

**"SOCIOECONOMIC AND
DEMOGRAPHIC FACTORS
AFFECTING CHILD HEALTH IN
BANGLADESH "**

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Introduction



Out of 8 Millennium Development Goals one was to decrease child mortality up to two-third from 1990 to 2015.

According to UNICEF report 2017, the rate of child mortality fell 62 per cent from 1990–2016, with under-five deaths dropping from 12.7 million to 5.6 million.



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- During last 15 years Bangladesh achieved a reduction in child mortality rate but still this rate is very high.
- It is expected that current 3.3 million urban population will grow to 4.9 billion in 2030 with the rapid growth of urban areas of Africa and Asia (Soeung et al, 2012) .
- Anemia is a global health problem. According to world health organization (WHO) report in developing countries 58% pregnant women are anemic.

Reasons of Poor Health Conditions in Developing Countries

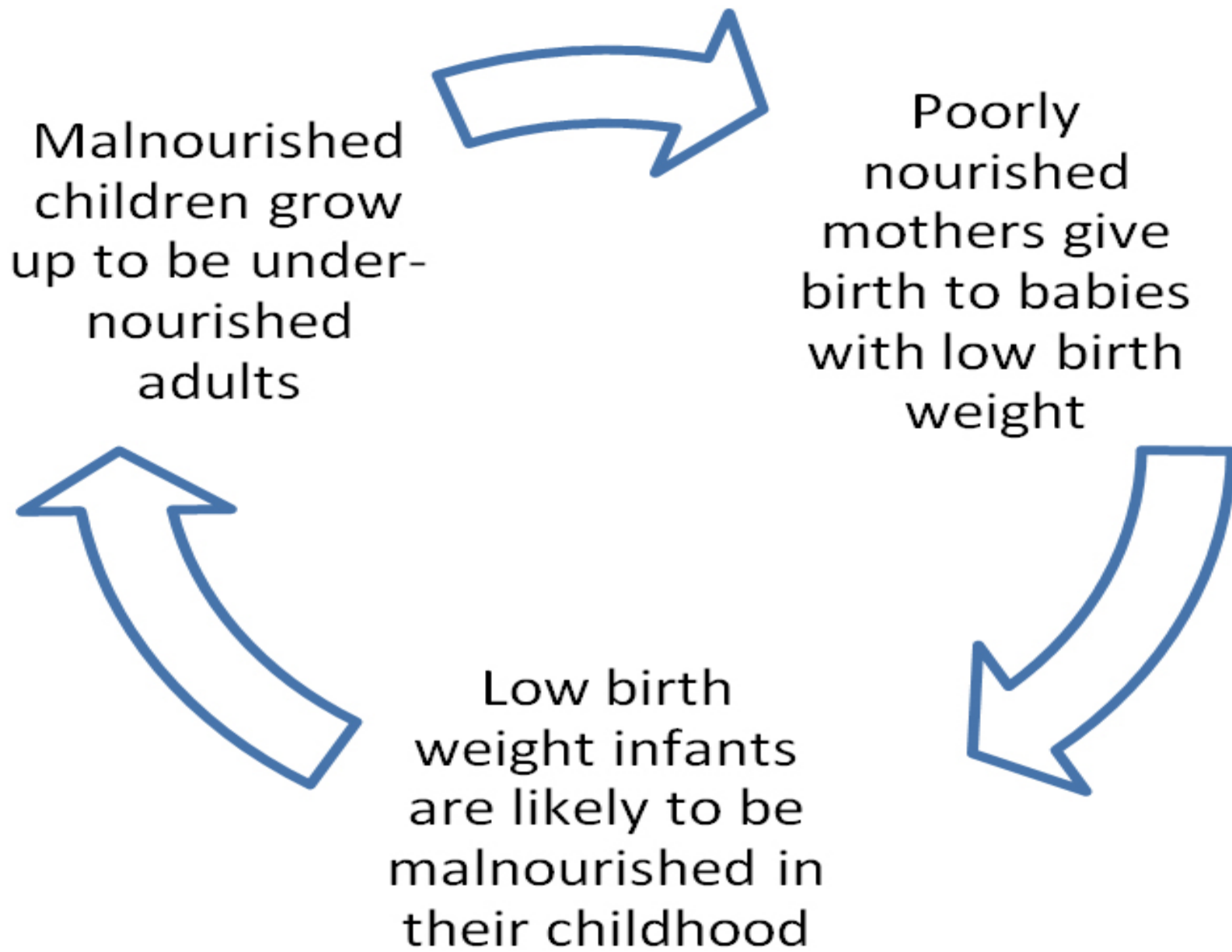
- Poor drinking water facilities
- Unhygienic environment
- Low birth weight



