Stunting among under five children in relation to socioeconomic condition of parents in Bangladesh: Analysis from a nationwide cross-sectional data



Presented By-

Lubna Jeshmin Rahman

Student ID: 1911300



Introduction

Stunting refers when a child has a low height for their age. The World Health Organization categorizes children who are stunted as those whose height is lower than average for their age, and at least two standard deviations below the WHO's Child Growth Standards Median.

➢Bangladesh Demographic and Health Survey (BDHS) 2017-18 spot the foremost crucial factors of stunting among below five children.

>According to BDHS one in every three children in Bangladesh are stunted.

Significance of the study

- Stunting significantly increases the danger of developing variety of chronic short stature and future health problems including diabetes, kidney diseases and neurological deficits. This also play a significant role on increased morbidity and premature death.
- ➢To meet the Sustainable Development Goals (SDGs), a significant reduction in the prevalence of stunting is required, taking into account the implications for child mortality.
- ➢No recent study has identified the factors of stunting among under-five children with nationally representative data.

Aim of the study



• To identify the extend of stunting and its associated factors among Bangladeshi children with a countrywide data.

Objective



• To find out the association between stunting among under five children in relation to socioeconomic condition of parents in Bangladesh.

Hypothesis



Increase of parent's socioeconomic status reduces the risk of children's Stunting.

Methodology

Data source: BDHS 2017-18

Sample size: 4642

Cross sectional study

Age group of sample: Children of 15-49 years old women

Age group of sample: Children Age 6 months to 59 months (Last child) **Data analysis tool**: STATA (version 14)

Data analysis: Frequency distribution Examine the association Logistic regression

Background Characteristics of the Study Participants





- ▶ 66% of the study participants are from Rural area and 34% are from Urban area
- ➤ 42.48% of the participants are from poorer, 18.25% are from Middle and 39.27% are from Richer Household



- ➤ 93.69% of the mother have educational attainment where 65.94% have completed at least more than primary education (Primary and Higher)
- 62.56% of the mother's age were within 20-30 years old during the childbirth where 24.45% are less than 20 years of age



36.79% (1708) of the children are less than 1 year old where 1561 (33.63%) are 1-2 years and 29.58%
(1373) are more than 2 years of age

> 38.17% (1772) among the 4246 children are 1st children where 49.89%, (2316) are 2nd and 3rd children

Frequency Distribution Stunting among various Sociodemographic Characteristics



Place of Residence bases stunting status

Prevalence of Stunting is higher (33.14%) in the rural area compare to the prevalence of Stunting in the urban (26.18%) area



Prevalence of stunting with birth age of mother

- Prevalence of Stunting is comparatively lower among the children where birth age of the mother is within 20-30 years of age.
- This prevalence is highest (33.83%) when birth age of mother is less than 20 years old.

Stunted Not Stunted

Birth Order of the Children



- Prevalence of Stunting is higher among the children who are 3rd or more in the birth order.
- This prevalence is highest (37.91%) when the child is 3rd in the birth order and 29.8% when the child is 1st or 2nd in the birth order.



- Prevalence of stunting is inversely associated with mother's educational status
- Almost 40% of the children are stunted when mother's has no education and this prevalence is 16% when mother have completed higher education

Prevalence of stunting with family economic status 90 77.62 80 67.89 70 **Prevalence of Stunting** 62.02 60 50 37.98 40 32.11 30 22.38 20 10 0 Stunted Not Stunted Economic Status of the family

■ Poorer ■ Middle ■ Richer

- Stunting is more prevalent among the children of poorer family.
- Around 38% Children from poorer family are stunted where this prevalence is 22% among the children from Richer family

Distribution of stunting with children age



- Prevalence of Stunting increases with the increase of age.
- Around 40% of the child more than 2 years are stunted where the rate is 20% for children who are less than 1 years of age

Regression Analysis

(unadjusted odds ratio [uOR] and adjusted odds ration [aOR])

Variables



	uOR (95% CI)	p value	aOR (95% CI)	p value
Households and Mother's social characteristics				
Mother's education level (ref: No education)				
Primary	0.77 (0.63, 0.94)	0.011	0.93 (0.71, 1.22)	0.12
Secondary	0.52 (0.43, 0.63)	< 0.001	0.77 (0.59, 1.01)	0.068
Higher	0.22 (0.18, 0.28)	< 0.001	0.40 (0.29, 0.56)	< 0.001
Wealth Index (ref: middle)				
Poorer	1.29 (1.09, 1.53)	0.003	1.16 (0.97, 1.39)	0.091
Richer	0.62 (0.51, 0.74)	< 0.001	0.07 (0.58, 0.84)	< 0.001
Type of resident (Ref: Urban)				
Rural	1.43 (1.28, 1.60)	< 0.001	1.08 (0.93, 1.26)	0.298
Gender of child (ref: Male)				
Female	0.95 (0.86, 1.06)	0.426	0.90 (0.79, 1.03)	0.141

- Odds of having stunted is 60% lower aOR= 0.40 (0.29, 0.56), p value <0.001 among the children whose mother are higher educated compare to the children whose mother have no educational attainment
- Odds of having stunted is very lower among the children of riches families aOR = 0.07 (0.58, 0.84), P value

<0.001 compare to the children from poorer economic status

	uOR (95% CI)	p value	aOR (95% CI)	p value
Age of the children (Ref: 1-2 years)				
<1 year	0.46 (0.38, 0.52)	< 0.001	0.44 (0.37, 0.51)	< 0.001
2 and more	1.13 (0.97, 1.31)	0.016	1.13 (0.97, 1.32)	0.101
Birth order of the child (Ref: 1st child)				
2 nd and 3 rd child	1.00 (0.87, 1.15)	0.937	0.89 (0.75, 1.07)	0.248
4 th and more	1.44 (1.18, 1.76)	< 0.001	1.09 (0.82, 1.44)	0.543
Age of child Birth (ref: Less than 20)				
20-29 years	0.92 (0.78, 1.09)	0.365	0.94 (0.78, 1.14)	0.56
30 and above	1.04 (0.85, 1.27)	0.684	0.92 (0.69, 1.22)	0.571
Wanted Last Child (Ref: Yes)				
No	1.07 (0.92, 1.25)	0.337	1.01 (0.86, 1.19)	0.899

- Odds of having stunting is lower among children with lower age. Odds of become stunting is aOR= 0.44 (0.37, 0.51), p value <0.001 among the children who are less than one years of age, compare to the children are between 1 to 2 years age
- Also odds of become stunting is higher among the children who are 4th or more in the birth order.

Discussion and Conclusion

The present study investigated the determinants of stunting using nationally representative data.

> Women's educational status is associated with child stunting status. Women who are comparatively higher educated prevalence of stunting is lower among their children.

➢ Family income and economic status is another determinant of stunting. Risk of stunting is lower among the child from richest family compared to the family from middle and poorest economic quartile.

Discussion and Conclusion

➢Number of childbirth, age of children and mother's age of childbirth plays an important role in stunting status among the children.

Children who were unplanned, odds of being stunted are higher among those children.

Children from the rural area are at more risk of being stunted compare to the children from urban area.

Limitation of the study

- This is a cross sectional study, so no relationship between the factors and the outcome could be established.
- Selection of variables is limited here.

Recommendation

- Special attention on health, nutrition and education should be given for the mother from lower economic condition and who are less educated.
- Nutrition education should be given emphasize for adolescent girls and pregnant women.
- Also, proper family planning and feeding practices of the child should be emphasized.

