a National Emergency Action Plan (NEAP) for polio eradication that involved various shareholders (4). Yet not a single

country is out of its risk until the last case of polio will disappear (5). Pakistan is among the three countries, along with Nigeria and Afghanistan that are endemic to polio spread around the world (6,7).

In past decades, immunization has wiped out infectious, even deadly, 'disease smallpox' from the earth and this virus has been enclosed to a vial where only research is going to plan bioterrorism threat response (8). Despite the strong evidences of successful vaccination, some parents are reluctant towards immunization of their children. In areas endemic to polio spread, parent's beliefs and attitudes have impeded the GPEI to completely wipe out poliomyelitis (9).

In Pakistan misconceptions circulating in society created by religious leaders are the major hurdles to announce country as polio free. False religious beliefs and fatwas from imam of local mosque of the areas have made people to believe that polio vaccine is haram (forbidden in Islam) and parents misguidedly refused to vaccinate their children (10). Rumors that vaccines cause infertility in children aggravated immunization refusal, thus vaccine coverage was decreased (11). Addressing the

vaccine quality, people lost their confidence for vaccination and took it as stealthy family planning tactic by government and west. These misconceptions came up with adverse consequences in 2014 when paralytic polio virus stroked areas of FATA (12).

GPEI is taking polio endemic areas as top priority for polio eradication. The end polio Pakistan campaign has made tremendous efforts to vaccinate each and every child of Pakistan. Polio drops have nurtured the children of far flung areas of Pakistan, from plains of Punjab reaching the deserts of Choloistan (13). This study aims to know the awareness of general population towards polio vaccination in four districts (Faisalabad, Sheikhpura, Kasur and Lahore) of Province Punjab.

Methodology

Cross sectional study was conducted during the duration January 2017 to September 2017. Both, urban and rural populations were targeted. Lahore division and major districts around Lahore, including Faisalabad, Kasur and Sheikhpura were taken as the sampling sites (Fig. 1). The purpose of comparative analysis was to evaluate the general perception of people belonging to different areas, as means of communication, regional perceptions and negative stereotypes towards vaccination differ among different cities. Moreover, frequent visits of polio health workers in Lahore have provoked this study to evaluate that either in other cities the health care activities are being observed or not. Sample size was kept 1000 and individuals of age greater than 18 years were directed for the response, according to the criteria set in our study.

The instrument used for the research was a 20 items structured questionnaire, based on 3 sections. Section 1 was to analyze the demographic data including age, gender, educational and employment status, Family income, residential and marital status (Table 1). Section 2 was based on questions regarding knowledge about the poliomyelitis like the causative agents, the means of transmission, treatment and preventive measures (Table 2). Section 3 was based on the general response towards poliomyelitis vaccination in the context of prevailing practices in society (Table 3). The questions developed for section 3 were based on true and a false statement, scoring was recorded as 1 for correct answer and 0 for wrong.

Reliability and validity of tool was done before the study. Questionnaires were also translated into Urdu and Punjabi, the commonly used languages of the regions. Frequencies for all the sections were calculated using Statistical Package for Social Sciences (SPSS, IBM statistics version 22) software, also statistical analysis was performed using Microsoft Excel and SPSS software. Descriptive analysis was used to express the results as frequencies and percentages. A written consent was obtained from all participants prior to the participation in the study. Brief information of the study was provided to all participants. All participants voluntarily participated in the study. We gave anonymity

and confidentiality to the information that was taken from participants.

Results

The survey based study was conducted on 1000 individuals, from the areas of Sheikhpura, Lahore, Faisalabad and Kasur. The response forms completed by 840 individuals were subjected to demographic (Table 1) and statistical analysis. The residential status of 67.62% participants was urban while 32.37% individuals belong to the rural area. Based on educational status of respondents, individuals with education upto secondary level were found to form the largest group (40.46%). The individuals under every age group were targeted for the study yet, people under 18-30 years were the major group of respondents (25.95%), followed by individual falling under age group 31-40 years (21.30%). As for employment, the paid-employed respondents formed the largest group (66.81) (Table 1).

Table 1: Demographics information of participants

Demographic variables	Males		Females	
	Number	Percentage	Number	Percentage
Age				
18-30	115	13.69	103	12.26
31-40	92	10.95	87	10.35
41-50	85	10.11	83	9.88
51-60	79	9.40	75	8.93
>60	64	7.62	57	6.79
Gender	435	51.79	405	48.21
Qualification				
Nil	48	5.71	55	6.54
Primary	157	18.69	173	20.59
Secondary	192	22.85	148	17.61
Religious	38	4.52	29	3.45
Employment				
Unemployed	28	3.33	124	14.76
Paid-employed	337	40.11	225	26.7
Self-employed	70	8.33	56	6.66
Income (in Pakistani Rupee)				
<10,000	108	12.85	228	27.41
>40,000	281	33.45	138	16.42
10,000-40,000	46	5.47	39	4.64
Residential status				
Rural	273	32.5	295	35.11
Urban	162	19.28	110	13.09
Marital status				
Single	103	12.26	57	6.78
Married	332	39.52	348	41.4
Past experience with polio patients				
No	35	4.16	83	9.88
Yes	400	47.61	322	38.33
Participants having children less than 5 years of age				
No	293	34.88	307	36.91
Yes	142	16.90	98	11.66
Division				
Lahore	163	19.40	177	21.07
Kasur	85	10.11	50	5.95
Sheikhpura	77	9.16	60	7.14
Faisalabad	110	13.09	118	14.04

The positive response towards polio immunization was analyzed for only 62.31% of the parents in favor of polio vaccine. 72.53% of the parents get their child vaccinated against polio, where the reason for no vaccination was configured out that 34% of the parents consider polio dangerous for the health of their child and 19.92% of the parents consider that polio vaccine may result in death. Thus, this percentage exhibits the safety concerns of parents regarding vaccination. 36.68% of the people consider vaccination itself, to be the causative agent of polio. Moreover, from religious perspective, 53.12% of

the respondents consider that polio vaccine is not halal in Islam (Table 2 and 3).

