

**Factors Influencing Infant and Child Mortality in
Umreth Block of District Anand-Gujarat**

**Internship Training
at
District Program Management Unit,
NRHM Anand-Gujarat**

**By
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**Under the guidance of
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**Post Graduate Diploma in Hospital & Health Management
2012–14**


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TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr.Faheem Fatima**, student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur has undergone internship training at **District Program Management Unit of NHM Gujarat** from **1st Feb.2014 to 30th March 2014.**

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.



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CERTIFICATE

The certificate is awarded to

Dr. FAHEEM FATIMA

In recognition of having successfully completed her
Internship in the department of
District Program Management Unit of District Anand

And has successfully completed her Project on

Factors influencing infant and child mortality

Date- May 20, 2014

Organization- National Health Mission, Gujarat

She comes across as a committed, sincere & diligent person who has a
Strong drive & zeal for learning

We wish her all the best for future endeavors


Reproductive and Child Health Officer
District Panchayat, Anand




Chief District Health Officer
District Panchayat, Anand

INSTITUTE OF HEALTH MANAGEMENT RESEARCH, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled “**Factors Influencing Infant and child Mortality**” submitted by **Faheem Fatima** Enrollment No. PGDHM 17-1308 under the supervision of **Associate Professor Mr. J.P. Singh** for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from **1st February 2014 to 30th April 2014** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Fatima
28th May 14

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ABBREVIATIONS

ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWC	Anganwadi centre
AWW	Anganwadi Worker
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha, SowaRigpa and Homeopathy
BCC	Behavior Change Communication
BPM	Block Project Manager
CHC	Community Health Center
CPRC	Community Processes Resource Center
DDK	Disposable Delivery Kits
DH	District Hospital
DLHS	District Level Health Survey
DOTS	<i>directly observed treatment, short-course</i>
DPM	<i>District Project Manager</i>
EDD	Expected Date of Delivery
FGDs	Focus Group Discussion
FRU	First Referral Unit
GIS	<i>Geographic Information System</i>
GPS	<i>Global Positioning System</i>
HMC	Health monitoring and planning Committee
HMIS	Health Management Information System
HRMIS	Human Resources Management Information System
ICDS	<i>Integrated Child Development Services (ICDS)</i>
IEC	Information education and communication
IFA	Iron and folic acid tablet

IMR	<i>Infant Mortality Rate</i>
IPHS	Indian Public Health Standards
IT	Information technology
JSSK	Janani Shishu Suraksha Karyakram
JSY	Janani Suraksha Yojana
MHU	Mobile health unit
MMR	Maternal Mortality Ratio
NGO	<i>Non-governmental organizations</i>
NHSRC	<i>National Health Systems Resource Centre</i>
NIPI	Norway - India Partnership Initiative
NRHM	National rural health mission
NSV	<i>No-scalpel vasectomy</i>
OAS	<i>Orissa Administrative Service</i>
ORS	<i>Oral Rehydration Solution</i>
OSMIS	<i>ODISHA STATE MALARIA INFORMATION SYSTEM</i>
OVLMS	<i>Orissa Vaccine Logistic Management System</i>
PHC	Primary health centre
PNC	Post natal care
PPP	<i>public-private partnership</i>
PRI	Panchayati Raj Institutions
RGH	<i>Rourkela Government Hospital</i>
RKS	Rogi Kalyan Samiti
SC	Sub-center
SHRSC	State Health Systems Resource Centre
SPSS	Statistical Package for the Social Sciences
ST	Schedule tribes
TFR	<i>Total Fertility Rate</i>
TT	<i>Tetanus Toxoid</i>
VHND	Village Health & Nutrition Day

Introduction:

In low- and middle-income countries, the probability of dying in childhood is strongly related to the socio-economic position of the parents or household in which the child is born. This survey reviews the evidence on the magnitude of socio-economic inequalities in childhood mortality within low- middle-income countries and discusses possible causes and highlights entry points for intervention.

