

Role of Mass Media and Interpersonal Communication in Polio Eradication Campaign

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Abstract *Health communication characterizes the boundary between communication and health and is progressively documented as essential for everyday well-being. Mass media, especially electronic media, is the need of the time, especially during the outbreaks like Polio in Pakistan. People get information from mass media, up-grade their knowledge, and their attitudes are formed, and ultimate change in practices becomes forth. By keeping in view the widely witnessed role of mass media in healthcare communication, this article also examines Pakistan regarding Polio eradication. We executed a descriptive quantitative method and gathered data from n= 300 respondents. Results revealed that Mass Media and Interpersonal communication have a significant role in delivering the proper knowledge about the Polio disease. Through Mass Media and Interpersonal Communication, the masses may know the harmful consequences of Polio disease and the influential role of the vaccine in curing this disease. Thus, we concluded that media help eradicate misconceptions about the vaccine, resulting in the complete wipeout of Polio from Pakistan. Further, we have discussed the results and highlighted the recommendations accordingly.*

- DOI: 10.31703/gssr.2021(VI-I).56
- Vol. VI, No. I (Winter 2021)
- Pages: 552 – 563
- p- ISSN: 2520-0348
- e-ISSN: 2616-793X
- ISSN-L: 2520-0348

Key Words: Polio, Mass Media, Endemic, Pakistan, Polio Campaign, Health Communication

Background

Every communication is done to influence others. It is true to say that communication has become an extraordinary power to change others' attitudes and behaviors. Communication changes the patterns of thinking, learning, and living (Dingfelder et al., 2011). The last 20 years have seen the extended use of media and communication to bring changes in all over the globe. With the advent of mass media and new scientific research methods to measure effects, at the moment, communication has become a primary agent of social change [West & Turner, \(2020\)](#). Communication aids the purposes of commencing the action, making available necessities and wants, exchanging the required information, philosophies, concepts, attitudes, approaches, and beliefs, enhancing understanding, and developing and upholding relations [\(Pakistan, 2018\)](#). Besides, when using media for health communication, it comprehends the training and use of

communication tactics and affects both personal and public awareness, attitudes, and practices regarding health and healthcare. Health communication characterizes the boundary between communication and health and is progressively documented as an essential element for the betterment of both individuals and community health. Health communication has all aspects of disease prevention and health development. Research has discovered that the development of interpersonal and cluster interactions is also effective in communication assistance [\(Chukwu et al., 2019\)](#).

Similarly, a mass communication campaign's targeted audiences can be divided at numeral levels. The individual is a central target for health-associated transformation because it is the individual behaviors that mold health attitudes. Communication can affect the individual's awareness, knowledge, attitudes, self-efficacy, and skills for behavior change. Activity at all

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other levels ultimately aims to affect and support individual change [Zulfiqar et al., \(2019\)](#). For instance, This Poliovirus, which once paralyzed and ruined children in more than 125 countries, is now endemic only in Pakistan and Afghanistan. However, the world and the government of Pakistan have made efforts to make Pakistan a polio-free country, but some polio cases were still reported in Pakistan in 2019. People know polio, its damaging effects, and its preparations in the form of a totally free vaccine on the coast and at their doorstep [\(Malik & Hameed, 2020\)](#). Mass media, especially electronic media, is the need of the time, especially during the outbreaks like Polio in Pakistan. People get information from mass media, they up-grade their knowledge, their attitudes are formed, and ultimate change in practices becomes forth. Though mass media is working to inform people, there is still room because polio cases are being reported in Pakistan, which means there is some deficiency in communicating, informing, and bringing changes to society [Ahmad et al., \(2017\)](#). Many studies have shown that mass media messages are effective when employed together with interpersonal channels. Many studies are done to explore the reasons why Pakistan is still on the list of polio-endemic countries (Hashmi et al., (2014). This research attempts to examine the role of both mass media and interpersonal channels to measure the effectiveness of mass media and interpersonal sources to inform people, to bring changes in their perceptions and practices regarding polio vaccination in polio eradication campaigns [\(Syed et al., 2018\)](#).