Table 2: Knowledge of respondents regarding poliomyelitis

Knowledge questions	Yes %	No %
Polio cause by virus	53.22	46.78
Polio is curable	34.45	65.55
Vaccination is important	60.34	39.66
Polio is due to evil effects	29.54	70.46
Polio can cause death	47.89	52.11
Polio can transmit through food, feces and contaminated water	58.04	41.96
Vaccine can cause polio	36.68	63.32
Only poor suffer from polio	31.25	68.75
Polio vaccine can cause illness(death)	27.87	72.13
Polio can transmit through direct contact	50.55	49.45

Table 3: Attitude towards polio vaccine

Knowledge questions	Yes %	No %
Are you in favor of polio vaccination?	62.31	37.69
Is Polio vaccination dangerous?	34.50	65.5
Do you get your child vaccinated against polio?	72.53	27.47
What do you think? Is polio vaccination halal in Islam?	53.12	46.88
Do you think polio vaccination cause death?	19.92	80.80

79.22% of the respondents were well aware of the term Polio, where the remaining 20.78% had no acquaintance with polio. 85.95% of the people had no past experience with poliomyelitis, where 14.05% of the respondents claimed to have some past experience of having patient suffering from polio in their near relatives or friends. Weak knowledge was observed in respondents belonging to rural areas, reasons being low educational status and no proper means of communications. The traditional prevailing stigma that disease are caused by evil forces was also observed regarding views about polio, where 29.54% of the respondents were found to believe that polio might be caused due to the evil effects yet, 70.46% of the parents strongly agreed with the medical therapeutics for the prevention and treatment of the disease. 58% of the people under study group were aware of the true factors responsible for transmission of polio virus where half of the respondents had a misconception that transmission of virus might occur through direct contact; hence presenting another distressing stigma of society, that polio effected children should be kept isolated (Table 2 and 3). Conception of common population of selected areas regarding disease type was also showed variations (Fig 2).

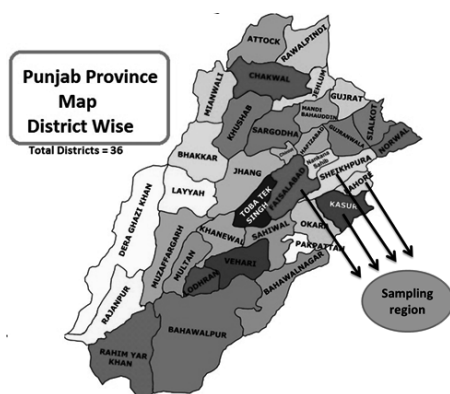


Figure 1: Distribution of sampling regions targeted under study

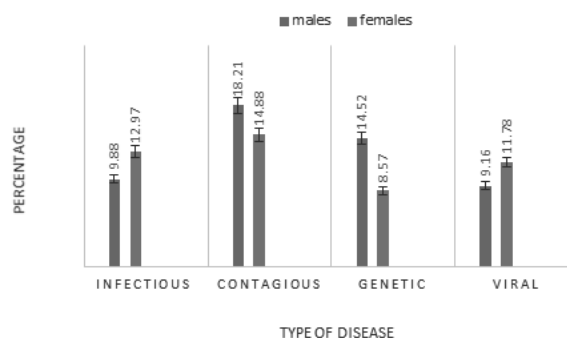


Figure 2: Conception of disease type of poliomyelitis in common people

Discussion

The study was based on assessment of actual knowledge of public regarding poliomyelitis disease and its preventions. The questionnaire developed was based on facts and scientific knowledge in order to reveal the ground level prevailing assumptions and misconception about polio in general people that might leads to failure of all efforts regarding eradication of poliomyelitis from the region.

The results of this study exhibiting awareness of polio in 79.22% of the respondents can be correlated to another study from Pakistan where 20.9% of the participants were not well aware of the term Polio (9). The results also exhibit, better knowledge among people of Punjab, compared to those of Karachi according to the study of, duration time of study being another constrain hence, presenting better awareness among people of Pakistan by the time (14).

The better alertness and familiarity with the issue may be credited to massive polio immunization campaigns, public service messages through mass communication and efforts of healthcare working involved in polio eradication programs. The reason for the negative response founded out to be the safety concerns regarding polio vaccination are worth mentioning. In the past cases have been reported where wrong immunization, resulted in cases of polio hence, incorporating the fear among parents for vaccinations. The reliability of the polio vaccine needs to be authenticated by employing and assuring proper storage and transport of vaccination as, a little mishandling may disrupt the molecular structure causing potential failure or harms (15).

Another worth high lightening issue is the religious beliefs among people considering vaccination harm, whereas, based on true concepts of Islam, the Grand Mufti (Supreme Muslim Cleric) of Saudi Arabia has favored the concept of polio immunization. Therefore, it is recommended to involve the religious scholar, Imams and Sheikhs in the campaigns to create positive attitude of people towards vaccination. This recommendation is supported by others studies from Pakistan as well (14).

Efforts have been made to convey public service messages on social media through renowned religious scholars of the age.

Conclusion

This study dealt with the general knowledge and awareness about polio disease among population of different districts of Punjab. Study concluded that the general public is well informed about polio vaccination and giving vaccine to their children on regular basis.

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