Literature Review:

The relationship between child mortality and socio-economic factors might be relatively weak in developed countries, may be due to low child mortality. In contrast, in the developing countries, a significant portion of deaths occurs during childhood, which may be due to poor public health measures and lack of access to health care facilities. It is documented that the risk of morbidity and mortality is directly influenced by 14 intermediate or proximate determinates including education of mother, sanitation facilities, access to safe drinking water and maternal and child health care services.

The relationship between child mortality and socio-economic factors might be relatively weak in developed countries, may be due to low child mortality. In contrast, in the developing countries, a significant portion of deaths occurs during childhood, which may be due to poor public health measures and lack of access to health care facilities. It is documented that the risk of morbidity and mortality is directly influenced by 14 intermediate or proximate determinates including education of mother, sanitation facilities, access to safe drinking water and maternal and child health care services . There is evidence of some recent decline in infant and child mortality. Mother education, higher birth order had significant independent effects upon the reduction of infant and child mortality. Other variables such as father education, fetal loss or land ownership had no effect on child mortality. Another study considers some characteristics as mother's age at the birth of child, birth order, previous child loss, mother's residence.

Research Question:

Does the socioeconomic and demographic factor influence the infant and child mortality?

Objective:

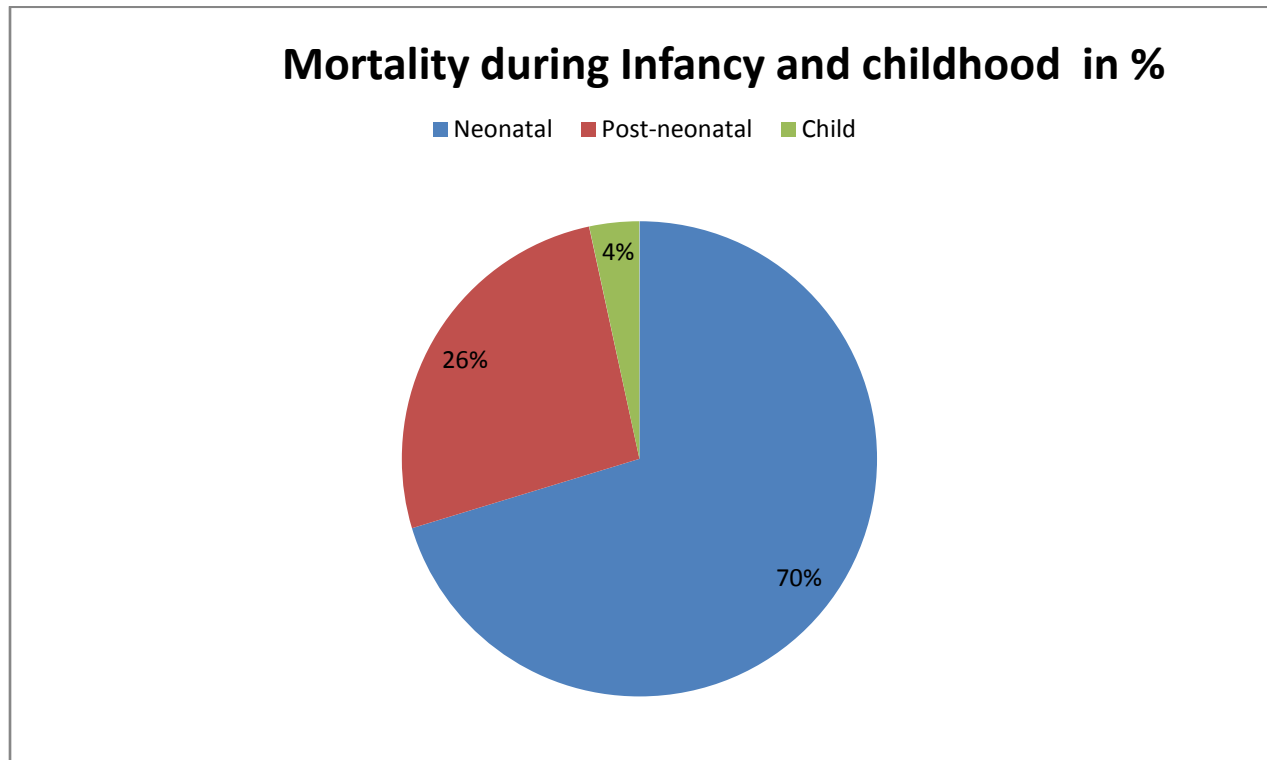
To examine the differential patterns of infant and child mortality with respect to socioeconomic, demographic and health related characteristics.