Thus, by keeping in view the widely witnessed role of mass media in healthcare communication, this article also aims to examine in Pakistan Polio eradication. We have further divided this article into different sections based on the formal research requirements to provide systematic and empirical evidence. In this regard, the primary study questions involve:

RQ1: Whether and to what extent mass media (Radio, TV & Newspaper) and interpersonal communication sources (Religious leaders, Health experts and celebrities) increase the knowledge level of the people regarding polio vaccination?

RQ2: Whether and to what extent mass media (Radio, TV & Newspaper) and interpersonal communication sources (Religious leaders, Health experts and

celebrities) change the attitude of the people about polio and its vaccination?

RQ3: Whether and to what extent do people follow the instructions given by mass media (Radio, TV & Newspaper) and interpersonal communication sources (Religious leaders, Health experts and celebrities) regarding the polio immunization of their children?

Literature Review

History of Effect studies

Media affects people's approaches and performances; it is still considered conventionally and frequently, for long. It relates to hypothetical significances and effects of media communications on an individual. Since its inception, media has been blamed for engineering people to perform what they would not do if their minds had not been bombarded with media. A significant volume of studies is preoccupied with the damaging effects of media, as the research study "Children Television Viewing Patterns and Parental Media" claimed that media is causing those harms which are demarcated and categorized as intimidations to social norms, complications, damaging and hazardous in terms of sociology and psychology. Most researchers are obsessed with such perceptions as media has adverse effects.

The issue still unresolved, where the social scientists were stuck, was the amount and nature of media effects. They were not sure that media has negative or positive effects on its consumers. Some of the social scientists believed that media are positive in functioning to trigger suppressed tendencies and strengthening. However, at the same time, media have a significant role in bringing change, like media can motivate people to change their forerunning attitudes. Some other media researchers like [_\(Klapper, 1960\)](#) have claimed the limited effects of media. It is claimed that media cannot instigate change; it only can strengthen already held beliefs. Other social scientists like (Bandura, 1978) are of the view that media influences modify pre-existing approaches as well as generate some new also.

Denis McQuail characterized the total era of media effects studies into three phases: The first phase includes the start of the 20th century till the 1930s, where media were developed in North America and Europe. It was recognized to have a considerably strong power to figure opinions

and beliefs, change routines of daily life, dynamically modify behaviors and enforce political structures. Such views were not based on scientific research but were grounded on realistic findings. It was just because a large audience was being observed to be attracted by the press, radio, and cinema (McQuail, 1977). At that time; social science research was in the developing stage. The second phase covers the era between the 1940s to early 1960s. Mass communication research developed in the United States of America regarding the effects and effectiveness of mass media. Till the end of this phase, it was concluded that media has no effects, and it was generally accepted. The third phase is currently going on; this phase has redressed the postulates devised until the second phase. New concepts and results have been concluded, proving that there are verifiable short-term and long-term effects of mass media contrary to the second phase results.

Mass Media and Health Communication

The researcher (Obregon, Chitnis, Morry, Feek, Bates, Galway & Ogden, 2009) said that coordination is a strategy to improve the results of communication campaigns. Mass media has to coordinate with other social institutions. Even after removing all the physical hurdles, like arranging access to far-flung communities, some social and psychological barriers obstruct the free flow of effective communication with the masses. Beliefs and ideologies are deeper rooted in cultures and people's minds. Polio being a reality and having an observable existence is easier to spot and uproot, but beliefs are abstract; these are neither easy to pinpoint nor easier to eradicate. There is no vaccine against resistance or refusals that are rooted in social, cultural, religious and political contexts. Nothing can overcome issues of gender-based decision-making in households. Medical approaches alone cannot address particular community concerns. These challenges demand effective communication action (Zaidi et al., 2020).

Goldstein et al. (Goldsteina & Guirguis, 2015) have evaluated the importance of media communication as a sprouting field. The study proves that communication can be an operative device if employed cautiously, well-planned, and cohesive. It has the power to guide and shape people's behaviors on some health issues, together with vaccine hesitancy. Two decades'

experience has highlighted some of the significant essential points considered while planning and executing a communication strategy. These points are the following: Firstly, it must be proactive; the communication strategy must be part of any immunization planning from its foundation. Last minute changes may lead to compromises in the whole program. Secondly, communication is a two-way process, which includes listening and telling. It is essential to understand the ideologies of the people for whom the immunization facilities are planned. Populations are mobilized by their religious and community leaders. It has been proved as an operative communication tool to endorse polio eradication determinations in endemic countries. Here comes the role of interpersonal communication and the role of opinion leaders. Thirdly, knowledge is important but not enough to bring change in the adoption. It is necessary to adopt different models to deal with different approaches and contexts. Communication is more operative when it is constructed on theory. Fourthly, various communication media are accessible and can be selected and used innovatively to promote vaccine acceptance. Media include mass electronic media, print media, digital media, mobile technology, social mobilization, and service-based communication (Solomon & Roma, 2019).

