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SOCIO- ECONOMIC FACTORS AFFECTING THE TREND TOWARDS VACCINATION OF MOTHER AND INFANTS IN MULTAN CITY

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Abstract: This study investigates the socio- economic factors affecting mother and child health in Multan city, Pakistan. One of the neglected areas, i.e. Sameejabad Colony, was selected for data collection. A total of 993 married females were interviewed by a door-to-door survey. It was found that literacy level had a strong relationship both with mother's and infant's vaccination. Females, whose husbands were educated and whose annual income was high, had higher percentage of vaccination of themselves and their babies. As for as occupation of mother is concerned, it did not prove to be a good indicator.

Keywords: Child, mother, socio-economic factors, vaccination.

INTRODUCTION

Approximately 155,000 (30%) of the world wide total of 515,000 maternal deaths occur each year in countries of South Asia [UNICEF 2002]. The Maternal Mortality Rate in Pakistan is very high, i.e. 340 per 100,000 live births compared with six deaths per 100,000 live births in the West. It is also estimated that in some rural areas Maternal Mortality Rate is as high as almost 700 per 100,000 live births [Global Health Council 2003]. The Infant Mortality Rate (IMR) in Pakistan is 79 deaths per 1000 live births, which is higher than most of the countries in the region [Geography IQ 2003].

Joshi [1999] reported that malnutrition and infectious diseases are typically more reported causes of morbidity and mortality. To her, one of the principal underlying factors in most developing countries is the unregulated fertility that affects maternal health and reduces the potential for sound infant child care. It is therefore, important to note that the health problems of mothers, children and infants are related to the ill- effects of malnutrition, unregulated fertility together with poor socio-economic condition of women, including the scarcity of health facilities and other social welfare.

Widespread illiteracy among women is retrograding factor to their inferior status. There is thus, a vicious circle of poverty and lack of education, which leads to earlier and more frequent birth, which in turn causes high fertility and consequently greater poverty [Rukunuddin and Farooqui 1990]. Crude death rate in Pakistan has declined to 8 per thousand [Govt. of Pakistan 2002] from 25-30 per thousand in 1947 [Rukunuddin and Farooqui 1990]. This is all due to advancement in medical technology imported from the developed world [Irfan 1998].

Though mortality rate has declined a lot, but still there is room for reducing mortality, particularly of infants, which is estimated as 79 per thousand live births [Govt. of Pakistan 2002]. One of the most gratifying phenomena of the twentieth century has been the decline in the mortality rates, in general and of infant mortality in particular. Child mortality is a subject of great interest to social scientists, policy makers and those who are concerned about the quality of life in less developed countries. For humanitarian reasons, of course, almost every one would like to see its decline rapidly, even though it might contribute to population growth [Martin 1993].

Sathar [1996] reported that survival of children is a matter of great interest in any society, but it is especially important in pro-nationalist society like Pakistan, where infant mortality claims a substantial portion of total deaths each year. One reason for this concern is the loss of human life and emotional loss, which accompany each death. Another reason is the persistently high level of fertility, which is at least partly attributed to high level of infant and child mortality. This situation demands the urgency of studying the factors determining the infant's health along with mother's health. Infant mortality is one of the most sensitive barometers of the nation's socio- economic conditions, and at the same time of the value of the health services activities of local legislation [Kirk 1983].

This study aims at identifying the socio-economic factors affecting trends in vaccination of mother and child in Multan city, Pakistan.

METHODOLOGY

Sameejabad colony was selected for the purpose of survey, which is considered to be one of the neglected colonies in the city. A door-to-door population survey was conducted in November and December 2002 by interviewing all the available respondents in the colony. A total of 993 females were interviewed. The indicators for mother and child care were the vaccination of mothers and infants, which were tabulated with mother's education, husband's education, household income and mother's occupation. Literacy of mother is defined as given in the census report of 1981, which indicates that a person is taken as literate who can read and write a paragraph with understanding.