Study design and methods:

- Type of study: Descriptive cross sectional study
- Sampling : Purposive sampling
- Location of study: Umreth block of District Anand , Gujarat
- Study subjects: Family of the deceased child.
- Data to be collected on: Socio economic and demographic factors
- Data collection tools: Questionnaire (Refer Annexure – 1)

Results

Figure: 1



The pie chart above shows that the most of the childhood mortality has been occurred during Neonatal (70%) and post neonatal period (26%).

Table: 1- Caste * Age of deceased child Cross tabulation

Caste * Age of deceased child Cross tabulation					
		Neonatal	Post-neonatal	Child	Total
Caste	General	27.7%	32.3%	50.0%	29.7%
	schedule caste	14.5%	19.4%	.0%	15.3%
	Other backward caste	57.8%	48.4%	50.0%	55.1%

Table 1 show that the maximum death has been occurred in the other backward caste in all the three age groups of the child.

Table: 2- Place of residence * Age of deceased child Cross tabulation

Place of residence * Age of deceased child Cross tabulation					
		Neonatal	Post-neonatal	Child	Total
Place_of_residence	Rural	68.70%	71.0%	75.0%	69.5%
	Urban	.0%	6.5%	.0%	1.7%
	slum	31.3%	22.6%	25.0%	28.8%
Total		100.0%	100.0%	100.0%	100.0%

The type of place of residence is also an important determinant of child survival; urban-rural differentials may be attributed to different health care services including higher coverage with immunization, safe delivery of births and access to health care services. Table2 show that in the rural area neonatal, post-neonatal and child mortality levels are higher than urban areas. Neonatal, post-neonatal and child mortality in rural areas is already 68.7%, 71% and 69.5% respectively whereas; in urban areas it is found to be 0%, 6.5% and 1.7+%, respectively.

Table: 3- Birth interval * Age of deceased child Cross tabulation

Birth interval * Age of deceased child Cross tabulation					
		Age of deceased child			Total
		Neonatal	Post-neonatal	Child	
Birth interval	<18 month	19.3%	9.7%	9.7%	16.1%
	18-36 month	33.7%	19.4%	25.0%	29.7%
	>36 months	13.3%	19.4%	50.0%	16.1%
	NA	33.7%	51.6%	25.0%	38.1%
Total		100.0%	100.0%	100.0%	100.0%

Most of the studies in the developing countries, which consider birth spacing, show that the length of preceding birth interval is the prime factors that influence mortality during

Infancy as well as other childhood ages of life. Maternal depletion is often cited as the primary mechanism responsible for the adverse effects of short birth intervals. Women with short intervals between two pregnancies have insufficient time to restore their nutritional reserves, a situation which is thought to adversely affect fetal growth. Table 1 shows that a neonatal born within 18-36(33.7%) months of the birth of its preceding siblings experienced higher mortality level in comparison to the neonatal born >36 (13.3%).

