Polio Virus Becomes Stronger Due to Favourable Social Conditions in Mardan, Khyber Pakhtunkhwa

Syed Rashid Ali1, Syed Hamid Ali Shah2 and Shah Saud3
1Department of Sociology, Abdul Wali Khan University Mardan, Pakistan
2Department of Sociology, Qaid-e-Azam College of Commerce, University of Peshawar, Pakistan
3Department of Sociology, Bacha Khan University Charsadda, Pakistan

Corresponding author: Syed Rashid Ali, Department of Sociology, Abdul Wali Khan University Mardan, Pakistan, Tel: 03009176294; E-mail: bukharasani@gmail.com

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Abstract

The present study focuses on “polio virus becomes stronger due to social conditions in Mardan”. Chi square and Gamma statistics are used for measuring association and direction of relationship between variables. A sample size of 110 respondents is derived through proportionate random sampling from the total population of refusal cases. A positive and significant relationship was observed “in vaccination is not good for health, religious taboos, quality of vaccines, side effects, decreases fertility, foreign agenda, prolongs campaign and a vaccine does not prevent paralysis”. In light of the study findings, it is suggested that proper strategy of targeted approaches for educating the common people particularly refusers is needed. The misconception about the quality and side effects of the vaccines should be addressed through community seminars. The most important segment of the Pakhtun community is local clerics and imams. Special program should be devised to educate these clerics about the nature and usefulness of the vaccines and special messages should be developed to break the misconceived link of West and vaccines.

Keywords: Poliomyelitis; Polio virus; Social conditions; Mardan; Paralysis

Introduction

Poliomyelitis commonly known as polio is communicable virus loaded disease which directly attack nervous system and immediately cause paralysis. This virus enters through mouth and proliferates with intestine. Although symptoms are debatable, however generally known symptoms are headache, vomiting, fever and pain in body [1-3]. In severe cases the virus even causes death which is reported to be 10 to 15 percent [1,2,4]. The most vulnerable group for polio is children below 5 years of age. Polio once infected cannot be cured; however, initially it can be prevented through vaccination at proper stages of life [1,3].

Polio virus is problematic for poor countries as it was for developed countries decades earlier [5-7]. However, a well chalked out vaccination program ensured drastic decline in polio cases in industrial countries [4,6,7]. The efforts of the WHO, UNICEF, and the Rotary Foundation on global level reduced the diagnosed cases to unprecedented position [5]. The programs were successful in eradicating the virus and re-establishing polio free countries that include USA, China, Australia, and Europe [5,7-9].

Recently it is pointed out that polio is endemic only in three countries in the world including Pakistan [4,6,10,11]. The reasons of this high risk society in terms of polio virus are reported to be multi. It includes lack of doable and viable induced strategy of immunization, law and order situation in the country, managerial and administrative issues, lay perception, misinformation, rumours, social pressure, media reports against vaccination or quality of vaccines, and credibility of the program [6-9,11].

The credibility of vaccines become at stake due to media reports of attributing deaths to unsafe vaccines and comparing drone attacks and assistance in polio vaccination by West. The process of locating Bin Laden through a fake vaccination process adds fuel to the fire. This fake vaccination campaign further deteriorated the already distrustful and noncompliance milieu [8]. Earlier studies indicate that lack of awareness and information among the caregivers regarding the usefulness and benefits of the vaccination results in failure of the program [9]. Social pressure from community members and local clerics has strong influence on the choice and decisions of the people. Failure to conform to the approved behaviour may lead not only to exclusion rather in some cases to violence [8,12]. Religious taboos, lack of trust on medical facilities, vaccination considered to be not good for health, and misconceptions are the reasons of refusal as concluded by [11,13,14].

WHO, UNICEF, and the Rotary Foundation have been fighting polio virus with its limited resources throughout the world. Now most of the countries and regions are declared polio free and international community focuses only on three countries including Pakistan for fighting this endemic virus with all its resources, experiences and skills [8,15,16]. However, still this virus is problematic for citizens of Pakistan [17]. In Pakistan, the most affected area reported to be inhabited by Pakhtuns who are also considered to be chronic refusers [5,8,12]. What are the reasons that it could not be defeated; is the focus of the study? In other words, why the anti-polio program could not achieve its aim of ensuring polio free Pakistan? Particularly, what are the reasons associated with refusal of polio vaccination in district Mardan, Khyber Pakhtunkhwa? The present study is designed in line with the normative expectation or social norms perspective explained by Bicchieri [18] as we are not influenced by our own choice and preferences alone rather by the confirmation and acceptance of others. In Pashtu language, a phrase is used “Khalaq ba sa wayee (what people
would say); usually this norm is taken into consideration before expressing any view or showing any action.

