

THE COGNITIVE AND CO-NATIVE EFFECTS OF HEALTH COMMUNICATION CAMPAIGN

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ABSTRACT

Objective: To explore the effects of electronic media polio immunization campaign on parents at cognitive (awareness/knowledge) and co-native (behavior/practice/implementation) levels in NWFP Pakistan.

Material and Methods: This descriptive analytical survey was conducted on a sample of 500 parents from 24 districts of North West Frontier Province (NWFP) of Pakistan. All the districts were divided into 3 groups and six districts from each group were selected. Data was collected through closed-ended questionnaire of multiple choices.

Results: Out of 468/500 responders, 70.6 % and 48 % agreed on that television and radio has a role in awareness about polio immunization campaign respectively. Higher education, high socio-economic status and well exposure to electronic media were significantly related with awareness about polio campaign. Around 95.6% of high socioeconomic status families, 95 % of well educated and 91.6% of very/frequent exposures to electronic media had fully immunized their children as compared to 80.8% of low socioeconomic status families, 73.6% of illiterate parents and 69% of no exposure to electronic media. While 14.3% of low socioeconomic status families, 23% of illiterate parents, and 26.8% of never exposures to electronic media had not immunized their children at all as compared to 3.1% of high socioeconomic status families, 3.7% of graduate parents and 5.6% of very/frequent exposure to electronic media.

Conclusion: Majority of parents are aware of polio campaign however their living standards, level of education and exposure to electronic media like TV and radio are the main factors affecting awareness knowledge and practice of polio campaign.

Key Words: Polio Immunization Campaign, Electronic Media, NWFP, Awareness, Knowledge, Behavior, Practice, Communication

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INTRODUCTION

The role of communication, to give number of new dimensions to human life, has increased tremendously in past century. Technology based mass communication of course became a maniacal generated process of globalization and promoted internationalism in post war era. Before the beginning of current century, communication have come the level of complete body of knowledge – a science. Number of research avenues has opened in the new field of research. Aggressive practice of mass media and mass communication in education has produced number of communication scholars and researchers, now evaluating rapidly growing role of

wide communication campaigns, launched via various types of media.

In today's era of technological advancement and media development, the mass media is considered to be a powerful force for public education, and behavioral change. With rapidly growing of mass media and the scientific methods to measure impacts, communication now plays a crucial role in bringing the social change. The power of communication has been proven. Communication influences how people vote. Communication determines what people buy. Communication affects what people wish for and what they aspire to become. It shapes how people conduct their daily lives, even their sexual behavior.¹

There is a surprisingly long tradition of effects-based audience research, and an examination of it reveals a significant body of different approaches. All have in some way sought to examine the effects of media output on their audiences and all have argued that the media influence their audiences in some way.²

In the field of public health, substantial evidence shows that: people want to know more about their health; people want to talk more about health to friends and family, hear about it through mass media, and discuss it

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with competent, caring service provider; people are willing to change their health behavior; and public health communication programs are helping people make these changes.¹

Last decades of the 20th century bear testimony to the fact that globally, and in Pakistan too, several health development programs and campaigns such as polio immunization campaign, prevention and control of communicable diseases, the campaign for the use of iodized salts, the use of ORS and family planning etc. have been launched through mass media in order to bring attitudinal change for the sake of social development.

Health communication campaigns encompass the study and use of communication strategies to inform and influence individual and community decisions that enhance health. It links the domains of communication and health and is increasingly recognized as a necessary element of efforts to improve personal and public health (NCI, 1989). Health communication can contribute to all aspects of disease prevention and health promotion and is relevant in a number of contexts, including (1) health professional-patient relations, (2) individuals' exposure to, search for, and use of health information, (3) individuals' adherence to clinical recommendations and regimens, (4) the construction of public health messages and campaigns, (5) the dissemination of individual and population health risk information, that is, risk communication, (6) images of health in the mass media and the culture at large, (7) the education of consumers about how to gain access to the public health and health care systems, and (8) the development of telehealth applications.³

For individuals, effective health communication can help raise awareness of health risks and solutions provide the motivation and skills needed to reduce these risks, help them find support from other people in similar situations, and affect or reinforce attitudes. Health communication also can increase demand for appropriate health services and decrease demand for inappropriate health services. It can make available information to assist in making complex choices, such as selecting health plans, care providers, and treatments. For the community, health communication can be used to influence the public agenda, advocate for policies and programs, promote positive changes in the socioeconomic and physical environments, improve the delivery of public health and health care services, and encourage social norms that benefit health and quality of life.¹

This study is conducted firstly, to explore the effects of electronic media, polio immunization campaign on parents at cognitive (awareness/knowledge) and conative (behavior/practice/implementation) levels in NWFP Pakistan. Secondly, to see whether or not the effect process is influenced on the basis of socio-economic status (SES).

