Study of Death among Children below five Years of Age and Its Relationship with Person Conducting Delivery and Place of Residence. Using Verbal Autopsy as a Tool in Deharadun

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Abstract

Substantial reduction in child mortality has occurred in low income and middle income countries in the late 20th century but more than ten million children younger than five years still die every year , one of the important factor which has been observed in under five mortality is the person conducting the delivery . Keeping this in view, this study was conducted to find out relation in-between child mortality of under-five years of age and its relation with person conducting delivery and place of residence. using verbal autopsy as a tool in Deharadun.

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

Results: Among the 83 deaths reported **m**ost of the deaths were conducted by daies and relatives.

Conclusion: Our study shows that delivery conducted by qualified personnel greatly help in reducing the under-five mortality rate.

Keywords: *Qualified personnel, deceased children, mortality rate, Millennium development goal , untrained dai .*

Background

In India about 2.1 million child deaths occur every year, which is the highest with in a single country worldwide[1]. There has been a substantial decrease in child mortality in the past two decades in India. The reduction being more marked in the 1980's than in 1990's. despite these impressive gains. India compares poorly in the pace of child mortality reduction to several other countries in South and South-East Asia, including Bangladesh. More disturbing are the data which indicate that the decline in the child mortality rate is slowing in India[2]. According to UNICEF estimates, child mortality rates have been reduced by around 12 percent over the period 1990 – 2002. Given the average annual rate of reduction of 1 percent, the pace of progress needs to be increased significantly to achieve millennium development goal MDG – 4[3]. Appropriate delivery care is crucial for both maternal and perinatal health and increasing skilled attendance at birth is a central goal of the safe motherhood and child survival movements. Skilled attendance at delivery is an important indicator in monitoring progress towards Millennium Development Goal 5 to reduce the maternal mortality ratio by three quarters between 1990 and 2015[4]. In addition to professional attention, it is important that mothers deliver their babies in an appropriate setting, where life saving equipments and hygienic conditions can also help reduce the risk of complications that may cause death or illness to mother and child (2006)[5].One of the resent change which has been observed in government policies is emphasis on institutional deliveries in respect to home deliveries.

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 Heath Training Centre (Rajeev Nagar) & Urban Health Training Centre was 12,588 and12,930 respectively out of which under five children were 1297 at RHTC and 1325 at UHTC.

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 person conducting delivery 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 person conducted delivery with place of residence [6]. The information so collected, was first coded and then entered in the computer. The analysis was done by using SPSS software. Appropriate statistical methods (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)

Age of deceased children	Rural (%)	Urban (%)	Total deaths (%)	Chi squar value	Degree of freedom	P value
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 person conducting delivery and place of residence. (n = 83).

Delivery Conducted by	Place of Residence					
	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Qualified doctor	6	26.1	17	73.9	23	100.0
	15.4		38.6		27.7	
Nurse	1	25.0	3	75.0	4	100.0
	2.6		6.8		4.8	
Trained die	9	56.3	7	43.8	16	100.0
	23.1		15.9		19.3	
Untrained die	18	58.1	13	41.9	31	100.0
	46.2		29.5			
Relative / others	5	55.6	4	44.4	9	100.0
	12.8		9.1		10.8	
Total	39	47.0	44	53.0	83	100.0
	100.0		100.0		100.0	

Discussion

In the present study most of the deliveries in rural area i.e. 59% was conducted by untrained dai or relatives while in the urban slum 39.7 % was conducted by untrained personnel. Overall 48.2 % of delivery in the study area was conducted by trained personnel. The delivery conducted by trained personnel and the delivery conducted by untrained personnel do presents risks to newborn. However the difference between delivery conducted by and place of residence was found to be statistically insignificant. According to NFHS – 3 survey done Uttarakhand [7], almost half 48 % of births was assisted by trained personnel in last 5 years and as per NFHS – 3 India, 47 % of birth in last 5 years were assisted by health personnel while 37 % was assisted by TBA. In a study done by Katz et al (2003) [8] while analyzing the risk factors for early infant mortality in Sarlahi, Nepal found that only 2.8 % women delivered in hospitals and 1.8 % were delivered by a doctor, most women delivered at home with the help of family or untrained birth attendant .Another study done by Garg et al (1993)[9]shows in their study on neonatal mortality in Meerut district ,that 90.5 % of these were home deliveries, 45.3 % were delivered by an untrained birth attendant and 30.9 % were delivered by TBA. 11.9 % were delivered by a family member.

Haque A (1996)[10] also found in his study done in urban slum of Dhaka that over 75 % had deliveries performed by an untrained attendant. 8 % delivered the infant themselves. And 3% had a doctor assisted deliveries. Adamson PC (2012)[11] observed the increase in cesarean section rates suggests that more women are being identified with pregnancy complications through institutional delivery, the increase in community NMR indicates the continued delivery of high risk or complicated cases in home births. Caste disparities continue to exist, with women of lower castes continuing to have higher rates of home birth. Maternal complications during delivery have been reported as a key factor in neonatal mortality in India Kumar et al.(2014)[12]. Titaley et al. (2012)[13] also concluded that in urban areas, infants of mothers with delivery complications who were delivered at health care facilities had a reduced risk of death. Study done by De Costa et al. (2014)[14] also stresses on the same approach as Gujarat government´s emphasis on promoting institutional delivery among BPL or ST mothers is a step in the right direction, not just for maternal death reduction but also for NMR reduction. Study done by Lawn (2005)[15] also came to this conclusion that maternal complications in labor carry a high risk of neonatal death. Recent study done by Fink (2015)[16] also states that Facility deliveries have the potential to reduce early neonatal mortality in developing countries.

Conclusion

Our study as well as studies from different parts of globe especially developing countries came to this conclusion that person conducting a delivery has a great role in decreasing under five mortality especially neonatal mortality. And if we go for institutional deliveries then both neonatal mortality as well as maternal mortality can be reduced extensively.

Conflict of Interest – None

Source of Funding- Self

Ethical Clearance – Taken From Ethical Committee.

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