

# KNOWLEDGE AND PERCEPTION ABOUT POLIO VACCINATION APPROVAL AMONG RELIGIOUS LEADERS

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## ABSTRACT

**Objective:** To examine the knowledge and perception among religious leaders regarding polio vaccine approval.

**Methodology:** A cross sectional population study was conducted in three districts (Bahawalpur, Bahawalnagar and Rahim Yar Khan). Sample of size of 120 religious leaders (RLs) was taken by using convenient sampling technique. Descriptive and inferential analysis was carried out.

**Results:** Every 9 out of 10 participants heard about the polio vaccination whereas every 2 out of 10 tend to disapprove it. Several reasons for disapproval were reported, majority (32.26%) of the participants believed that polio vaccine reduces the sexual power and affect the sperm (sterilize) as children grown up this was followed up by the vaccine consist of forbidden (Haram) ingredients (29.03%), its Jews lobby to destroy the muslim generation (22.58%) and it's a plan to reduce the muslim population (16.13%).

**Conclusion:** Although higher proportion of religious leaders approves the polio vaccination but at the same time misconception exists.

**Key Words:** Polio vaccination, Religious leaders, Bahawalpur

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## INTRODUCTION

Although the mass polio vaccination programs has been started in Pakistan since 1994 but still Pakistan is struggling for polio eradication. To examine where the polio eradication efforts are lacking, many researchers contribute through scientific studies and address the reasons that are potentially associated with the failure of polio eradication. For instance weaknesses in the state's public health delivery system, inadequate vaccine coverage and poor monitoring<sup>1,2</sup>; militancy in northern areas as well as violence threats towards polio worker<sup>3</sup> across the country particularly in Federally Administrated Tribal Areas (FATA), Khyber Pakhtunkhwa (KPK) and in Karachi. As a result interruptions in the polio campaign occurred and large cohort of children remain unvaccinated leading to increment in the outbreak of polio cases<sup>4-8</sup>.

Socio-demographic and socio-economic factors are another important features<sup>4</sup> and many children are in-

fectured by the virus due to a low awareness about the benefits of polio vaccine. Besides social hierarchies and educational attainment of parents is a strong indicator of defining awareness level regarding immunization<sup>9-11</sup>. Religious opposition by muslim fundamentalists<sup>5</sup> play a vital role in the failure of immunization programs against polio in Pakistan<sup>12,13</sup>.

Both Pakistan and Afghanistan are muslim countries and share a long border where polio is endemic. Due to war against terrorism and economics instability in Afghanistan, many unvaccinated families arrived in Pakistan particularly in Northern areas and Karachi, harboring polio virus. As epidemiologists have detected the wild poliovirus (WPV) from polio endemic districts in Afghanistan, most of which are located in the southern region, sharing border to the tribal areas of Pakistan<sup>14</sup>.

According to Global Polio Eradication Initiative (GPEI) status report 2015<sup>15</sup>, in 2014 Pakistan reported 306 cases of polio, while 28 in Afghanistan and 6 in Nigeria. In

2015 globally, the total 101 polio cases (WPV=73 and cVDPV=28) were reported; in endemic (WPV=73 and cVDPV=3) and non-endemic (WPV=0 and cVDPV=25) countries. Due to military operation in northern areas, access to the large number of unvaccinated children became possible in these areas and caused a significant reduction (81.61%) in polio cases in Pakistan in 2015 as compared to 2014 (polio cases 56 versus 306, respectively)<sup>16</sup>.

In the present study an attempt has been made to examine the knowledge, perception of RLs regarding polio vaccination in three (less developed) districts of south Punjab namely Bahawalpur, Rahim Yar Khan and Bahawalnagar that might be helpful in removing uncertainties about polio vaccine, created by the anti-immunization propaganda of RLs.

## METHODOLOGY

A cross-sectional study was carried out among 120 RLs of four sects (Hanafi: Dewbandi, Hanafi: Baralvi, Hanbali: Ahla-e-Hadish and Shia: Ahla-e-Tasheh) in Bahawalpur Division, Pakistan between August and December 2015. Bahawalpur Division contains the districts of Bahawalnagar, Bahawalpur, and Rahim Yar Khan. Its area 45588 km<sup>2</sup> and population is 7635591. It is a less developed and agricultural area with large proportion of dwellers are Sariki speaking.

A sample of 120 is selected from three districts by using convenient sampling. The questionnaire contained both open and close ended questions. A variable of an interest was approval of polio vaccine for children by the RLs (approved, disapproved and don't know). The data were collected on the following: Demographic information [respondent's age in years (25-30, 30-35, 35-40 and 40+) and marital status (ever married & never married)], socioeconomic [respondent's education (informal education & formal education), category of RLs (Imam mosque & religious scholar), occupation of respondent's [(traditional, private business and other & public sector) and monthly income (<10000, 10000-15000 & 15000+)], geographic [respondent's place of residence (urban & rural)], self-reported knowledge of polio vaccine [ever heard about polio vaccine (yes & no), media exposure (TV: yes & no, newspaper: yes & no & radio: yes & no)] and reasons for disapproval of polio vaccine as open ended question.

