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Periodic Research

A community based study on non medical maternal factors affecting infant survival in Gujarat

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Abstract

The community based study aims at finding the factors affecting survival of infants and to recommend how to control the factors affecting survival of infants. A total number of 953 mothers, with the past history of pregnancy during last year, were interviewed by recall method for maternal factors and infant survival. Infant mortality rate was found to be 38.73 per thousand live births. It was statistically proved that infant mortality was higher in join families with illiterate mothers of lower socio economical class

Keyword: Maternal factors, Infant survival

Introduction

For ensuring positive health to individuals, it is necessary to see that the foundation is made from the period of child is in the womb. We accept the fact unequivocally that mother and baby are the crucial part of general health and is central to human development. Many of the causes of maternal deaths and disabilities also jeopardize the survival and health of newborn infants.

Every year, on average nearly four million newborn babies die and millions more are disabled because of inadequately managed pregnancies and deliveries because of women's poor health and poor nutritional status. Tragically most maternal and neonatal deaths and diseases are preventable. Neonatal infection accounts for 30% of deaths in newborn babies, asphyxia and trauma at birth 28%, premature deliveries and low birth weight 24% and congenital anomalies 10%. Poor maternal health results in low birth weight and premature babies. Infant and childhood diarrheal diseases, acute respiratory infection and malnutrition contribute to high infant mortality rates. Female infant have higher mortality than male infants due to influence of social factors.[1]

By virtue of their numbers, mothers and infants are major consumers of health services. These groups are subjected to marked physical and physiological stress. They are exposed to unusual risks of wide spread infection, poor nutrition and hazardous delivery, which might cause death or impairment of health. Deaths within first year of life account for one third of total death in India. Half of them are neonatal death. About 50% of all neonatal death occurs during the perinatal period.[2]

Infant mortality rates in Asia are Srilanka (14.2), Thailand (16), China (15.6), Indonesia (27), India (44), Pakistan (69.7), Bangladesh (38) and Nepal (41.4).[3]

In India death in age group 0-1 year account for 24% of the total deaths in the country.[4]

Infant Mortality Rate (IMR) has been steadily decreasing in India. It was 134 per thousand live births before independence, 69 in year 2000 and 44 in year 2010. This has been possible due to environmental control of communicable diseases, immunization, nutrition, supplementation and better availability of health facilities. However, the IMR in India is still higher then in developed countries, where it is less than 15.[2]

Additionally, in India, across the board (rural or urban areas), there are more female deaths in the age group of 0-14 than

elsewhere. Although the IMR has decreased from 146 per 1000 births in 1951 to 44 per 1000 births in 2010, and sex differentials are narrowing, again there are wide inter-state differences recorded in 2010.[3]

Total still birth rate is 8.0 in Gujarat.[5] And Total IMR in Gujarat is 41, in rural 60 and in urban 36 per 1000 live births.[6]

The objectives of the study is to identify the factors affecting survival of infants and to recommend how to control the factors affecting survivals of infant.

Material And Methods:

Hajipur primary health centre was randomly selected from kalol taluka of Gandhinagar district. Total population of Hajipur is 42538. All the 10 villages of PHC were included in this study. House to house survey of total 6408 families were carried outs to interview the mothers with past history of pregnancy during the period August '11 to July '12. Total 953 mothers were interviewed by recall method. Data collection was done from August '12 to July '13. The questionnaire was predesigned and pretested to elicit relevant information. To find out the correlation between two variabls, test of significance applied is standered error between two proportion.

Observation And Results:

4.07% mortality was noted among the joint family and 1.05% in Nuclear family.

There is statistically significant correlation between type of family and survival of infant ($Z=2.9$, $p<0.05$) (Table -1)

Maximum percentage of infant death (5.39%) was in S-E class V, followed by 2.62% in S-E class IV and 2.33% in S-E class II. The difference of survival of infant between class V and class I to IV is significantly high ($Z=2.15$, $p<0.05$). (Table-2)

The difference of infant death between the illiterate and literate is statistically significant ($Z=2.71$, $p<0.05$). percentage of infant death among illiterate was higher (5.61%) and for primary educated (2.55%) mothers. One infant of the mother who was educated up to HSC died due to congenital malformation. (Table -3).