Theoretical Underpinning: Limited –Effects Paradigm

The limited effects paradigm is also called the Attitude change theory or Individual differences theory. The theory discovers the numerous psychological factors of the individuals (Lowery, 1995). the theory argues that every individual receives and interprets media messages differently by delivering the same messages. Audiences are selective and heterogeneous and follow the selectivity process, i.e., selective exposure, attention, perception, and retention (Hovland, 1951).

The culture and socio-economic factors have a vital role in making the personalities. Individuals may adapt to the newer circumstances, but socio-economic factors have an everlasting impact on the attitudes of the individuals. The theories of individual selectivity rejected the powerful effects of media on individuals. They relied on arguments that individuals will expose, perceive and retain only

those media messages which sustain their beliefs and attitudes. Thus, the researcher applied the theory of limited effects and analyzed the assumptions that people from different socio-economic backgrounds have different media desires and are affected by media messages in different ways. Similarly, age, residence, education level, and professions affect their media habits.

Methodology

Research Design

The current research is a quantitative study to know the role of mass media and interpersonal communication in the polio eradication campaign in Pakistan. Notably, the number of reported polio cases was at the peak that is 306 in 2014, the number dropped to 8 cases in 2017 that was quite hopeful, but it suddenly increased and instead of the complete wipeout of the disease, the number of infected mounted to 140 cases in 2019. In Pakistan, mass media is used

primarily on polio eradication campaigns and interpersonal channels are usually ignored. However, this study focused on the role and importance of mass media in interpersonal communication, especially opinion leaders' roles.

Population & Sampling

The population taken for the research was every individual residing in Rawalpindi city. It is considered one of the big metropolitan cities of Pakistan. One of the reasons for selecting Rawalpindi is that it is a multi-ethnic city with a multilingual population of Punjabis, Pashtun Kashmiris and Muhajir settlers living in Rawalpindi. Table 1 below summarizes the relevant population calculation attained from the government official data repository. Further, we took into consideration the residents of Rawalpindi city. The research sample included every individual married or unmarried, male or female and even transgender above 18 years of age.

Table 1. District and tehsil level population summary with the region, breakup Punjab

District / Tehsil	Region	Population	NO of HH
		5,405,633	888,765
Rawalpindi District	Rural	2,530,117	418,177
	Urban	2,875,516	470,588
		3,258,547	530,846
Rawalpindi Tehsil	Rural	1,160,316	189,503
	Urban	2,098,231	341,343

The research was conducted for educational purposes at the university level, so it was challenging to question every person in the population. The researchers adopted the simplest way to determine the sample size given by Roger D Wimmer Joseph Dominick (Wimmer, Dominick, 2010) Sample size was $n= 300$ individuals married/unmarried, male/female/transgender, and the minimum age was 18 years to accumulate data. Furthermore, we gathered data from the sample through the survey method. The survey method for data collection is considered a reliable and valid method.

We further used the KAP model to examine the role of mass media (TV, Radio, and Newspapers) and interpersonal communication (Religious leaders, Political leaders, Health experts and Celebrities) in polio eradication campaigns. To measure the knowledge, attitude

and practice level in response to mass media (TV, Radio, and Newspapers) and interpersonal communication (Religious leaders, Political leaders, Health experts and Celebrities), the researcher operationalized the concepts into measurable constructs.

Data Collection and Reliability Analysis

After data collection, it is one of the most critical steps to analyze this data. Statistical Package for the Social Sciences (SPSS) software was used for analysis purposes. Moreover, the reliability of the survey tool was also checked. Cronbach's Alpha test was run, and the value was 0.704. This value directs that there is enough consistency in items.

Data Analysis & Interpretation

Demographics

This subdivision demonstrates the demographic

information of the respondents. The research explored the five demographic variables, which include Gender, Age, Qualification Level, work

status, and Residence background of the respondents.

