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SOCIO-ECONOMIC DIFFERENTIALS AND DETERMINANTS OF CHILD IMMUNIZATION IN MEGHALAYA

TillaVinter B. Marak¹ and Madhusudan J. V.²

¹Research Scholar, Department of Education, North-Eastern Hill University, Tura Campus, Tura, Meghalaya.

²Assistant Professor, Department of Education, North-Eastern Hill University, Tura Campus, Tura, Meghalaya.

ABSTRACT

Background: Immunization is a way of protecting the human body against infectious diseases through vaccination. One of the leading priorities across the world is to ensure that every child has the best possible start to life, a safe birth, sound new born baby care with good nutrition, universal immunization etc. Immunization prepares human bodies to fight against diseases which can come into contact with them in the future.

Objective: The present study aimed to examine the Socioeconomic differentials and determinants of child immunization in Meghalaya

Methods: Primary data was used for the present study. A total 400 households (200 household from Garo villages and 200 households from Hajong villages) to address these objectives. A background information schedule prepared and used to get the personal and background information of the respondents

along with structured questionnaire. To identify the association between Socioeconomic characteristics and child immunization, bivariate and multivariate analyses were used.

Findings: The findings of this study indicate that the that immunization coverage were more among children whose mothers were older age group as compared to children whose mothers were younger age group. Children from nuclear family received more immunization compared to children from joint family. The results show that women's education, husband's education, religion, and age at time of marriage are the significant determinants in the child immunization.

Conclusion: This study concludes that the Age of the mother shows direct relationship with the child immunization where the vaccination coverage is higher for those women older age group compared to the children whose mothers were younger age group. It is well documented in previous study and this study also that education is most important factor influencing of child immunization. The information, education and communication should be improve specially for poor and uneducated women and awareness about the adverse effects of child immunization.

KEYWORDS: Child immunization, Garos, Hajongs and Meghalaya.

INTRODUCTION AND REVIEWS OF LITERATURE

Immunization is one of the most successful public health interventions of the past century responsible for averting 3 million deaths globally each year and protecting millions more from illness and permanent disability [1]. After



independence in 1947, it took three decades for India to articulate its first official policy for childhood vaccination; nevertheless, childhood immunization has been an important part of the Reproductive and Child Health (RCH) services [2-3]. There is a considerable evidence of marked regional and socioeconomic inequities in child health and mortality [4-5]. As per NFHS-3 estimates, the under-five mortality rate and the child Mortality rate are much higher for STs than any other social group/ castes at all childhood ages (95.7 and 35.8 respectively). However, it is found that STs have a lower infant mortality rate (62.1) than SCs (66.4) but higher than OBCs (56.6). Even the pre-natal mortality rate for STs (40.6) is lower than other social group/ castes. Based on information obtained from a vaccination card or reported by the mother ('either source'), only 31.3 percent of ST children were found to be fully vaccinated as compared to 53.8 percent belonging to 'Others'. 11.5% of ST children have no vaccinations at all. 49.9 percent of scheduled-tribe children received services at an anganwadi centre and 33.1 percent of ST children received any immunization through an anganwadi centre in the past 12 months [6]. A few attempts have been made to understand the trends in child immunization among ST population, to feel the gap, present study going to investigate the differentials in child immunization in Meghalaya. Thus the present study examining the trends and factor associated with the child immunization in Meghalaya.

OBJECTIVES OF THE STUDY

The present paper aims to examine the trends and factor associated with the child immunization in Meghalaya.

MATERIALS AND METHODS

A cross sectional primary data used for the present study. A total of 20 villages, comprising 10 villages inhabited dominantly by Garos and another 10 villages inhabited dominantly by Hajongs selected randomly from the West Garo Hills District of Meghalaya. Further 20 households from each village selected randomly. Hence sample size of the study is mothers from 400 households (200 household from Garo villages and 200 households from Hajong villages.) A background information schedule prepared and used to get the personal and background information of the respondents along with structured questionnaire. The data has been entered in CPro 6.0 version and transferred to SPSS and STATA. The analyses were conducted using SPSS 20.0 version and STATA 13.0. Bivariate and multivariate analyses were performed to fulfill the objectives of the study.