The study was approved by the Institutional Review Board of the Department of Statistics, Islamia University Bahawalpur, Campus Rahim Yar Khan.

After completion of data collection, the questionnaires were fed to SPSS (version 21) data sheet after coding the variables. A quantitative frame work (Descriptive statistics) was applied to evaluate percentages and frequencies of various features of respondents.

Pearson chi square test for independence is used to examine the factors associated with approval of polio vaccination.

## RESULTS

Table 1 presents the characteristics of respondents; higher proportion (30%) of respondents belongs to 25-30 age group. Slightly less than two-third (63.3%) respondents are urban dweller. More than half (58.3%) of the respondents have informal education. Majority of the respondents are married and about 40% respondent's monthly income lies in the category of 1000-15000 PKRs. About 57.5% of the respondents are religious scholar. Higher proportion of respondents read newspaper (79.2%) and watching TV (42.5%) respectively whereas radio was a least access media mode. Larger proportion of RLs had heard about polio vaccine.

Figure 1 depicts the religious leader perception about polio vaccination; higher proportion (72, 60%) of respondents approved the polio vaccination.

Several reasons for disapproval are reported by the RLs (Table 2); the majority (32.26%) of the respondents believed that polio vaccine reduces the sexual power and affect the sperm (sterilize) as children grown up.

Under bivariate analysis (Pearson chi square test of independence) age, place of residence, occupation ( $p=0.05$ ); monthly income and ever heard about polio vaccination were found to be significant ( $p < 0.05$ ) with respect to polio vaccination approval (Table 3).

## DISCUSSION

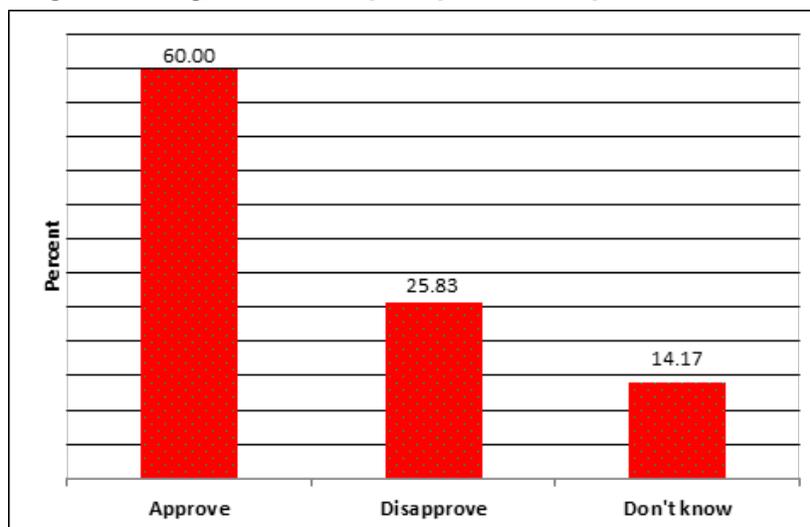
Pakistan is a developing as well as highly populated country in the globe and placed 2<sup>nd</sup> in Islamic countries after Indonesia. It has lower literacy rate, higher proportion lived in rural areas and limited health care settings and quality of life. As religion has influential role in our society and opposition of polio vaccine by the muslim fundamentals attributed as an important hurdle in effective vaccine coverage as well as polio eradication. This study aimed at assessing the religious leader's perception, awareness about polio vaccine approval in three districts. The findings of the study revealed that higher proportion (90.8% and 60%) of the RLs heard about polio vaccine and approved it respectively.

Several uncertainties associated to polio vaccine were documented as it reduces the sexual power and affect the sperm (sterilize) as children grown up, the vaccine consist of forbidden (Haram) ingredients, Its Jews lobby to destroy the muslim generation and it's a plan to reduce the muslim population. These misconceptions are also reported in other parts of the country. In KPK where parents of 24,000 children denied administering the polio vaccine as they believed that vaccine was an American strategy to sterilise muslim children<sup>17</sup>.