There was 33.33% infection followed by 21.21% low birth weight and 12.12% premature baby. 9.09% aspiration and other unknown causes, one case of spinabifida and anencephaly. (Pie-diagram)

Discussion:

Type of Family:

As study area was rural and main work of community was farming and animal rearing, number of joint families were (79.96%) comparatively more than the nuclear families (20.04%).

Infant mortality was significantly more in joint family (4.07%) than in nuclear family (1.05%) ($Z=2.95$, $p< 0.05$)

Socio-Economic (S-E) status:

One of the most important variables affecting IMR, both directly and indirectly is S-E status.

IMRs are highest in the slums and lowest in richer residential localities. Reduction in infant mortality require continuing S-E development.[7]

In present study, IMR was highest (5.39%) in S-E class V, followed by (2.62%) among S-E class III and IV. Mortality was not found among the S-E class I and II suggesting that availability and quality of health care and nature of child's environment are closely related in S-E status.

A study carried out in Egypt by Yassin Khaled et al (2003) observed that utilization of care was shown to be low and significantly associated with poverty and husband illiteracy. Likewise, trained health care workers did not attend most deliveries, and these unattended deliveries were shown to be associated with nonutilization of antenatal care, illiteracy, nonownership of cattle, and inaccessibility to potable water.[8]

Education:

In Indonesia, the children of women with no formal schooling are almost three times likely to die than those born to women with at least a secondary education.[9]

Female literacy rate in rural area of Gujarat is 57.78 by 2011.[6]

IMR was significantly less ($Z=2.71$, $p<0.05$) in educated mothers might be due to small family, utilization of health care facilities, good sanitation and higher S-E status.

One infant, whose mother had studied up to HSC, died due to congenital malformation (spinabifida).

Gita Rav et al noted (1998) numbers of infant death are three times more in illiterate women.[9]

Research also indicates mother's education is less important for infants than for children.[10]

Probable cause of death of infant:

33.33% of infant had history of infection and 21.21% had LBW. 12.12% had premature birth.

9.09% had history of aspiration pneumonitis. Only 3.03% had congenital malformation and asphyxia. 9.09% died due to some unknown etiology. Two infants had congenital malformation (Spinabifida and anencephaly).

Out of 856 deliveries, one twins delivery and out of two, one baby expired.

Both the infant who lost their mother also died within perinatal period.

Conclusion:

In present study, IMR was 38.73 per 1000 live births.

Among the commonest cause of infant mortality, one-third were due to infection, one-fifth were due to low birth weight. It was statistically proved that infant mortality was higher in joint families with illiterate mothers of lower socio economical class. These indicate the inverse

relation between education and survival of infant. A young women's lack of schooling also has profound effect on survival of her children.

Recommendation:

Medical intervention is not shortcut to problem, what is more important is to cut away the rigid religion and harmful social practices and to stimulate social practices such as raising the age of marriage and increasing female education. To enhance the income of the family, exclusively housewives should be provided vocational and skill training.

To encourage regular, adequate, effective prenatal care and safe management of routine deliveries and immunization of infant to prevent deaths due to infection and low birth weight.

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TABLE-1
CORRELATION BETWEEN TYPE OF FAMILY AND SURVIVAL OF INFANT

Type of family	Infant death				Total	%
	Yes	%	No	%		
Nuclear	2	1.05	189	98.95	191	20.04
Joint	31	4.07	731	95.93	762	79.96
Total	33	3.46	920	96.54	953	100

TABLE-II
CORRELATION BETWEEN SOCIO ECONOMICAL STATUS AND SURVIVAL OF INFANT

S-e class	Infant death				Total	%
	Yes	%	No	%		
Class-V	18	5.39	316	94.61	334	35.05
Class- IV	13	2.62	483	97.38	496	52.05
Class-III	2	2.33	84	97.67	86	9.02
Class-II	0	0	29	100	29	3.04
Class-I	0	0	8	100	8	0.84
Total	33	3.46	920	96.54	953	100

TABLE-III
CORRELATION BETWEEN EDUCATION AND SURVIVAL OF INFANT

Education of mother	infant death				Total	%
	Yes	%	No	%		
Illiterate	25	5.61	420	94.38	445	46.69
Primary	7	2.55	268	97.45	275	28.86
Secondary	0	0	156	100	156	16.37
Higher secondary	1	1.79	55	98.21	56	5.88
Graduate	0	0	18	100	18	1.89
Post graduate	0	0	3	100	3	0.39
Total	33	3.46	920	96.54	953	100

CAUSES OF INFANT MORTALITY