Table 2.

Variables	Constructs	Frequency/ Percent
Gender	Female	115 (44.7)
	Male	142 (55.3)
Age	Below 25	35(13.6)
	26- 35	95(37.0)
	36- 45	87(33.9)
	above 45	40(15.6)
Qualification	Never been to school	06(2.3)
	Primary complete	06(2.3)
	Secondary complete	09(3.5)
	Higher Secondary	28(10.9)
	Graduation	43(16.7)
	Master	101(39.3)
Work Status	MPhil & above	64(24.9)
	Public sector	72(28.0)
	Private sector	67(26.1)
	Own business	22(8.6)
Residential background	Housewife	46(17.9)
	Other	50(19.5)
	Rural area	90(35.0)
	Urban area	167(65.0)
Total		257 (100.0)

The total number of study respondents was 257; out of the total respondents, 115(44.7%) were females, and 142(55.3%) were males. The data shows that majority of the parents were of the age between 26- 35 years. 95(37%) respondents out of 257 respondents were young and between 26- 35 years of age. 87(33.9%) respondents were between 35- 45 years of age, while 40(15.6%) respondents were above 45 years of age. Less than 25 parents were 35(13.6%). Demographic analysis of the qualification level shows that most of the respondents, 101(39.3%), his master's degree holder, and 64(24.9%) are highly qualified, i.e., MPhil or above. Graduate parents are 43(16.7%), and 28(10.9%) parents have higher secondary school certificates. 9(3.5%) of the respondents said that they completed secondary level, complete primary parents are 6(2.3%), and there are 6(2.3%) of the parents who never have been to school. The work status of the respondents shows mixed trends; data shows that 72(28%) respondents are public sector employees while 67(26.1%) respondents are private-sector employees. Respondents who owned their own

businesses are 22(8.6%), and 46(17.9%) are housewives, while 50(19.5%) of the respondents chose the option of others out of a total of 257 respondents. Data displaying the residential background of the respondents shows that the majority of the respondents are urban residents who are 167(65%) while the remaining 90(35%) belong to the rural area.

Exposure to Mass Media

The results regarding mass media watching habits are noteworthy, the majority of the people watch television, but radio and newspapers are not much preferred. The data collected from the sample showed that 162(63%) respondents out of 257 respondents watch television sometimes, and 87(33.9%) of the respondents answered that they watch television regularly. Interestingly 8(3%) of the respondents are still not even exposed to television. The results showed that the majority of the respondents, 157(61.1%) out of 257 respondents, said that they watch television less than 2 hours a day. 73(28%) of the respondents spend more than 2 hours but less than 4 hours a day watching television. Only

5(1.9%) respondents claimed they "do not watch television." According to the data collected from the sample, News and current affairs programs are much preferred by the majority, which is 110(42.8%) of the respondents, while about 102(39.7 %) respondents enjoy entertainment programs. Health and nutrition programs are a bit preferred than sports programs as 16(6.2%) respondents watch health and nutrition-related programs and 14 (5.4%) of the respondents watch sports programs. At the same time, 15(5.8%) respondents answered that they watch other types of programs on television.

Exposure to Radio

The current research included radio as a popular electronic mass media source. Although 156(60%) of the respondents claimed that they listen to the radio sometimes, 95(37%) of the respondents opted that they "never listen to Radio"; the percentage is quite considerable that indicates a decline in radio listening habits, perhaps people drop radio in the existence of television. Only 6(2%) were regular listeners of the radio. The data gathered showed that 199(77.4%) people listen to the radio for "less than 2 hours". Only 5(1.9%) of the respondents listen to the radio for "More than 2 but less than 4 hours" similarly only 3(1.2%) of the respondents out of 257 respondents reported that they listen to the radio for "More than 4 hours" a day. People who do not listen to the radio are 50(19.5%). Data showed an exciting fact that radio is mainly used as an entertainment source. 100(38.9%) of the people said they use radio for entertainment programs, and 61(23.7%) admitted that they used radio for news and current affairs programs. Only 7(2.7%) like the sports program on the radio while 13(5.1%) like Health and Nutrition programs on Radio. 37 (14.4%) claimed that they never listen to any program on the radio yet 39(15.2%) listen to the radio for other types of programs.