Using SPSS programme, data were analyzed to identify the various Socio- economic factors affecting mother and child health. Chi- square test, which is commonly used for qualitative data analysis, was used to check the direction and magnitude of relationship between independent and dependent variables.

RESULTS AND DISCUSSION

Information about education and vaccination of mother is presented in Table 1. Data reveals the fact that 83.6 percent of the illiterate and 52.9% of literate mothers did not receive vaccination before delivery of a baby

during pregnancy. On the other hand, only 16.4 percent of the illiterate mothers received vaccination while 47.1 percent of the literate mothers received vaccination. This clearly shows that vaccination is significantly and positively related to education of mother. As for as education of the father is concerned, it plays a significant role in the vaccination of mothers (Table 2). An increase in mother's percent vaccination was noted with higher level of father's education.

Table 1: The vaccination of mothers compared with literacy.

Vaccination Status	Education of mothers	
	Illiterate (%) N=755	Literate (%) N=238
Not vaccinated	83.6	52.9
Vaccinated	16.4	47.1

Chi-Square=92.05, Significant at zero level of Chi-Square.

Table 2: The vaccination of mothers (%) compared by their husband's education.

Mother's Vaccination	Husband's Education						
	Illiterate N=506	Primary N=106	Middle N=92	Matric N=179	F.A/F.Sc. N=44	B.A/B.Sc. N=54	M.A/M.Sc. N=12
Not Vaccinated	82.8	82.1	73.9	68.7	56.8	53.8	50.0
Vaccinated	17.2	17.9	26.1	31.3	43.2	46.3	50.0

Chi-Square= 48.76**, Significant at zero percent level of Chi-Square.

Data presented in Table 3 about household income and vaccination of mothers reveal that majority (85.4%) of the low-income mothers did not receive vaccination, while 55.2% of the high-income mothers did not receive vaccination. On the other hand, only 14.6% of the low-income mothers received vaccination, whereas 44.8% of the high-income mother received vaccination. A significant relationship between household income and mother's vaccination was found.

Table 3: The vaccination of mothers (%) compared with their husband's income.

Mother's Vaccination	House hold Income (Rs. Per Month)					
	<Rs.1000 N=89	1001-1500 N=441	1501-2000 N=215	2001-2500 N=138	2501-3000 N=81	3001 and above N=29
Not Vaccinated	85.4	79.6	74.9	69.6	70.4	55.2
Vaccinated	14.6	20.4	25.1	30.4	29.6	44.8

Chi-Square= 199.23**, Significant at 1 percent level of Chi-Square.

Table 4: Percentage distribution of mothers according to their vaccination by their occupation.

Mother's vaccination	Occupation of mother	
	House wife N=963	Working N=30
Not Vaccinated	76.4	70.0
Vaccinated	23.6	30.0

Chi-Square= 0.356

Occupation of mother did not seem to have a significant relationship with mother's vaccination (Table 4). Insignificant relationship between mother's occupation and vaccination may be due to the fact that occupation of mother was classified only into two categories, i.e. house wife and working mother. The type of work done by mothers was not

taken into account. Had mother's jobs been classified, results would possibly have been different.

Data presented in Table 5 reveal that there were 755 illiterate and 238 literate mothers. About 42% of the illiterate mothers did not get their infants vaccinated, whereas 22.3% of the literate mothers got their babies vaccinated. As for as partial and complete vaccination of infants is concerned, percentage of the literate mothers getting their infants vaccinated is higher than the illiterate mothers. Data show that relationship between mother's education and vaccination of infants is positive and significant.

Information regarding relationship between husband's education and vaccination of infants is presented in Table 6. The relationship is positive and significant, showing that higher the education of husband, the more infants will get vaccination. It was interesting to observe that there were just 8.3 percent of mothers whose husbands were highly educated and got their babies vaccinated as against 13.6 percent mothers whose husbands are illiterate. Reason for this difference is not clear.

Table 5: Percentage distribution of mothers according to vaccination of infants by their education.

Vaccination of Infants	Mother's Education	
	Illiterate N=755	Literate N=238
No Vaccination	42.3	20.0
Partial Vaccination	44.0	57.6
Complete Vaccination	13.8	22.3

Chi-Square=39.21, Significant at zero percent level of Chi-Square.