The information provided here indicates that short birth intervals significantly reduced infant probability of survival. It is also observed that the child mortality level is higher for birth intervals of 18-36 months (25.0%) than birth intervals of less than 18 months (9.7%)

Table: 4-Mother's age at the time of birth of deceased child

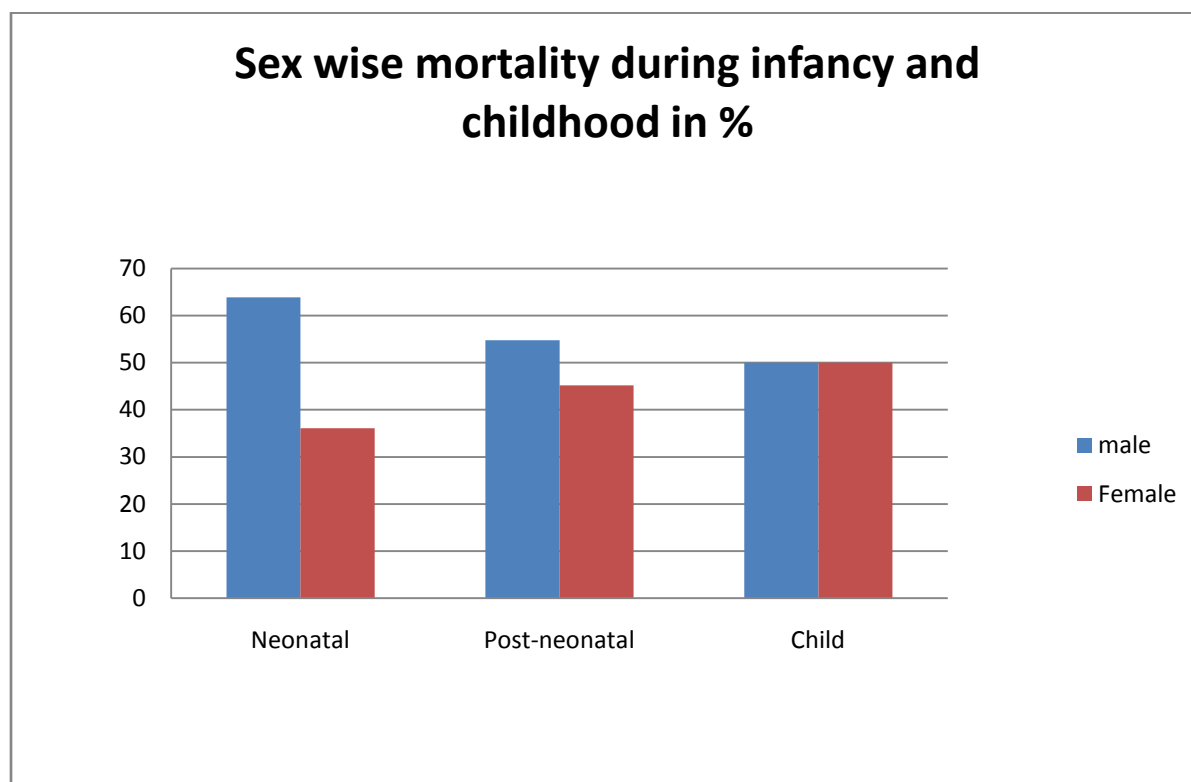
And Age of deceased child Cross tabulation

		Age of deceased child		
		Neonatal	Post-neonatal	Child
Mother's age at the time of birth of deceased child	<20 yrs	53.7%	51.4%	51.4%
	20-29 yrs	43.8	39.0	43.2
	30-49 yrs	2.5%	9.6%	5.4%

The age of the mother at the time of the child's birth is an important factor for infant and child survival. Infants born to mothers who are less than 19 years of age, or 35 or more years of age Are also at higher risk of dying while infants (Galway et al. 1987). Table 4 represents the

Neonatal, post-neonatal, infant and child mortality pattern by age of mother at the time of birth that all the stages of mortality levels are higher for mothers who are under 20 years of age. Infant and child mortality levels are lower for children whose mothers aged between 20-29. Neonatal Mortality of the children whose mothers aged below 20 years at the time of the child's birth is 9.9 % higher than the children whose mothers are in the age range 20-29 years at the time of giving birth. This supports the earlier findings that chances of neonatal mortality are always higher for teenage mother due to complication in pregnancy and delivery, premature birth and Other related causes.