Exposure to Newspaper

Newspaper is a mass media's printed source, and it needs the skill of reading, 23(8.9%) of the respondents out of 257 total respondents were not able to read newspaper similarly 26(10.1%) said they never read the newspaper. 161(62.6%) of the respondents were occasional readers as they sometimes opted for a newspaper reading

habit. Only 47(18%) was a regular reader of a newspaper.

Polio Messages on Mass Media

Mass media is a primary source of circulating messages in the common masses. All over the world, mass media is considered very important in disseminating crucial information. The frequency of such messages displayed through mass media is directly linked with the intensity and seriousness of the problem. Polio has almost been eradicated in most countries worldwide; however, the problem persists in Pakistan. The government in Pakistan shows serious concerns about eradicating this disease.

Consequently, both the state and private media repeatedly broadcast information on polio. This information consists of several segments like the harmfulness of disease—the importance of vaccination against disease and the essential information to start polio campaigns in each area. Polio eradication messages are transmitted through television. A majority of the respondents, 113(44.0), admitted that they saw polio and its vaccination messages on television. However, 7(2.7) said they had never seen such messages, but 28(10.9) respondents said they rarely saw messages regarding polio eradication. 28(10.9) of the respondents claimed that they usually watch these messages and 36(14.0) respondents answered that they always watch Polio-related messages on television. Polio messages are disseminated by radio also. 71(27.6%) respondents said that they had never listened to any polio eradication-related message from radio, but 34(13.2 %) said that they had heard polio eradication messages rarely. Some 99(38.5 %) respondents answered that they sometimes heard polio eradication messages on the radio. 36(14.0 %) opted for the usual option, and 17(6.6%) exclaimed that they always listen to the radio's polio eradication-related messages. Data showed that people have also observed the polio eradication messages in the newspaper. 114(44.4%) of the population said they have sometimes seen polio-related messages in newspapers. 30 (11.7%) have never seen polio-related messages in newspapers, according to gathered data results, while 44(17.1%) respondents said that they had seen such messages rarely in newspapers. It was observed that 46(17.9%) of the respondents have usually read polio messages in newspapers, and

23(8.9%) respondents always have seen these messages in newspapers.

Helpfulness of the Polio Messages

Respondents were asked to what extent the polio eradication messages on mass media increased their knowledge regarding polio disease, its harmfulness, its threats, its cure, its vaccination, and its campaigns. The majority of the respondents, 95(37.7%), opted for "A lot," and 18(7.7%) chose the option of "A great deal." However, 12(4.7%) respondents said that messages were of no use as they opted for "Not at all." 61(23.7%) of the respondents said that messages regarding polio and its vaccination increased their knowledge "A little." Moreover, 71(27.7%) chose the option of "Moderately." When people were asked about the usefulness of the media messages related to polio and its vaccination campaigns, their response was mixed. 11(4.3%) of the respondents out of 257 respondents said that messages were "Not at all" useful for them, but 46(17.9%) of the respondents were of the view that messages were "A little" beneficial for them. 84(32.7%) said it was "Moderately" beneficial for them, and 89(34.6%) of the respondents chose the option of "A lot." In comparison, 27(10.5%) claimed that messages on mass media related to polio were of great usefulness.

Information about start of Polio Campaign

We included items in the questionnaire to ask respondents what their source of information is. To come to know about the launching of the polio campaign in their area. 129(50.2%) of respondents opted for television as the primary source of information about launching the polio campaign in their area. 59(23.0%) respondents out of 257 respondents said they came to know about launching the polio campaign in their area via Polio teams. In comparison, 28(10.9%) of the people were informed about launching a polio campaign by their area health workers. 8(3.1%) respondents chose the option of radio, 18(7.1%) respondents are informed by reading newspapers, and 15(5.8%) of the population get information through Neighbours/ Any other source.

Another item was included in the questionnaire to know "What is the source of information about polio prevention?". Television was the source of information about polio

prevention in 183(71.2%) respondents. In comparison, radio was the source of information for 6(2.3%) respondents, and the newspaper was the information source for 8(3.1%) people in the mass media category. 21(8.2%) of the respondents are informed by area health workers, and 29(11.3%) of the respondents get informed by polio teams about polio prevention. Neighbors/ Any other are the source of information for 10(3.9%) respondents.