MATERIAL AND METHODS

Research Design

Research technique applied in this study is called Survey Research (Analytical Survey) attempt to describe and explain why certain situations exist. In this approach two or more variables are usually examined to test research hypothesis. The results allow researcher to examine the interrelationship among variables and to draw explanatory inferences.⁴ The methodology used in this study is descriptive (what is going on) and explanatory (why it is going on) in nature for evaluating message-oriented information related to Polio immunization innovation of Health Communication. The research method involves data gathering through closed-ended questionnaire of multiple choices from the parents of NWFP, Pakistan. In order to explore the Polio immunization aspect of the health sector and to seek quantitative data, the researcher through a well-trained group of students had approached the respondents to fill the questionnaire.

Universe

The universe of the study is North West Frontier Province (NWFP) of Pakistan. Populations for the study are parents (married men and women having kid/s) of the children of rural and urban parts of the province.

Target Group

This survey adopts all parents in the sample of enumeration NWFP. The target population for the adoption of Polio immunization consists of all 24 districts of NWFP. Total area of the province is 74522 Sq. Km and the population according to 1998 census is 17737591⁵ (District Census Report, 1998, Population Census Organization Government of Pakistan, Islamabad).

The basic procedure is first to draw a sample of areas. Initially, large areas are selected and then progressively smaller areas within the larger ones are sampled. Eventually end up with a sample of households and use a method of selecting individuals from the selected units randomly.⁶

For proportional allocation we have a formula⁷ as

$$nh = \frac{nNh}{N}$$

Where n is the desired sample, N is the population size of district/UC and Nh is the number of UC.

Sample Frame

A sample of 500 is selected from the 24 districts of the NWFP.

The sampling frame of this study categorizes physical representation of the target population. It consists of sample groups that are potential stages of the sample. A subset of the Sample Frame sample groups is selected

for sampling: the used sample, representing the population from which it selected. Efforts are made to make item as clear and unambiguous as possible. The students were trained for date collection. They have been told to ensure the most populous ratio of population. They were trained to administer the survey the same way every time.

All the 24 districts were divided into three groups as A= those districts having more than 40 UC including (Abbottabad, Charsadda, D.I.Khan, Harripur, Mansehra, Mardan, Nowshera, Peshawar, Swabi, and Swat), B= districts having more than 25 but less than 40 UC including (Bannu, Dir Upper, Kohistan, and Lakki Marwat), and C= districts having less than 25 UC including (Bata Gram, Buner, Chitral, Dir Lower, Hangu, Karak, Kohat, Malakand, Shangla, and Tank). So the researcher has taken six districts each from group A, B, and C. This is presented in the following table.

Table Districts of NWFP from where the sample has drawn

Group	Districts	UC (total)
A	Peshawar	92
A	Nowshera	47
B	Bannu	40
B	Kohistan	38
C	Hangu	17
C	Tank	16

Total Number of UC in six Districts=250

Group "A" showing those districts which have more than 40 UC. This group consists of District Peshawar and Nowshera. Group "B" are those districts having more than 25 UC. This group consists of district Bannu and Kohistan. While group "C" highlights those districts having less than 25 UC. This group consists of District Hangu and Tank.

So according to a formula⁷ $nh = \frac{nNh}{N}$

Sample size for District Peshawar is as under:

$$\frac{92 \times}{250} 500 = 184$$

Sample size for District Nowshera is:

$$\frac{47 \times}{250} 500 = 94$$

Sample size for District Bannu is:

$$\frac{40 \times}{250} 500 = 80$$

Sample size for District Kohistan is:

$$\frac{38 \times}{250} 500 = 76$$

Sample size for District Hangu is:

$$\frac{17 \times}{250} 500 = 34$$

Sample size for District Tank is:

$$\frac{16 \times}{250} 500 = 32$$

$$\text{Hence } 184 + 94 + 80 + 76 + 34 + 32 = 500$$

On the basis of the aforementioned sample size against each district, enumerators have been sent to the respective districts to collect data randomly.