- Poor nutritional status
- Poor Economic position
- Poor facilities of health and education

Plans & Strategies to Reduce Child Mortality

- World Health Organization global nutrition guidelines 2025 for Anemia management recommend:
 - Iron and Folic acid supplementation
 - Fortification of wheat and maize flours with iron, folic acid and other micronutrients is advised.
 - Improve the identification, measurement and understanding of anemia among women of reproductive age



Research Question

To Identify the basic demographic and socio-economic factors that determine child health in Bangladesh.

Objective of the Study

To identify the determinants of child anemia level and Z-score, which are very important measures of long-run health among children.



Review of Previous Studies

Author	Data	Results
Brainerd and Menon (2012)	NFHS, DHS, CPCB	The results indicate that instruments of wheat and rice have positive effects on the presence of fertilizers on water quality and infant mortality. 10% increase in average level of agrichemicals in water will lead to increase infant mortality by 4.64%. Agrichemicals have negative influences on height for age and weight for age z-score.
Huq and Tasnim (2008)	Household Income Expenditure Survey (HIES)	Results show a positive and significant relationship between maternal education and child health and negative relationship between maternal education and child mortality rate.
Lindeboom et al (2009)	National Child Development Study (NCDS)	The findings show a significant association between parental education and indicators for their off springs, more parental education lower probability of low birth weight. Maternal education and father education significantly and positively related with higher height for age z-score and lower probability to being overweight or low BMI.

Cont...

Author	Data	Results
Wang (2002)	DHS and WDI	Mortality rate as dependent variable and GDP/Capita, female education, access to safe water and sanitation, immunization coverage, share of health expenditure in GDP were included as independent variables. Results show that vaccination in first year of life and health expenditure's significantly reduced child mortality.
Galloway et al (2002)	Data collected through survey	Results showed that there were a large number of barriers using iron supplement. These barriers include lack of knowledge, problematic iron supplement supply and distribution system and lack of prenatal health care services.
Desai and Alva (1998)	Demographic and Health Survey (DHS)	Results found a negative relationship between maternal education and child mortality. The coefficient for primary education was -0.153, which show a 14% reduction in mortality rate.

Data and Methodology

Data Source	Year	Country
Demographic and Health Surveys (DHS)	2011	Bangladesh

List of Variables

Independent Variables	Variable description	
Mother Anemia level	Severe/moderate	1
	Mild	2
	Not anemic	3
Place of Residence	Urban	1
	Rural	2

Cont..

Variables	Variable description	
Child Gender	Male	1
	Female	2
Households Size	2-4 Members	1
	5-8 Members	2
	9-22 Members	3
Wealth Index	Poor	1
	Middle	2
	Rich	3
Father's Occupation Type	Land owner/Businessman	1
	Small Business	2
	Farmer/Poultry raising	3
	Driver/Labor/Non-Agri worker	4
	Unemployed/others	5

Cont..

Variables	Variable description	
Mother's Work Status	Working	1
	Not Working	2
Mother Age at First Birth	11-15 years	1
	16-20 years	2
	More than 20 years	3
Father's education level	No education	1
	Up to primary	2
	Up to secondary	3
	Higher	4
Ever Had Vaccination	Not Having Vaccination	1
	Having Vaccination	2
Birth Order Number	1 child	1
	2 children	2
	3-5 children	3
	6-20 children	4

Cont...

Independent Variables	Variable description	
Mother Education Level	No Education	1
	Up to primary	2
	Up to secondary	3
	Higher	4
Dependent Variables	Variable Description	
Child Anemia Level	Severe/ moderate	1
	Mild	2
	Not anemic	3
Child Z-score	(<1) Weak	1
	(=1) Healthy	2
	(>1) Quite healthy	3

Methodology

Mlti-nomial Logistic Model



Cont...