Information related to Rawalpindi city

Respondents were asked whether they knew any polio case in Rawalpindi or not. The majority, 187(72.8%) of the respondents, answered negatively, while some 32(12.5%) answered yes. 13(5.1%) of the respondents were uncertain, and 24(9.3%) opted for the option of "Maybe."

Respondents were asked if they knew the launching dates of the Polio campaign in their area. Interestingly most of the people, 199(77.4%), were unaware of the launching dates of the polio campaign in their area, and 26(10.1%) claimed that they knew the launching dates in their area. 14(5.4%) were uncertain, and 17(6.6%) of the respondents have opted for the option of "Maybe." When respondents were asked where they immunize their children, a significant majority, 160(62.3%), of the respondents said that they immunize their children from polio teams, as they are well aware of the role of polio teams. 42(16.3%) of the respondents opted for Public hospitals, while 11(4.3%) chose Private hospitals. 19(7.4%) said that they immunize their children anywhere, and 25(9.7%) said they use other polio vaccination sources.

Role of Advising for Polio Immunization

People seek information and transmit it to other people in their contact. Such people play the role of opinion leaders for others. When people were asked if they like to advise others to immunize their children against polio, 67(26.1%) people believed they always advise others. 61(23.7%) also agreed to this and opted for usually advising others for polio vaccination. 71(27.6%) said that they advise sometimes, 27(10.5%) of the respondents selected the option of rarely and 31(12.1%) of the respondents said that they never advise anyone for polio immunization of their children.

Respondents were also asked whether they seek advice from others or not; 65 (25.3%) claimed that they never seek advice from others, 43(16.7%) said they rarely seek advice and majority 82(31.9%) said that they sometimes seek advice regarding polio vaccination of their children. 44(17.1%) of the respondents usually and 23(8.9%) always seek advice from others about polio immunization of their children. Data regarding the usefulness of advising others or seeking advice from others reflects the results that the majority of the people, 108(42.0%) are, strongly agreed with the usefulness of advising regarding polio immunization of their children similarly 107(41.6%) of the respondents agree to this notion of advising others or seeking advice from others. 24(9.3%) were uncertain, 6(2.3%) of the respondents have disagreed, and 12(4.7%) chose the option of strongly disagreed.

Necessities Regarding Polio Eradication

Collected data indicates that people want their country polio free; respondents were asked if they agree that polio must be eradicated from the country, 148(57.6%) strongly agree to this need, and 87(33.9%) of the population agreed to this. 10(3.9%) were uncertain, 5(1.9%) of the respondents chose to disagree, and 7(2.7%) of the respondents were strongly disagreed with this need for polio-free country.

The above table and figure indicate that 137(53.3%) respondents strongly agreed to the necessity of every child immunization, and 93(36.2%) agreed. In contrast, a few respondents, 2(.8%), have disagreed, and only 9(3.5%) strongly disagree with this need. 16(6.2%) are uncertain about it.

A significant quantity 114(44.4%) of respondents strongly favor the necessity that every child in every repeated vaccination must be vaccinated. Similarly, 108(42.0%) of the population agree to this need. A few 4(1.6%) respondents are disagreed and only 10(3.9%) strongly disagreed, and 21(8.2%) respondents were uncertain.

Dangers of Polio

Respondents were asked to what extent they think that polio can be harmful to their children; most of them, 101(39.3%), agreed to this that polio could be harmful to their children a lot, 93(36.2%) of the respondents chose "A great deal." 32(12.5%) are of the view that moderately

harmful it can be, 14(5.4%) think that polio can be a little harmful and 17(6.6%) claimed that polio is not at all a big problem for their children. People were asked about the dangers of polio to see if people knew about the disease and its devastating effects. The questionnaire included that the respondents agree that polio is a dangerous disease or not, 9(3.5%) strongly disagreed with this statement, 4(1.6%) disagreed, and 18(7.0%) of the respondents were uncertain about the dangers of polio. 136(52.9%) of the respondents out of 257 strongly agreed, and 90(35.0%) agreed that polio is a dangerous disease.

