

Socio-Cultural Determinants of the child's Parents in the Eradication of Polio: A Study of Aligarh District of the State of Uttarpradesh

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Abstract-This paper is based on the primary data collected from rural and urban areas of the Aligarh District of the state of Uttarpradesh. The data has been collected from the child's parents residing in these areas. All these respondents were randomly selected. The data was collected through an interview scheduled in an unbiased manner. The sample included 600 respondent residing in rural as well as urban areas of Aligarh. The main basis of the study is to find out that upto what extent socio-cultural determinants of the child's parents help in the eradication of polio which is the serious disease affecting the child between the age group of 1 to 5 years.

Keywords-socio-cultural determinants, polio, education, religion, parents.

I. INTRODUCTION

The word Polio (grey) and Myelon (marrow, indicating the spinal cord) are derived from the Greek. It is effect of poliomyelitis virus on the spinal cord that leads to the classic manifestation, Paralysis. Although records from antiquity mention crippling diseases compatible with poliomyelitis, it was Michael Underwood from England who in 1789 first described disability of the lower extremities in children that was recognizable as poliomyelitis¹. The first outbreaks in Europe were reported in the early 19th century, and outbreaks were reported in the United States a few years later. For the next hundred years, epidemics of polio were reported from developed countries in the northern hemisphere each summer and fall. These epidemics became increasingly severe, and the average age of persons affected rose². The increased age of primary infection increased both the disease severity and number of deaths from polio. Polio reached a peak in the United States in 1952, with more than 21,000 paralytic cases. Polio incidence fell rapidly following introduction of effective vaccines. The last case of wild-virus polio acquired in the United States was in 1979, and global polio eradication may be achieved within the next decade³. Polio is a disease caused by a virus. It enters a child's (or adult's) body through the mouth. Sometimes it doesn't cause serious illness. But sometimes it cause paralysis (can't move arm or leg). It may be possible to kill people who get it, usually by paralyzing the muscles. The four types of polio are:

1. Bulbar polio.
2. Cerebral poliomyelitis.
3. Non-paralytic polio.
4. Paralytic polio

There are three poliovirus serotypes (P1, P2, and P3). There is minimal heterotypic immunity between the three serotypes. That is the immunity to one serotype does not produce significant immunity to the other serotypes⁴. The poliovirus is rapidly inactivated by heat, formaldehyde, chlorine, and ultraviolet light.

The virus enters through the mouth and primary multiplication of the virus occurs at the site of implantation in the pharynx and gastrointestinal tract. The virus is usually present in the throat and in the stool before the onset of illness. One week after onset there is little virus in the throat, but virus continues to be excreted in the stool for several weeks⁵. The virus invades local lymphoid tissue, enters the blood stream, and then may infect cells of the central nervous system. Replication of poliovirus in motor neurons of the anterior horn and brain stem results in cell destruction and causes the typical manifestations of poliomyelitis⁶.

II. THE OBJECTIVE

1. To study the impact of parent's education on the response to PEP (Polio Eradication Programme)
2. To study the impact of parent's religion, socio-economic status on the response to PEP.
3. To study of the impact of response of parents living in the rural and urban areas to PEP.

III. THE HYPOTHESIS

1. There is no significant difference of response of rural and urban parents to PEP.
2. There is no significant difference of response of Hindu and Muslims parents to PEP.
3. There is no significant difference of response of educated and illiterate parents to PEP.

IV. RESEARCH METHODOLOGY

Aligarh district is a part of Central Ganga Plain of the state, covering an area of 5498 sq. Km. with the total population of 4,32,37,60 as per 2001 census (density: 786 person/sq.Km.). It has 6 tehsils, 12 development blocks, 112 Nayaya Panchyats, 853 Gram Panchyats and total 1184 villages. The demographic situation of the district is that as per the latest available information with the total

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population of 352366 distributed between rural areas with the population of 276517 and urban areas with population of 75849⁷. The study was conducted in 12 blocks of Aligarh District. All these blocks were purpose sample. The total number of respondent were 600 including 300 Hindu and 300 Muslim respondents. This paper is based on observed frequency subject to some hypothesis according to the rules of probability. As the paper is based on independent

observations, therefore χ^2 tests is applied to test the goodness of fit, to test the independence of attributes, to test if population has a specified value of the variance⁸.