Data Gathering

Thirty-two questions (as per appendix) are framed to obtain data to measure the knowledge, attitude and practice level of parents belonging to divergent socio-economic status regarding the polio immunization innovation in NWFP. Most of the respondents were personally contacted either by the researcher himself or through the students assigned for the purpose. However, a sizeable number of respondents have sent the questionnaire through mail. In order to have a real understanding of the questions, the questionnaire is also translated in Urdu. Out of total sample frame of 500, the researcher had received 468 and hence 32 are missing cases in this research.

Research Question

To what extent electronic media polio immunization campaigns influences parents belonging to higher and lower socioeconomic status at various stages of innovation-decision process in NWFP, Pakistan?

Terminology used in objectives:

EFFECTS: A heavily loaded term, traditionally and still commonly used to refer to the supposed direct consequences and impact of media messages on individuals. The term now also serves to describe a particular tradition of media study. Historically the media have been accused of encouraging people into a broad succession of activities and behaviors that they would otherwise not consider, and into accepting beliefs, values and ideas that they would otherwise not entertain.

ELECTRONIC MEDIA: the researcher means Pakistan Broadcasting Corporation (PBC) and Pakistan Television (PTV).

POLIO IMMUNIZATION CAMPAIGN: Electronic media campaign which gives explicit or implicit messages regarding its adoption.

PARENTS: Married man or women having kids.

COGNITIVE: Awareness regarding the idea of polio immunization through the use of electronic media.

CO-NATIVE: Either to go for or against the polio immunization adoption.

RESULTS

Television (see table I): A part from 19% of the public, which does not favor the effective role played by TV in the awareness of polio immunization campaign, 70.6% of the sampled population agreeing on “less effective” to “more effective” role of the TV in the polio immunization campaign.

Radio (see table II): With marked difference from TV, 48% believe that Radio is playing a role in awareness about polio immunization campaign.

TELEVISION AS A SOURCE OF INFORMATION FOR POLIO IMMUNIZATION CAMPAIGN

Response	Frequency	Percentage
Don't know	87	18.6
Not effective	2	0.4
Less effective	44	9.4
Effective	217	46.8
Very much effective	116	24.8
No response	2	0.4
Total	468	100

Table: I

Table 3 is showing a cross tabulation of polio awareness campaign versus education of parents. Majority of well educated parents were aware of the polio

RADIO AS A SOURCE OF INFORMATION FOR POLIO IMMUNIZATION CAMPAIGN

Response	Frequency	Percentage
Don't know	174	37.2
Not effective	60	12.8
Less effective	134	28.6
Effective	81	17.3
Very much effective	10	2.1
No response	9	1.9
Total	468	100

Table: II

awareness campaign as compared to less educated or illiterate parents.

The Pearson chi-square test of the corresponding cross tab reveal highly significant relationship (P value=0.000) between awareness of polio campaign and socio-economic status of the parent (Table IV). The cross tab shows a marked difference in the last two categories of awareness in the two different socio-economic status, which states that high socio-economic background bring more awareness in the families.

Similarly cross tab of awareness about polio immunization campaign and exposure to electronic media indicate the awareness level in higher in those persons which are exposed to electronic media that might be sometimes, frequently or very frequently (table 5). This shows significant relationship (P value= 0.000) between exposure to electronic media and awareness about polio campaign.

Out of the total sample frame 402 families (85.9 %) have fully immunized their children (table VI). The percentage of the families which did not immunize their children is 10.5 % (49 cases). There is a small percentage of 2.6 % which opted for the partial immunization of their children.