Polio as an Issue and Society

Data demonstrated that the opinion of a great majority, 117(45.5%), favors the fact that polio is a severe issue in our society; a good 87(33.9%) respondents hold the same opinion with the option of strongly agree. A small number 9(3.5%) of respondents denied this fact and opted strongly disagreed; only 18(7.0%) disagreed, and 26(10.1%) of the respondents were uncertain about this issue. The data table shows that a majority 117(45.5%) of respondents opined that the community should contribute to solving the problem of polio. Every person must struggle to make the country polio free and save every child in the country. A good number 104(40.5%) of respondents opted for the option of strongly agree, while 24(9.3%) were uncertain. A tiny volume 3(1.2%) of the respondents disagreed, and only 9(3.5%) strongly disagreed. Respondents were asked if they believe in the proficiency of the Polio vaccine; they agree it is much proficient at reducing the chances of polio disease or not, a mixed response was noticed. Only 8(3.1%) disagreed with the proficiency of the polio vaccine. Similarly, 12(4.7%) strongly disagreed, and 48(18.7%) of the respondents were uncertain about trusting the polio vaccine proficiency. 124(48.2%) agreed, and 65(25.3%) strongly agreed that they believe in the proficiency of the polio vaccine to reduce the polio chance.

Attitude and Demographics

A significant number, 155(60.3%), of respondents agree that different age groups have different attitudes towards polio vaccination, somehow 34(13.2%) of respondents strongly agree to the fact. 33(12.8%) are uncertain,

22(8.6%) disagreed, and 13(5.1%) strongly disagreed with this fact.

Statistics in the table represent that a great majority 142(55.3%), of respondents, believe that less educated people are more difficult to convince for polio vaccination of their children. 41(16.0%) of respondents strongly favor this fact. The denial percentage for this fact is meager. Only 13(5.1%) strongly disagreed, and 30(11.7%) disagreed with this notion, while 31(12.1%) were uncertain. Data displayed in the table exhibits that 119(46.3%) of respondents agreed that women are more concerned about the polio vaccination of their children than men. In comparison, 51(19.8%) strongly agreed to this fact, 53(20.6%) respondents were uncertain, 9(3.5%) strongly disagreed, and 25(9.7%) disagreed with it.

Married couples are more concerned than unmarried individuals regarding polio vaccination is supported by 153(59.5%) of the respondents, and 36(14.0%) strongly agreed to this. 37(14.4%) were uncertain, although 15(5.8%) strongly denied it, and 16(6.2%) disagreed with it.

Importance of Vaccination

A 102(39.7%) of respondents strongly disagreed with this statement that polio vaccination is unnecessary, 88(34.2%) also are in the view that polio vaccination is not unnecessary, 23(8.9%) said they are uncertain, on the other hand, a small number 26(10.1%) accepted it, and 18(7.0%) strongly agreed to it. A significant part 125(48.6%) of the population favored this statement that polio vaccination is suitable for their children, 95(37.0%) added to it by opting strongly agreed. The rejection percentage for this statement is low 9(3.5%) strongly disagreed, and 2(8%) of the respondents disagreed with this statement, while 26(10.1%) were uncertain.

Polio Vaccination and Media

Data shows that 125(48.6%) of the population believed that mass media should cover public the polio vaccination campaign; in addition, 103(40.1%) strongly agree with this statement. A few are on the other bank, 11(4.3%) strongly disagree, and only 4(1.6%) disagree, while 14(5.4%) were uncertain about it.

Sparing Time for Polio Vaccination

Several 124(55.3%) of people agreed that people

should spare their time got the vaccination of their children against polio, and 84(32.3%) respondents are strongly agreed with this attitude; it means that a significant majority believes that people must spare their time for polio immunization of their children. Only 4(1.6%) disagreed, and only 7 (2.7%) strongly disagreed with this statement. The number of uncertain respondents is 21(8.2%).

Discussions on Results

In the present study, knowledge means knowing the importance of polio vaccination. It also means how harmful it can be if the practice of vaccination is ignored. How do people become aware that the launching of the polio campaign is also knowledge? The knowledge test for this study aims at testing whether people understand the messages on mass media regarding the polio vaccine. People know the importance of mass media itself. People should also know that one-time vaccination would not be enough; for the complete effectiveness of the vaccine, people must vaccinate their dependents each time until the age of five (Syed et al., 2018).