Methodology

Multistage sampling technique is used for the current study which is carried out in Tehsil Mardan. A sample size of 110 head of family is set for data collection in line with Sekaran [19] where she states that for most of the studies a minimum 30 and maximum 500 respondents for data collection gives valid results. In the first stage, Tehsil Mardan is randomly selected from the three Tehsils as District Mardan is administratively divided into three Tehsils, namely Takhtbhai, Katlang, and Mardan. In the second stage, 10 union councils are randomly selected from the list available. In the third stage the required sample size is proportionately allocated to each union council and selected through systematic sampling technique. The consent of the respondents is obtained; however, it is observed that data collection from refusers is difficult. Out of 110 questionnaires we received only 92. Data is collected through a comprehensive questionnaire covering all variables in the month of March 2016. It is to mention here that in almost all the union councils of Mardan one can find refusal cases. One of the limitations of the study is that we could not approach mother for data collection. The reason could be the cultural taboo of interaction with strange male.

A conceptual framework with one independent (reasons of refusal) and one dependent variable (prevention of paralysis by vaccination) was planned. The collected data was analyzed by using Chi-square and Gamma statistics in order to delineate association and direction of relationship of the variables. Dependent variable was indexed for the purpose and cross tabulated. Where required, Fisher Exact Test was used to overcome the technical issue in the assumption of chi-square.

Results and Discussion

Polio is one of the endemic diseases that cured in the rest of the world except Pakistan and two other states. The Government of Pakistan launched a program against the virus throughout the country; however, it could not get desired results. The present study is designed with the aim to find out the reasons of refusal that obstruct the implementation of the program and endanger the life of loved ones.

Table 1 shows association of the reasons of refusal with that of knowledge of prevention of paralysis through vaccination. A positive and significant relationship ($\gamma = 0.632; P<0.00$) is found between vaccination does not prevent paralysis and vaccination is not good for health. The result shows that respondents do not believe in the potential and capability of the vaccine in curbing the virus rather they consider such vaccination as threat to the health of their babies. Such a situation and attitude is a real and hard challenge for the government to implement anti-polio program and overcome the virus. This result could be due to the low level of campaign that do not address the questions, confusions, and mistrust of the community on the overall program. Therefore, unawareness of the parents regarding the usefulness of the vaccines could be the reason of refusal. The result is in line with Sheikh et al. [13].

A positive and significant relationship ($\gamma = 0.663; P<0.00$) is obtained between vaccination does not prevent paralysis and vaccination is not allowed in Islam. The results illustrate the prevailing popular but misinterpreted Islamic perspective on the polio vaccination in district Mardan. This could either be due to the anti-approach of local clerics, their lack of vision, understanding, and or reaction to the countries mandating the polio program. On the other hand, it is rightly said that it takes two to make a quarrel. The polio vaccination team could also be blamed for not targeting the local clerics for making them know the actual position of polio virus, stand of the government, and expert opinion including that of well-known religious scholars and ulama (Clerges). The dormant role of polio workers could be due to the social pressure from local clerics. As the local clerics are considered to be more influential than other leaders, therefore polio workers could not stand in their way. Hence, the role of local clerics could not be ignored in any of such initiatives as they are not only in close contact with local people but also have a dominant position in influencing the attitude and behaviour of the common people. The present findings are in consonance with Burhan and Hasan; Kazi [11,14].

A positive and significant relationship ($\gamma = 0.398; P<0.006$) is detected between vaccination does not prevent paralysis and quality of vaccine is doubtful. The results show that people of the locality consider vaccination as either of low quality or even dangerous for health. This perceived doubt could be the reason of refusal. It could be deduced from the result that such confusion and mistrust regarding vaccine is either due to prevailing of conspiracy theories, propagation of unverified information, and or media reports on the quality of it. When the old cock crows the young cocks follow, the local people mostly those who are either illiterate or only literate spread such misinterpreted, unverified, misconceived information regarding polio vaccine and program and thereby the show of opposing the polio program goes on. The findings are in accordance with Roe [8].