**Table 1: Descriptive summary of sample (n=120)**

Feature	n[%]
<b>Age (year)</b>	
25-30	36 [30.0]
30-35	25 [20.8]
35-40	28 [23.3]
40+	31 [25.8]
<b>Place of residence</b>	
Urban	76 [63.3]
Rural	44 [36.7]
<b>Education</b>	
Formal	50 [41.7]
Informal	70 [58.3]
<b>Marital Status</b>	
Never Married	25 [20.8]
Ever Married	95 [79.2]
<b>Occupation</b>	
Traditional	41 [34.2]
Private business and other	46 [38.3]
Public sector	33 [27.5]
<b>Monthly Income (PKRs)</b>	
<10000	25 [20.8]
10000-15000	48 [40.0]
15000+	47 [39.2]
<b>Category of RLs</b>	
Imam mosque	51 [42.5]
Religious scholar	69 [57.5]
<b>Mass Media</b>	
Read Newspaper	
No	25 [20.8]
Yes	95 [79.2]
Listen Radio	
No	103 [85.8]
Yes	17 [14.2]
Watching TV	
No	69 [57.5]
Yes	51 [42.5]
<b>Ever heard about Polio Vaccine</b>	
No	11 [9.20]
Yes	109 [90.8]

**Figure 1: Religious leader’s perception about polio vaccination**



**Table 2: Reported disapproval reasons of polio vaccine by RLs**

Reasons	n[%]
It reduces the sexual power and affect the sperm (sterilize) as children grown up	10 [32.26]
The vaccine consist of forbidden (Haram) ingredients	9 [29.03]
Its Jews lobby to destroy the Muslim Generation	7 [22.58]
It's a plan to reduce the Muslim Population	5 [16.13]

In Nigeria (a muslim majority country), the high ranked public figure boycotted the polio vaccine stating that OPV was an American policy to spread HIV/AIDS and caused infertility among muslim girls<sup>15</sup>.

Social determinants on routine immunization programme are important for the development of modalities to address them with the purpose of optimizing vaccination coverage. The findings of our study exhibits that participant’s age, place of residence, occupation, monthly income and ever heard about polio vaccination were found to be significant with respect to polio vaccination approval. Children immunization and geographical area of residence are often found to be associated. Higher rate of mortality was observed among children in rural settings<sup>18</sup>. The RLs belonging to urban areas are more prone to approve polio vaccine as compared to their rural counterparts. There are many reasons for that, for instance, poor knowledge about child immunization or misconception, accessibility issues to health services and transportation issues<sup>19</sup>. Wealth quintile is an important socio-economic feature and positively associated with children immunization. A study conducted in Lesbella district in Pakistan<sup>20</sup> and found that children immunization rate was higher among rich families. RLs with monthly income 10000-15000 PKRs are more likely to approve polio vaccine. Religious, cultural and personal believes, particularly in developing countries,

are considered as hurdles to child immunization programme. A study conducted in Nigeria found that immunization rate among muslims was lower compared to Christians<sup>21</sup>. A study from Benin revealed that RLs marked child vaccination as a sin against God<sup>22</sup>.

### CONCLUSION

Higher proportion of RLs heard about polio vaccine and approve it but at the same time misconception exists. Socio-demographics such as age, place of residence, occupation, monthly income and ever heard about polio vaccination are found to be associated with polio vaccine approval. As RLs have an influential role particularly in muslim societies where the views of these fundamentals can be attributed as important aspects. So the present study can be handy from policy context to eliminate uncertainties associated with polio vaccine by promoting the awareness among RLs, ultimately to improve health outcomes as well as polio eradication from Pakistan.

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**Table 3: Cross tabulation of response variable versus independent variables**

Feature	Approve%	Disapprove%	Don't know%	P-value
<b>Age (year)</b>				
25-30	52.8	27.8	19.4	0.036
30-35	68.0	20.0	12.0	
35-40	64.3	28.6	7.10	
40+	58.1	25.8	16.1	
<b>Place of Residence</b>				
Urban	65.8	21.1	13.2	0.42
Rural	50.0	34.1	15.9	
<b>Education</b>				
Formal	64.0	24.0	12.0	0.07
Informal	57.1	27.1	15.7	
<b>Marital Status</b>				
Never married	52.0	28.0	20.0	0.06
Ever married	62.1	25.3	12.6	
<b>Occupation</b>				
Traditional	61.0	31.7	7.30	0.05
Private business and other	58.7	23.9	17.4	
Public sector	64.6	21.2	14.2	
<b>Monthly Income (PKRs)</b>				
<10000	60.0	28.0	12.0	0.04
10000-15000	52.1	27.1	20.8	
15000+	68.1	23.4	8.50	
<b>Category of RLs</b>				
Imam mosque	58.8	23.5	17.6	0.08
Religious scholar	60.9	27.5	11.6	
<b>Mass Media</b>				
Read Newspaper				
No	60.0	20.0	20.0	0.10
Yes	60.0	27.4	12.6	
Listen Radio				
No	58.3	29.1	12.6	0.14
Yes	70.6	5.90	23.5	
Watching TV				
No	56.5	30.4	13.0	0.09
Yes	64.7	19.6	15.7	
<b>Ever heard about Polio Vaccine</b>				
No	36.4	36.4	27.3	0.03
Yes	62.4	24.8	12.8	

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## CONTRIBUTORS

JAN conceived the idea, planned the study, and drafted the manuscript. MI, SAAZ and NUR helped acquisition of data and did statistical analysis. All authors contributed significantly to the submitted manuscript.