POLIO AWARENESS CAMPAIGN VERSUS EDUCATION OF PARENT

Awareness about Polio Campaign	EDUCATION				Pearson Chi square (n=468)		
	No formal education	Primary Middle	Matric Intermediate	Graduation & above	Value	df	Asymp. Si. (2 sided)
Don't know	7	6	7	4	129.497	20	0.000
Not at all	12	6	2	0			
To some extent	65	48	94	60			
To great extent	7	12	42	95			
Total	91	72	146	159			

Table: III

POLIO AWARENESS VERSUS SOCIO-ECONOMIC STATUS

Awareness about Polio Campaign	SOCIO-ECONOMIC STATUS		Pearson Chi square (n=468)		
	Low Socio-Economic Status (n=308)	High Socio-Economic Status (n=160)	Value	df	Asymp. Si. (2 sided)
Don't know (n=24)	21	3	89.207	4	0.000
Not at all (n=20)	20	0			
To some extent (n=268)	204	64			
To great extent (n=112)	56	56			
Completely (n=44)	7	37			

Table: IV

AWARENESS VERSUS EXPOSURE TO ELECTRONIC MEDIA POLIO CAMPAIGN

Polio immunization Awareness	Exposure to electronic media campaign					Total
	Don't know	Never	Some times	Frequently	Very Frequently	
Don't know	9	4	10	1	0	24
Not at all	1	9	9	1	0	20
To some extent	14	45	161	37	11	268
To great extent	2	10	59	37	4	112
Completely	0	3	25	10	6	44
Total	26	71	264	86	21	468

Table: V

IMMUNIZATION STATUS OF CHILDREN IN NWFP

Immunization status of children	Frequency	% age
No	49	10.5
Immunized only male child	4	0.9
Immunized only female child	1	0.2
Partially Immunized	12	2.6
Immunized all children	402	85.9
Total	468	100

Table: VI

Around 95.6% (153/160) of high socioeconomic status families had vaccinated all children as compared to 80.8% (249/308) of low socioeconomic status families (Table 7). While 14.3% of low socioeconomic status families had not immunized their children at all as compared to 3.1% of high socioeconomic status families.

Around 95 % (151/159) of well educated (graduate and above) had vaccinated all children as compared to 73.6% (57/91) of illiterate parents (table 8). While 23% of illiterate parents had not immunized their children at all as compared to 3.7% of graduate parents.

Around 91.6% (98/107) of very/frequent exposure to electronic media had vaccinated all children as compared to 69% (49/71) of parents who were

IMMUNIZATION STATUSES VERSUS SOCIO-ECONOMIC STATUS

Immunization Status	Socio-economic Status			Pearson Chi Square (n=468)		
	Low Socio-Economic Status	High Socio-Economic Status	Total	Value	df	Asymp. Si. (2 sided)
No	44	5	49	19.005	2	0.000
Partially Immunized	15	2	17			
Immunized all children	249	153	402			
Total	308	160	468			

Table: VII

IMMUNIZATION STATUS OF CHILDREN VERSUS EDUCATION OF PARENT

Immunization Status	Education of Parent					Pearson Chi square (n=468)		
	No Formal education	Primary education	Matric/ Intermediate	Graduation & above	Total	Value	df	Asymp. Si. (2 sided)
No	21	9	13	6	49	29.568	6	0.000
Partially Immunized	3	3	9	2	17			
Immunized all children	67	60	124	151	402			
Total	91	72	146	159	468			

Table: VIII

IMMUNIZATION STATUS VERSUS EXPOSURE TO ELECTRONIC MEDIA

Immunization Status	Exposure to Electronic Media					Pearson Chi square (n=468)		
	Don't Know	Never	Some times	Frequently	Very frequently	Value	df	Asymp. Si. (2 sided)
No	4	19	20	6	0	28.051	8	0.000
Partially Immunized	1	3	10	0	0			
Immunized all children	21	49	234	77	21			
Total	26	71	264	86	21			

Table: IX

GROUPS OF POTENTIAL ADOPTERS OF POLIO

Groups	Frequency (n=468)	%age
Laggards	58	12.4
Late majority	99	21.2
Early majority	146	31.2
Early adopters	103	22
Innovators	60	12.8
No response	2	0.4

Table: X

never exposed to electronic media (Table 9). While 26.8% (19/71) of never exposures to electronic media had not immunized their children at all as compared to 5.6% (6/107) of very/frequent exposure to electronic media.

Co-Native (either to go for or against the polio immunization adoption) groups of potential adopters of polio are given in Table 10.