The first hypothesis as "There is no significant difference between response of rural and urban parents to polio eradication programme. It is tested by applying χ^2 tests. The results in this regard are summarized in the table.

Table -1

Significance of difference between response of rural and urban parents to polio eradication programme (PEP)

	Responses					
	No Response	Low Response	Average Response	High Response	Very high Response	Total
Urban	5	62	132	101	00	300
Rural	4	77	158	60	1	300
Total	9	139	290	161	1	600

$$\chi^{*2} = 15.502 \quad \chi^2_t = 9.488$$

$$\chi^{*2} > \chi^2_t \quad \text{at 5\% level of significance}$$

$$\text{Where } \chi^{*2} = \text{Computed value}$$

$$\chi^2_t = \text{Tabulate value / theoretical value}$$

It can be seen that χ^{*2} (Calculated) value has come out to be 15.502 but χ^2_t (tabulated) value to be 9.488 since here calculated value is greater than to tabulated value ($\chi^{*2} > \chi^2_t$). Which is significant at 5% level of confidence therefore null hypothesis is rejected. It shows the significance of difference among the responses from urban and rural areas. The above table shows that in urban areas the number of no response is 5, number of the low response is 62 while number of average response is 132, and the number of high response 101 but in case of very high responses equal to zero. Similarly the number of response is also observed in case of rural areas the number of no response is 4, in case of low response 77 while in case of average response are 158 as well as high response is 60 but in case of very high response it is 1.

By the closed observation we have noted that number of no responses in case of urban areas is greater than rural areas (5 > 4). In case the number of low response is related, urban areas have lesser than rural areas (e.g. 62 < 77). In case of average response is related urban areas have lesser than rural areas (132 < 158) whereas in case of high response the number of response related with urban areas is greater than rural areas (101 > 60) while in case of very high response the number of responses related with urban areas is perfectly inelastic it means zero. While in case of rural areas equal to 1.

The inference drawn from the analysis of the above table shows that the number of responses in case of rural areas are greater than urban areas although there is fluctuation in responses as it is seen from average response as analyzed from the table -1. But in whole it is concluded that the parents of rural areas are more conscious in comparison to urban areas.

The second hypothesis is "There is no significant difference between response of Hindu and Muslim parents to polio eradication programme (PEP). It is tested by applying χ^2 test. The results in this regard are summarized in table.

Table -2

Significance of difference between response of Hindu and Muslim parents to PEP.

	Responses					
	No Response	Low Response	Average Response	High Response	Very high Response	Total
Hindu	00	28	144	127	1	300
Muslim	9	111	146	34	00	300
Total	9	139	290	161	1	600

(df.4)

$$\chi^{*2} = 113.295 \quad \chi^2_t = 9.488$$

$\chi^{*2} > \chi^2_t$ at 5% level of significance
 Where χ^{*2} = Calculated value
 χ^2_t = Tabulated value

It can be seen that χ^{*2} (calculated) value has come out to be 113.295 but χ^2_t (tabulated) value to be 9.488 since here method mainly based on interviews and surveys. Their responses are categorized into low response, average response, high response and very high response. In Hindu religion the number of no response is zero, the number of low response 28, the number of average response 184, the number of high response 127 and in case of very high response which is equal to 1 now the number of responses have also been observed in case of Muslim religion that the number of no response is 9, the number of low response is 111, the number of average response 146, the number of high response is 34 and in case of very high response it is zero. By the closed observation it has been observed that the number of no response in case of Hindu religion is nil in comparison to (00<9) Muslim religion, the number of low response in case of Hindu religion is lesser than Muslim religion (28<111). In case of average response Hindu religion responded lesser than Muslim religion

calculated value is greater than to tabulated value ($\chi^{*2} > \chi^2_t$) which is significant at 5% level of confidence therefore null hypothesis is rejected.

In table-2 the rural and urban parents are further categorized into their religion (Hindu & Muslim) is responded by the questionnaire

(144<146), in case of high response number of response relative with Hindu religion is greater than Muslim religion i.e. (127>34) while in case of very high response the number of Hindu response relative with Muslim religion is perfectly inelastic which means, zero while in case of Hindu parents is equal to 1.