The results proved that people get more informed and aware about polio and its cure through mass media. (44.0) respondents said that they have seen polio messages on television, (37.7%) people said that the messages on mass media increased their knowledge. They are well aware of the harmfulness of polio. Here, the direct and powerful effects of the hypodermic needle theory are confirmed. People get information through mass media and become conscious of their children's vaccination by watching polio's devastating effects and destructive powers. For (34.6%) of people, polio messages on mass media were useful. (50.2%) respondents get information through television about launching a polio vaccination campaign in their area.

Similarly, (71.2%) of respondents got mindful of the prevention and cure of the poliovirus through television. Similarly, knowledge and information sources are not mass media for many people but seek knowledge indirectly, like neighbors, family members, friends, or other sources. Moreover, some people (opinion leaders) get information through mass media. Then they float this information in society similarly the information about polio, its vaccination and its harmfulness are disseminated

from the mass media. People not only directly from mass media sources. The research has proved that opinion leaders play a vital role in eradicating throughout the world, especially in the third world. The data also verified that opinion leaders are the most critical figures in society; they can be religious leaders or experts in their particular fields or well-known celebrities.

Moreover, the role of mass media and interpersonal communication in polio eradication campaigns was also measured. What is people's attitude, whether and to what extent mass media and interpersonal communication sources can change people's attitudes about polio, and its vaccination was also aimed to be measured. An established way of perceiving things or sentiments about something can be taken as attitude. The current study took attitude as the thinking, as shared beliefs and as common understanding of the individuals and society. People advise each other about polio vaccination; people feel the necessity of polio immunization, feel the dangers of polio for their children, consider polio as an issue for society and country, and know the importance of polio immunization for their children and their country. The concept of Halal/Haram and the perceived harmful side effects of the polio vaccine are related to our people's attitudes. The questionnaire for the survey included the questions about advising others and seeking advice from others to know the people's attitudes about the conscious efforts made by people to reduce the chances of poliovirus attacking any child in their surroundings.

Results found that Interpersonal communication can bring changes in people's attitudes; the questionnaire items showed that people trust, rely upon, and can be motivated by interpersonal sources. Though it is a common practice of mass media in our country, religious leaders, health experts, political leaders, and celebrities are hired in polio vaccination-related advertisements. The data results of the current study showed that people are more convinced and rely only on health experts. People consider religious leaders, celebrities or political leaders as their opinion leaders.

Mass media is a primary and vital source of information, but interpersonal communication in face-to-face contact can influence and alter people's attitudes more effectively. Opinion leaders receive, understand, and interpret

information from mass media and deliver the information to different members of society through interpersonal communication.

Furthermore, the current study investigated the practices of the people, which are modified by the use of mass media and interpersonal communication sources about polio and its vaccination. It has been observed that people have the knowledge and are well informed. They have a positive attitude and will to adopt the health guidance transmitted by mass media and interpersonal channels about polio vaccination. However, when they come to practice, they are not much active. The researcher aimed to know the standard practices of the people modified by the mass media messages and interpersonal communication sources. The practices of the respondents regarding polio vaccination were measured at nine different levels. Respondents were asked about their children's regular vaccination, and (38.9%) respondents said that they always immunize their children.

Conclusion

The current study evaluated the role of various opinion leaders who may motivate, inform and convince individuals to vaccinate their dependents up to the age of five. In this regard, various people mentioned different opinion leaders to be practical and valuable. The health experts are the most reliable and the most trusted opinion leaders regarding the Polio vaccine. The health experts can best guide others when the problem is related to health. The media also engages politicians and celebrities to motivate people, but health is sensitive. People may follow an attractive celebrity while buying beauty soap, but on health related issues, a health expert is a suitable person to seek an opinion. This study shows (81.7%) people trust health experts on the issue of polio, and only (2.3%) follow celebrities and politicians. The concept of halal/haram associated with the vaccine made the opinion of religious leaders valuable. The religious minded people would only be satisfied with the vaccine when religious leaders opine favor the vaccination. The current study shows that (13.2%) people believe religious leaders to be the right people to guide about the vaccine. The overall result of the study proves that Mass Media and Interpersonal communication have a significant role in delivering the proper knowledge about the Polio

disease. Through Mass Media and Interpersonal Communication, the masses may know the harmful consequences of Polio disease and the influential role of the vaccine in curing this

disease. These tools help eradicate various misconceptions about the vaccine, resulting in the complete wipeout of Polio from Pakistan.

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