DISCUSSION

The evaluation of the KAP along with the decision confirmation stage concludes in matching results, found

in descending order. Familiarity level of the concept of polio immunization campaign is 90.6 % in the NWFP population. Attitudinal assessments reveal a bit declining figure of 88.7 % for those viewing the usefulness of the polio immunization campaign. This rate decline to 85.9 %, for those who are practicing polio immunization to their children. The analysis of the last stage decision confirmation shows that 80.1 % are satisfied about the decision they have taken. The study reveal that there is still, reasonable number of people ranging from 10 to 12 parent in the above mentioned category who are totally unaware about the immunization campaign.

Among the sources studied, Television is clearly emerged as a dominant source that brings considerable life to polio immunization campaign. According to the findings 79.1 % respondent agreed that TV has played a vital role in bringing awareness, attitude formation, in decision making and even in reinforcement. This fact was highlighted by another local study on diphtheria-pertussis-tetanus (DPT3) vaccination where TV ownership had a significant effect on DPT3 coverage rate.⁸ Similarly other studies from Senegal, Colombia, Brazil, Ecuador and Mexico have shown positive effect of mass communication programs on immunization coverage rates through television and radio.^{9,10}

Time spent on viewing TV is varying considerably. Mostly, the parents in NWFP view TV or listened Radio from two to three hours (38.7 %) population, followed by less than an hour (32.9 %). The study reveals that 12 % of the respondents are never exposed to Radio or TV.

On the basis of this study one can say that electronic media's impact in terms of cognitive (attention and knowledge), affective (relating to feelings, moods, and attitudes), co-native (behavior, activity and implementation) on parents sharing different socio-economic status in the province is not uniform. However, this gap is not too widened but still exists. One can't generalize that this gap is purely due to the heavy exposure to electronic media as there are some other factors equally responsible for creating this gap. The clear and visible standard of living, difference in the level of education, difference in the amount of stored information or previously acquired background knowledge and the nature of mass media that served the dominant elite are some of the factors responsible for the greater rate of immunization in the high socio-economic parents.

Second, in the list of the dominant sources having considerable influence in campaign enhancing is interpersonal communication (doctors/health visitors/friends). Large numbers (62.5 %) of respondents are of the view that by the virtue of interpersonal communication their awareness level has increased ultimately paving the way to form an attitude to practice the innovation. Similarly the role of the interpersonal communication in forming favorable attitude for polio immunization prac-

tice is also evident from the survey. Findings suggests that 63.1 % of the respondents marked that face to face communication either with a doctor/health visitors or a friend/relative formed a positive attitude towards the immunization of children against polio. It is also important to note that the dominant source used for the confirmation of decision regarding acceptance/rejection of the polio immunization comes out to be electronic media (49.1 %) followed by 25.5 % by interpersonal communication.

Similarly, 48 % believe that Radio is playing a role in awareness about polio immunization campaign. Moreover, 45 % of the surveyed people favor the notion that Radio is forming favorable attitude towards polio immunization innovation.

Apart from the above discussed dominant sources, some other sources have played a role for the dissemination of information and attitude formation for polio immunization. The are;

Newspapers and Magazines: According to the survey 24.3 % agree that newspaper play an "effective" to "very effective" role in providing knowledge regarding polio immunization. Similarly, the role of print media in forming attitude is acknowledged by 47.4 % of the respondents which is considered as reasonable high. However, 167 persons (35.7 %) show their unawareness "don't know" about the said role of the print media.

The role of traditional media and literature/posters is found to be "less effective" as compared to other sources of information in this survey.

Another important aspect of the study is the rejection of polio immunizing innovation. The reason given by 49 families 10.5 % of the sample can be categorized as; lack of knowledge, it affects fertility rate/not safe, not so important, and socio-religious permissibility.

The basic question is how to convince the population having the same sought of a feeling and how to remove various semantic, structural, socio-religious permissibility, and psychological barriers regarding polio immunization.

In the nutshell familiarity level of the concept of polio immunization campaign is 90.6 % in the NWFP population. This rate decline to 85.9 %, for those who are practicing polio immunization to their children. The study reveal that there is still, reasonable number of people ranging from 10 to 12 parent in the above mentioned category who are totally unaware about the immunization campaign.

Among the sources studied, Television is clearly emerged as a dominant source that brings considerable life to polio immunization campaign.

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CONFLICT OF INTEREST
The authors declare no conflict of interest.