

Study of Death among Children Below Five Years of Age and its Relation with Socio Economic Status and Place of Residence Using Verbal Autopsy as a Tool in Deharadun

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Abstract

In India about 2.1 million child deaths occur every year, which is the highest with in a single country worldwide. Mortality in under – fives is an indicator of diverse socioeconomic and cultural factors. This present study was conducted to find out relation in-between child mortality of under-five years of age and their socio economic status along with place of residence using verbal autopsy in Dehradun.

Methodology: The survey was done on all the house of the deceased children residing in our field practice areas by visiting their houses.

Results: Most of the deaths were found from lower socio-economic class among the 83 deaths reported during study period.

Conclusion: The study shows that as we moves up the socio economic class, the mortality rate tends to decline.

Keywords: Verbal autopsy, socio-economic, deceased children, mortality, policy making, Millennium development goals.

Introduction

The Millennium development goals (MDG) represent the widest commitment in history to addressing global poverty and ill health. The fourth goal (MDG-4) commits the international community to reducing mortality in children aged younger than five years by two – thirds between 1990 and 2015. Between 1960 and 1990 the risk of dying in the first five years of life was halved a major achievement in child health. However achieving (MDG - 4) will be depend on mortality

reductions even greater in percentage terms than those achieved in the past⁽¹⁾. Information on factors leading to death is extremely important for policy-making, planning, monitoring and evaluation of health programs, this is particularly more so important for childhood deaths, which is constituting a major portion of all deaths, and of which many intervention programs are currently attempting to reduce mortality among under five deaths⁽²⁾.

Material and Method

The study was undertaken for one year in the field practice areas of department of community medicine HIHT Dehradun after taking approval of institutional ethical committee. The total population registered under Rural Health Training Centre (Rajeev Nagar) & Urban Health Training Centre was 12,588 and 12,930 respectively out of which under five children were 1297 at RHTC and 1325 at UHTC.

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All deaths except still births registered with Rural and Urban Health Training Centre were included in the study. When a child died, the mother or the respondent was questioned in detail about the parents socio-economic status and place of residence of children prior to death. A drafted questionnaire (English version) developed by WHO, was modified suitably, as well as

certain variables were added to find out any correlation in-between under five children death and parents socio-economic status along with place of residence⁽³⁾. The information so collected, was first coded and then entered in the computer. The analysis was done by using SPSS software. Appropriate statistical method (proportion and chi – square test) were applied as per requirement.

Result

Table 1: Distribution of deceased children by age, sex and place of residence (n=83)

	Rural (%)	Urban (%)	Total deaths (%)	Chi squar value	Degree of freedom	P value
Age of Deceased Children						
0-28 days	17 (43.6)	15(34.1)	32(38.6)	3.219	2	>0.05
29-<365 days	12(30.8)	10(22.7)	22(26.5)			
365 days-< 5Yrs	10(25.6)	19(43.2)	29(34.9)			
Sex of Deceased Children						
Male	18(46.2)	26(59.1)	44(53.0)	1.389	1	>0.05
Female	21(53.8)	18(40.9)	39(47.0)			

Table 2: Distribution of children by socio – economic status and place of residence

Scio–Economic Status	Place of Residence				Total	
	Rural		Urban			
	No.	%	No.	%	No.	%
Upper Middle	6	46.2	7	53.8	13	100.0
	0.5		0.5		0.5	
Lower Middle	112	35.7	202	64.3	314	100.0
	8.6		15.2		12.0	
Upper Lower	464	43.0	614	57.0	1078	100.0
	35.8		46.3		41.1	
Lower	715	58.8	502	41.2	1217	100.0
	55.1		37.9		46.4	
Total	1297	49.5	1325	50.5	2622	100.0
	100.0		100.0		100.0	

[$X^2 = 5.868$, $df=4$, $p>0.05$; NS]

Discussion

Present study shows that in rural area 55.1% belonged to lower socio – economic class which was followed by 35.8% in upper lower, and 8.6% were in lower middle class. In the urban area 46.3% children were from the upper lower class, 37.9% were in lower class and 15.4% in the lower middle class. There were no children in upper socio-economic class in both the area while only 0.5% children in both the area belonged to upper middle

class. This could be due to the fact that urban slums were selected for the study purpose, and they consisted mainly of the migratory population. The socio-economic status of both the study area is same and comparable however association between socioeconomic status and place of residence was found to be statistically insignificant.

In the present study maximum mortality in both urban (71.8%) and rural area (78.3%) were in children belonging to lower and upper lower class. No mortality

was seen in children belonging to upper class. This could be that being coming from lower and upper lower socio-economic class they were not well off financially and could not afford medical expenses. The findings suggest that as we move up the socio-economic class, the mortality rate tends to decline. Similar observations were observed by Hosseinpoor et al (2005)⁴ that the infant mortality was concentrated among people of low socio-economic status. Similarly, Sharma and Gupta (2005)⁵ also observed in their cross-sectional study on the prevalence of at risk under – five children in rural area, that at-risk children were significantly from the low socio-economic group. Calazzo et al (2004)⁶ also states that socio economic inequality and its impact on health is a growing concern in the European public health debate.

Amouzou and Hill (2002)⁷ found that at risk children were significantly from the low socio-economic group. They found a clear association of high mortality with low income. In another study done by Reddiah and Kapoor (1992)⁸ showed in their study on socio biological factors in under – five deaths analyzed 281 under – five deaths and found that deaths in socially and economically disadvantage cases constituted 77.6%.

According to NFHS–3 Uttarakhand (2006)⁹ Children living in the highest wealth quintile households are much less likely to die before their first birthday as children living in other wealth quintile households. Another study done by Cornelius Nattey (2013)¹⁰ that household socio-economic inequality and maternal education were observed to be strongly associated with under-five mortality in rural Tanzania.

The UN Inter-agency Group for Child Mortality Estimation (UN IGME) reported that, out of 99 surveyed LMICs, children born to the poorest families were on average, twice as likely to die before the age of five compared with children born to the wealthiest families (UN IGME 2017)¹¹. A systematic review and meta-analysis done by Bernadette O’Hare (2013)¹² on income and child mortality in developing countries also came to this conclusion that there is an inverse and significant relationship between income and child mortality.

McKinnon B (2014)¹³ published his work in Lancet Global Health, that a substantial survival advantage remains for babies born into wealthier households with a high educational level, which should be considered in global efforts to further reduce NMR. Khadka KB (2008)¹⁴ also stated that socioeconomic distal and proximate determinants are associated with infant

mortality in Nepal. Infant mortality was higher in the poor and middle classes than the wealthier classes. Park (2005)¹⁵ In industrial world a dominant factor in the decline in infant mortality has been social and economic progress. Study done by Victora CG (2003)¹⁶ also shows that poor infants are more likely to be exposed to health risks than their better-off peers, and they have less resistance to disease because of under-nutrition and other hazards typical in poor communities.

Conclusion

Our study as well as studies from different parts of globe establishes an inverse and significant relationship between income and child mortality, so while making policies to bring down under five mortality specially in developing and under developed countries, socioeconomic conditions of people must be kept in consideration.

Conflict of Interest: None

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