A positive and significant relationship ($\gamma = 0.460; P<0.00$) is observed between vaccination does not prevent paralysis and use of such vaccine decreases fertility. It could be inferred from the findings that propaganda against the use of polio vaccines for infertility has proved successful in the study area. The result reveals the view of the refusal families regarding the non-prevention of paralysis rather its negative effects in decreasing fertility of the vaccinated person. Such result demonstrates the edifying status and knowledge of the respondents. It could be construed from the findings that with such low status people could be easily derailed and ruined with false propaganda as in the case of the current study. The result is in agreement with Mushatq et al.; Shah et al. [7,9].

Similarly, a positive and significant relationship ($\gamma = 0.314; P<0.001$) is scrutinized between vaccination does not prevent paralysis rather causes other diseases. The results reveal that polio team could not effectively reach out to common people and could not educate them regarding the usefulness of vaccines. The negative forces for their own interests or due to backwardness disseminate misinterpreted and unverified information regarding polio vaccines which took roots in society. The study findings are in support to Khan [6] findings.

A positive and significant relationship ($\gamma = 0.464; P<0.003$) is detected between vaccination does not prevent paralysis but it's only a foreign agenda. The findings reveal a strong link of refusal with perception of vaccination as foreign agenda. The imprint of this extreme form of doubt about the West even incline them to endanger the life of their son(s) and daughter(s). Indeed, it is a matter of great concern that why our society, being at long distance with no active social contact, is taking West a sign of hate and reject things if attached/labelled with them. Here, I suggest that study may be undertaken to find out the reasons of such doubts about West as it obstructs the implementation of critical programs like polio vaccinations. The results are in congruence with Shah et al. [9].
A positive and significant relationship ($\gamma=0.669; P<0.00$) is observed between vaccination does not prevent paralysis and female veil or parda. The findings disclose the perception of respondents on the issue. They consider the polio vaccination program as against the cultural norms of female veiling. The program envelops a hidden objective of challenging the parda system of our society as envisaged from the results. Such perception could not be more than a lay perception, however, its importance in challenging the implementation of polio vaccinations and thereby reducing the chances of eradicating the virus could not be ignored.

A positive and significant relationship ($\gamma=0.539; P<0.00$) is established between vaccination does not prevent paralysis and prolong campaign. The results highlight that the prolong nature of the polio program taunt the people and they criticise it. It could be concluded that people observe the process of polio vaccination in terms of increase in frequency of drops which might have been taken as negative. It could also be inferred that the people are not properly educated on the need of increase frequency of drops which could be linked with refusal and could lead to the failure of the program.

<table>
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<tr>
<th>Statements</th>
<th>Response</th>
<th>Polio vaccination does not prevent paralysis</th>
<th>Total</th>
<th>Statistics</th>
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<td>Not good for health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>76(82.60)</td>
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<td>5(5.43)</td>
<td>11(11.95)</td>
<td>$\gamma=0.632$</td>
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<td></td>
<td></td>
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<tr>
<td>yes</td>
<td>75(81.52)</td>
<td>7(7.60)</td>
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<td>5(5.43)</td>
<td>10(10.86)</td>
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<td>Quality of vaccine is doubtful</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>69(74.9)</td>
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<td>72(78.26)</td>
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<td>9(9.78)</td>
<td>20(21.73)</td>
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<td>Use of such vaccine decreases fertility</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>70(76.08)</td>
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<td>78(84.78)</td>
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<tr>
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<td>6(5.43)</td>
<td>14(15.21)</td>
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</tr>
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<td>Use of vaccine causes other diseases</td>
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<td>yes</td>
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<td>Nothing but foreign agenda</td>
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<td>12(13.04)</td>
<td>19(20.65)</td>
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<td>Attack on female parda/veil</td>
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<td></td>
<td></td>
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<td>76(82.60)</td>
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<td>16(17.39)</td>
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<td>84(91.30)</td>
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<td>3(3.26)</td>
<td>8(8.69)</td>
<td>$\gamma=0.539$</td>
</tr>
</tbody>
</table>

**Source:** Field Survey, 2016

**Note:** Values presented in table indicate frequencies while in parenthesis represent percentage

**Table 1:** Association between reasons of refusal and prevention paralysis by vaccination.

**Conclusion**

It is high time that sole polio virus gathers mass in an illiterate and misled community of Mardan. It becomes a social dilemma of the 21st century that still people follow whims than logic and science even in cases where the life of their dear ones could be at risk. Although, one cannot say that the program is a complete failure, however, such a large number of refusals could be the potential threat to the program. Mostly, the reasons of refusal are not concrete rather perceptual which requires targeted mobilization, education, and proper involvement of all stakeholders' especially local clerics.

**References**