Figure-2



The obtained data shows that during neonatal and post neo natal period, male mortality exceeds female mortality as a sex differential consistent with higher biological risks faced by male

children. The childhood (1-4 years), the pattern is same, with male death rates gets equal to those for females.

Table: 5-Sanitation facility * Age of deceased child Cross tabulation

		Age of deceased child		
		Neonatal	Post-neonatal	Child
Sanitation facility	Open field	75.90%	54.8%	75.0%
	Hygienic toilet	24.1%	45.2%	25.0%

Infant and child mortality is also affected by sanitary facility. A better sanitation facility is a primary health care practice and also reduces morbidity. Table 5 presents those households having hygienic latrines considerably lower neonatal (24.1%), post-neonatal (45.2%) and child (25.0%) mortality level than those without such facilities i.e.; open field defecation have higher neonatal (75.90%), post-neonatal (54.8%) and child mortality level (75.0%). It is believed that both infant and child mortality increases when sanitary condition decreases.

Conclusion:

From these findings I found that primarily the endogenous factors are playing significant role on neonatal mortality, whereas in the post neonatal as well as in the childhood period, primarily exogenous factors affect risk of mortality much.

But the negative effects of maternal education, being exogenous seem to have a great impact on infant and child mortality irrespective of the age of the child. From this survey, it is concluded that infant and child mortality levels are still considered to be high despite the introduction of various health interventions.

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Factors influencing infant and child mortality

(Questionnaire)-Annexure-1

1) Name of deceased child

2) Religion of deceased child

I. Hindu

II. Muslim

III. Christian

IV. Sikh

3) Caste of deceased child

I. General

II. Schedule Caste

III. Scheduled Tribe

IV. Other Backward Caste

4) Age of deceased child

I. <28 days

II. 28days to 1 year

III. > 1 year to 5 year

5) Sex of deceased child

i. Male

ii. Female

6) Place of residence

i. Rural

ii. Urban

iii. Slum

7) Birth order

i. 1

ii. 2

iii. ≥ 3

Note: - If answer is (i) then skip to Q.9.

8) Birth interval

i. < 18 month

ii. 18 – 36 month

iii. > 36 month

iv. N.A

9) Mother's age at the time of birth of deceased child

i. <20 yrs

ii. 20 – 29 yrs

iii. 30 – 49 yrs

10) Mother's education

i. No education

ii. Primary

iii. Secondary

iv. Graduation

11) Mother's occupation

- i. Not working
- ii. Working

12) Mother's marital status

- i. Married
- ii. Widowed
- iii. Divorced

13) House hold income Rs. Per month

- i. <3000
- ii. 3000 – 6000
- iii. 6000 – 10000
- iv. >10000

14) Poverty status

- i. BPL
- ii. APL

15) Sanitation facility

- i. Open field
- ii. Unhygienic toilet
- iii. Hygienic toilet

16) Immunization status

- i. No immunization
- ii. Partial immunization
- iii. Full immunization
- iv. As per appropriate age

17) Ante natal care received by mother

- i. No ANC
- ii. One ANC
- iii. Full ANC

18) Treatment place while required

- i. Traditional
- ii. Private doctor/ hospital
- iii. Govt hospital

19) Place of delivery

- i. Home
- ii. Private hospital
- iii. Govt hospital

20) Weight of child at the time of birth

- i. <1800 gm
- ii. 1800 – 2499 gm
- iii. ≥ 2500 gm

21) Breast feeding practices

- i. No breast feeding
- ii. Yes but not EBF
- iii. Yes EBF