- For analysis data multinomial logistic regression is used because both dependent variables have categories more than two. The data was filtered through children under 5 years and last category of each variable is selected as reference category.

$$Y_{(a,b,c)i} = \ln \frac{\Pr(Y = a, b)}{\Pr(Y = c)} = \alpha_{a,b,c} + \sum_{j=1}^J \beta_{(a,b,c)j} (Z)_{ij}$$

Results of Multinomial Logit Model

Independent variables	Anemia				Z Score				
	Severe		Mild		Weak		Healthy		
	B	OR	B	OR	B	OR	B	OR	
Mother Anemia Level									
Severe/moderate= 1	0.85	2.34	0.74	2.09	-0.08t	0.92	0.32	1.37	
Mild = 2	0.85	2.33	0.92	2.51	0.03t	1.03	-0.27	0.77	
Not anemic = 3	Reference Category								
Mother age at 1st birth									
11-15 years= 1	0.18 [^]	1.2	0.20	1.23	0.73	2.08	0.81	2.25	
16-20 years = 2	-0.20 [^]	0.82	0.15 [^]	1.17	0.66	1.93	1.02	2.76	
More than 20 years = 3	Reference Category								
Mother's Work Status									
Working = 1	0.45	1.57	0.01*	1.01	0.12 [^]	1.22	0.41	1.51	
Not working = 0	Reference Category								

Results of Multinomial Logit Model

Independent variables	Anemia				Z Score			
	Severe		Mild		Weak		Healthy	
	B	OR	B	OR	B	OR	B	OR
Wealth Index								
Poor = 1	0.9t	2.45	0.8	2.23	1.03	2.79	1.02	2.76
Middle = 2	0.56	1.74	0.66	1.93	0.39	1.46	0.56	1.57
Rich =3	Reference Category							
Mother's Education								
No Education = 1	0.2	1.22	0.2	1.22	-0.27	0.76	-1.17	0.31
Up to Primary = 2	0.28	1.32	0.23	1.3	-0.89	0.41	-1.41	0.25
Up to secondary= 3	0.14	1.16	0.46	1.59	-1.06	0.35	-0.95	0.39
Higher =4	Reference Category							

Results of Multinomial Logit Model

Independent Variables	Anemia				Z score			
	Severe		Mild		Weak		Healthy	
	B	OR	B	OR	B	OR	B	OR
Place of Residence								
Urban = 1	-0.37	0.69	0.01t	1.01	-0.17^	0.84	0.09^	1.09
Rural = 2	Reference Category							
Child Gender								
Male = 1	0.2^	1.22	0.43	1.53	0.83	2.29	0.86	2.37
Female = 2	Reference Category							
Households Size								
2-4 members =1	1.28	3.6	0.34	1.40	1.3	3.82	-0.62	0.54
5-8 members = 2	1.2	3.31	0.54	1.72	0.58	1.79	0.87	0.42
9-22 members = 3	Reference Category							

Results of Multinomial Logit Model

Independent variables	Anemia				Z Score			
	Severe		Mild		Weak		Healthy	
	B	OR	B	OR	B	OR	B	OR
Father education level								
No Education = 1	-	-	-	-	0.16 [^]	1.17	0.6	0.61
Up to primary = 2	-	-	-	-	-0.005 ^t	0.1	0.24	0.76
Up to secondary = 3	-	-	-	-	0.64	1.89	-0.02 ^t	0.84
Higher = 4	Reference Category							
Father occupation level								
Land owner = 1	-0.74	0.48	-0.32	0.73	1.60	4.94	0.38	1.46
Small Business= 2	-0.58	0.56	0.08 [^]	1.08	1.43	4.19	0.88	2.41
Farmer/poultry raising= 3	-1.11	0.33	0.39	1.48	1.72	5.56	0.59	1.8
Labour/non-agri worker= 4	-0.81	0.45	0.17 [^]	1.18	1.36	3.89	0.74	2.1
Unemployed/others= 5	Reference Category							

Conclusion

Mother Health



Mother's Education



Rural Development

Recommendations

- Maternal health care facilities should be provided, especially in rural areas.
- Policy makers should lay emphasize on the enhancement of educational facilities for women and on community child health care centers to reduce child mortality.



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3. Data and Methodology 4. Results & Discussion
5. Conclusion 6. Recommendations

HEALTHY
CHILD
HEALTHY
WORLD

THANK YOU