By the analysis of table –2 it has been concluded that there is significant difference in response of Hindu parents and Muslim parents to polio eradication programme. Hence, null hypothesis is rejected.

The third hypothesis is 'There is no significance of difference between response of literate and illiterate parents to polio eradication programme (PEP). It is tested by applying χ^2 tests; the results in this regard are summarized in the table.

Table –3
Significance of Difference between response of literate and illiterate's parents to PEP.

	Responses					
	No Response	Low Response	Average Response	High Response	Very high Response	Total
Illiterate	9	116	156	50	00	331
High School	00	17	71	67	1	156
Intermediate	00	3	18	18	00	39
Graduate & P.G.	00	1	22	14	00	37
Other	00	2	23	12	00	37
Total	9	199	290	161	1	600

$$(df=4)\chi^{*2} = 98.613 \quad \chi^2_t = 9.488$$

$\chi^{*2} > \chi^2_t$ at 5% level of significance
 Where χ^{*2} = Calculated value
 χ^2_t = Tabulated value

It can be seen that χ^{*2} (calculated) value has come to be 98.613 but χ^2_t (tabulated) value to be 9.488 since here calculated value is greater than to tabulated value ($\chi^{*2} > \chi^2_t$) which is significant at 5% level of confidence therefore null hypothesis is rejected. Thus, by analysis of the above table it has been concluded that there is significance of difference between responses of illiterate and literate parents to the polio eradication programme

V. CONCLUSIONS

This study of Poliomyelitis continues to be a major problem in India leading to high morbidity and mortality among children under age of 5 years. To address this

problem, pulse polio immunization (PPI) and two National Immunization Days was conducted in the country in 1995. The migration of children to rural areas, the other significant finding was an indirect effect of intensive oral polio vaccine (OPV) administration as part of polio eradication initiative. The lack of awareness and fear of side effects constituted a small minority of reasons for non-immunization. The implications of the study are: to enhance the maternal knowledge about the vaccine preventable diseases and importance of completing the immunization schedule through interpersonal mode and to overcome obstacles to immunization such as accessibility and lack of family support. There was statistically significant difference, by chi-square analysis, The inference drawn from the analysis

of the above table shows that the number of responses in case of rural areas are greater than urban areas as regards to the polio eradication programme (PEP) although there is fluctuation in responses as it is seen from average response

as analyzed from the table –1. But in whole it is concluded that the parents of rural areas are more conscious in comparison to urban areas. Still there is statistically significant difference, by chi-square analysis as to the response of both the religion towards polio eradication programme (PEP). Significant difference of response has also been seen between literate and illiterate of child's parents towards polio eradication programme (PEP), by chi-square analysis. Thus, it has been concluded that there is more awareness and consciousness in literate parents in comparison to illiterate parents towards the polio eradication programme (PEP).

VI. REFERENCE

1. Ahluwalia, A(1967):“Sociology of Medicine in India” : An approach In Economic and Political Weekly, vol.42.(I), pp. 1007-1072.
2. Bird CE, Conrad P, Fremont A, Bird CE, Conrad P. (2000): Handbook of Medical Sociology, Fifth Edition Prentice Hall, New Jersey, pp-1-10.
3. Sutter RW, Cochi SL (1997): Ethical dilemmas in worldwide polio eradication programs [Comments]. *Am J Public Health*, 87:913-6
4. World Health Organization. Progress towards global poliomyelitis eradication, 1999. *Weekly Epidemiological Record* 2000; 75:134-143.
5. C.D.C. Progress towards global eradication of poliomyelitis eradication, (2002). *MMWR* 2003; 52: 366-9.
6. Dharamver, (1988) "Studies in Medical Sociology in India" In *Indian Journal of Social Research*, Vol. 29 (3).
7. Gaur. R.C., Excavations at Atranjkhera - Early (1983) Civilization of the Upper Ganga Basin. Aligarh Muslim University and Motilal Banarasadass. Delhi. 1983. p. 497
8. Hauser, R.M. & Warren, J.R. (1997). Socioeconomic indexes for occupations: a review, update, and critique. *Sociological Methodology*, 27:177-298