Table 6: Percentage distribution of mothers according to vaccination of their infants by their husband education.

Vaccination of infants	Husband's Education						
	Not Educated N=506	Primary N=106	Middle N=92	Matric N=179	F.A/F.Sc N=44	B.A/B.Sc N=54	M.A/M.Sc N=12
No Vaccination	46.0	34.0	30.4	28.5	6.8	24.1	16.7
Partial Vaccination	40.0	49.1	50.0	56.4	65.9	51.9	75.0
Complete Vaccination	13.6	16.0	19.6	15.1	27.3	24.1	8.3

Chi-Square = 53.35, Significant at zero percent level of Chi-Square.

Information regarding household income and vaccination of infants is presented in Table 7. Data revealed that 48.9 percent of the low-income mothers did not get their babies vaccinated, while 10.3 percent of the high-income mothers did not do so. Percentage of the high-income mothers is higher than low-income mothers. Relationship between the household income and vaccination of infants is positive and significant at 5% level of Chi-Square.

Interesting results were found when occupation of mother was related to vaccination of infants. Only 30 mothers were working, while 963 were housewives. Data presented in Table 8 reveals that there is positive relationship between occupation of mothers and vaccination of infants. This shows that a higher percentage of working mothers got their infants vaccinated. There were 37.5% housewife mothers who did not get their

infants vaccinated while just 20% working mothers did not do so. On the other hand, 15.3% of the housewife mothers got their babies vaccinated, while 33.3 % of working mothers did so.

Table 7: Percentage distribution of mothers according to vaccination of infants by house hold income.

Mother's Vaccination	House Hold Income (Per Month)					
	< Rs. 1000 N=89	1001-1500 N=441	1501-2000 N=215	2001-2500 N=138	2501-3000 N=81	3001 and Above N=29
No Vaccination	48.9	37.0	36.7	34.1	39.5	10.3
Partial Vaccination	39.4	46.5	51.6	45.7	43.2	69.0
Complete Vaccination	12.5	16.6	11.6	20.3	17.3	20.7

Chi-Square = 21.50, Significant at 5 percent level of Chi-Square.

Table 8: Percentage distribution of mothers according to vaccination of infants by their occupation.

Vaccination of Infants	Occupation of Mothers	
	House Wife N=963	Working N=30
No Vaccination	37.5	20.0
Partial Vaccination	47.2	46.7
Complete Vaccination	15.3	33.3

Chi-Square = 8.417**, Significant at 1 percent level of Chi-Square.

It is concluded that mothers who are educated, whose husbands are educated, and who are in higher income bracket and those who are working, are taking care not only of themselves but their babies also. So, a higher percentage of educated mothers or whose husbands are educated or whose income is higher or who are working got themselves as well as their infants vaccinated.

CONCLUSIONS

The present study is an attempt to identify the socio-economic factors affecting the vaccination of mother and child in Multan city. This study has found that majority of the mothers were illiterate and working as house wives. Literacy level of mothers was found to be highly related not only to mother's vaccination but also to vaccination of the infants. Mothers, whose husbands were educated, seemed to have a positive good effect on vaccination because a higher percentage of such mothers had vaccination and got their babies vaccinated too. Household income also proved to be a good indicator of mother and child health. Mothers, whose household income was higher not only got themselves vaccinated but also got their infants vaccinated. As for as occupation of mother was concerned it did not prove to be a good indicator in the case of vaccination but proved a good indicator for vaccination of infants.

POLICY IMPLICATIONS

It is intolerable that so many thousands of women are dying painful and lonely deaths in the process of giving life and we are doing so little to stop it. Helping to save these lives by achieving at least a 50 percent reduction

in maternal and infant mortality by the end of this century is a challenge, which we must accept. Helping to save their lives need a strong plan of action, including community education, backup support in the form of good emergency transport system and improvement in hospital services, staff training and repeated refresher courses, political commitment and a good monitoring system.

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