RESULTS

Background characteristics of the women

Table 1 represents the percent distribution of women by selected socioeconomic characteristics. Among the women, Less than one fourth (18%) respondent age were youth (less than 25 years) where as almost two fifth (38.3%) were between age 25-29 years and more than two fifth (43.8%) respondent were age 30 and above. More than one fifth (21.5%) women married before legal age that is up to 18 years where as more than half (53.3%) women were married age between 19-24 years. Almost one fourth (25.3%) were married age 25 and above.

Table: 1 Percent distribution of women by their selected socioeconomic characteristics

Socioeconomic characteristics	Garos Region		Hajongs Region		Total	
	n	%	n	%	n	%
Current age of women						
Less than 25	50	25.0	22	11.0	72	18.0
25-29	73	36.5	80	40.0	153	38.3
30 and above	77	38.5	98	49.0	175	43.8
Age at time of Marriage						
Up to 18 years	57	28.5	29	14.5	86	21.5
19 -24	96	48.0	117	58.5	213	53.3
25 and above	47	23.5	54	27.0	101	25.3
Age at time of first child birth						
Up to 18 years	35	17.5	6	3.0	41	10.3
19 -24	104	52.0	113	56.5	217	54.3
25 and above	61	30.5	81	40.5	142	35.5
Religion						
Hindu	2	1.0	200	100.0	202	50.5
Christian	198	99.0	0	0.0	198	49.5
Education of women						
Illiterate	48	24.0	108	54.0	156	39.0
Primary Completed	42	21.0	32	16.0	74	18.5
Middle Completed	80	40.0	49	24.5	129	32.3
Secondary completed	19	9.5	11	5.5	30	7.5
Graduate and above	11	5.5	0	0.0	11	2.8
Education of husband						
Illiterate	153	76.5	108	54.0	261	65.3
Primary Completed	16	8.0	43	21.5	59	14.8
Middle Completed	8	4.0	4	2.0	12	3.0
Secondary completed	23	11.5	45	22.5	68	17.0
Graduate and above						
Occupation of women						
Farming	37	18.5	79	39.5	116	29.0
Business	23	11.5	34	17.0	57	14.2
Govt. service	78	39.0	52	26.0	130	32.5
Others	39	19.5	21	10.5	60	15.0
Occupation of husband						
Farming	23	11.5	14	7.0	37	9.3
Business						
Govt. service	115	57.5	81	40.5	196	49.0
Others	37	18.5	57	28.5	94	23.5
Type of family						
Joint	25	12.5	16	8.0	41	10.3
Nuclear	23	11.5	46	23.0	69	17.3
Total	200	100.0	200	100.0	400	100.0

DIFFERENTIAL IN CHILD IMMUNIZATION

Table 2 shows the differential in child immunization in Garos and Hajongs regions Meghalaya. Results shows that immunization coverage were more among children whose mothers were older age group as compared to children whose mothers were younger age group. Children from nuclear family recieved more immunization compared to children from joint family.

Table: 2 Percentage of children who received immunization by their socioeconomic characteristics among Garos and Hajongs regions in Meghalaya.

Socioeconomic characteristics	Immunization					
	Garos Region		Hajongs Region		Total	
	n	%	n	%	n	%
Current age of women						
Less than 25	44	27.0	20	11.4	64	18.9
25-29	62	38.0	68	38.9	130	38.5
30 and above	57	35.0	87	49.7	144	42.6
Age at time of Marriage						
Up to 18 years	48	29.4	24	13.7	72	21.3
19 -24	75	46.0	103	58.9	178	52.7
25 and above	40	24.5	48	27.4	88	26.0
Age at time of first child birth						
Up to 18 years	28	17.2	5	2.9	33	9.8
19 -24	84	51.5	98	56.0	182	53.8
25 and above	51	31.3	72	41.1	123	36.4
Religion						
Hindu	2	1.2	175	100.0	177	52.4
Christian	161	98.8	00	00	161	47.6
Education of women						
Illiterate	35	21.5	91	52.0	126	37.3
Primary Completed	36	22.1	27	15.4	63	18.6
Middle Completed	64	39.3	47	26.9	111	32.8
Secondary completed	18	11.0	10	5.7	28	8.3
Graduate and above	10	6.1	00	00	10	3.0
Education of husband						
Illiterate	28	17.2	66	37.7	94	27.8
Primary Completed	17	10.4	30	17.1	47	13.9
Middle Completed	63	38.7	47	26.9	110	32.5
Secondary completed	38	23.3	19	10.9	57	16.9
Graduate and above	17	10.4	13	7.4	30	8.9
Occupation of women						
Farming	118	72.4	95	54.3	213	63.0
Business	15	9.2	41	23.4	56	16.6
Govt. service	8	4.9	4	2.3	12	3.6
Others	22	13.5	35	20.0	57	16.9
Occupation of husband						
Farming	90	55.2	69	39.4	159	47.0
Business	32	19.6	50	28.6	82	24.3
Govt. service	24	14.7	16	9.1	40	11.8
Others	17	10.4	40	22.9	57	16.9
Type of family						
Joint	43	26.4	38	21.7	81	24.0
Nuclear	120	73.6	137	78.3	257	76.0
Total	163	100.0	175	100.0	338	100.0

DETERMINANTS OF CHILD IMMUNIZATION

Table 3 demonstrates the results of the multivariate analyses of the child immunization coverage in Meghalaya. The results show that women's education, husband's education, religion, and age at time of marriage are the significant determinants in the child immunization. As expected, child humanization increases with the women's educational level. Compared with uneducated women, those with secondary completed and graduate and above education were more likely to use institutional delivery care (OR=4.788, CI=0.719- 31.750) and, (OR=2.192, CI=0.170- 28.273), respectively. Although husband's education appeared to be a significant factor for the child immunization, it was not as strong a factor as women's education. As result indicated that the occupation of women is a most significant determinants of child immunization in Meghalaya. However husband's occupation also appeared to be a significant factor for the child immunization in Meghalaya.

Table: 3 Estimated effects and significance levels of selected Socioeconomic characteristics of women on Child immunization

Socioeconomic characteristics	Child immunization	
	Odds Ratio	95 % CI
Current age of women		
Less than 25 ®	1.00	
25-29	0.463	0.171-1.254
30 and above	0.311**	0.112-0.864
Age at time of Marriage		
Up to 18 years ®	1.00	
19 -24	0.984	0.351-2.759
25 and above	1.121	0.244- 5.157
Age at time of first child birth		
Up to 18 years ®	1.00	
19 -24	1.276	0.344- 4.737
25 and above	1.994	0.358- 11.103
Religion		
Hindu	1.00	
Christian	0.438**	0.213- 0.900
Education of women		
Illiterate ®	1.00	
Primary Completed	1.258	0.525- 3.013
Middle Completed	1.360	0.605- 3.057
Secondary completed	4.778**	0.719- 31.750
Graduate and above	2.192**	0.170- 28.273
Education of husband		
Illiterate ®	1.00	
Primary Completed	1.106	0.429- 2.847
Middle Completed	1.416	0.621- 3.231
Secondary completed	3.059	0.752- 12.454
Graduate and above	0.373	0.096- 1.446
Occupation of women		
Farming ®	1.00	
Business	3.459**	0.899- 13.314
Govt. service	2.324**	0.745-5.763
Others	0.831	0.319- 2.163
Occupation of husband		
Farming ®	1.00	
Business	0.949	0.397- 2.266
Govt. service	7.775**	0.906- 66.697
Others	0.831	0.345- 2.002
Type of family		
Joint ®	1.00	
Nuclear	0.818	0.382- 1.750

Levels of significance: *p<0.10; **p<0.05; ***p<0.01

®= reference category

DISCUSSION AND CONCLUSION

The present study examines the utilization of full immunization by children in Meghalaya. The results from both bivariate and multivariate analyses confirmed the importance of mother's education for the utilization of child immunization which indicated in several other studies in developing countries [7-12]. Age of the mother shows direct relationship with the child immunization where the vaccination coverage is higher for those women older age group compared to the children whose mothers were younger age group. Children belonging to the richest households were more likely to receive full immunization than the children from the poorest quintile. Child immunization were higher among children whose mothers and fathers were working, as compared to children whose mothers and fathers were not working. Previous studies also indicated that the poor-rich gap in the utilization of maternal and child health care services [13-14]. It is well documented in previous study and this study also that education is most important factor influencing of child immunization. The information, education and communication should be improve specially for poor and uneducated women and awareness about the adverse effects of child immunization.

LIMITATION OF THE STUDY

While, this study explores several unfold dimensions of child immunization in Meghalaya but this study has some potential limitations too. Due to a small sample of women, a better analysis of child immunization could not be performed.

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