Department of Population Sciences
University of Dhaka

Marriage Before 16 or 18 Years: Effect of Marital Age on Women's Educational Attainment in Bangladesh

Mohammad Mainul Islam[1], Ph.D.
Md. Kamrul Islam[2], Ph.D.
Mohammad Sazzad Hasan[3]
Md. Aminul Haque[1], Ph.D.

[1] Associate Professor, Dept. of Population Sciences, University of Dhaka
[2] Assistant Professor, Dept. of Population Sciences, University of Dhaka
[3] Lecturer, Dept. of Population Sciences, University of Dhaka

Background

- Lower educational level for girls is common in developing world.

- A lost opportunity for education is not only harmful for girls, but also has wide-reaching implications (ICRW, 2006).

- Considering education as the best contraceptive to development, many governments now support women's education not only to accelerate economic growth but also for other social advancement, including prevention of child marriage.

- As we know child marriage constitutes a violation of the rights of the girls who are forced to be married as children. It deeply affects their life through considerably lower educational conditions, health complications, higher risk of violence at home, and social exclusion (Nguyen & Wodon, 2014).

Mohammad Mainul Islam and Anita J. Gagnon. Child marriage-related policies and reproductive health in Bangladesh: a cross-sectional analysis, *The Lancet* - 19 October 2014 (vol. 384, page S8) DOI: 10.1016/s0140-6736(14)61871-7

THE LANCET

October, 2014   www.thelancet.com

New Voices in Global Health 2014

"Young enthusiastic researchers are the key to continued sustainable progress towards the health and wellbeing of populations worldwide and to a healthy, sustainable planet."

A collection of Abstracts published by *The Lancet*

Comment

1   New Voices in Global Health 2014
S Kleinert, R Horton

Meeting Abstracts

Presented at the World Health Summit, Berlin, Germany, October 2014

3   Sublingual misoprostol versus intramuscular oxytocin for prevention of post-partum haemorrhage in Uganda: a randomised, controlled, non-inferiority trial
E C Atukunda and others

4   The role of the private sector in delivery in low-income and middle-income countries: a retrospective, observational analysis of Demographic and Health Surveys from 57 countries
L Benova and others

5   Barriers and best practices for participation in urban life for people with disabilities: a qualitative photovoice study
O K Carman and others

6   Universal health coverage for elderly people with non-communicable diseases in low-income and middle-income countries: a cross-sectional analysis
C Goeppel and others

7   The role of the private sector in delivering maternal and child health services in low-income and middle-income countries: an observational, longitudinal analysis
K A Grépin

8   Child marriage-related policies and reproductive health in Bangladesh: a cross-sectional analysis
M M Islam, A J Gagnon

9   Surveillance and response system for maternal deaths in Sri Lanka: an audit
J Kapila, P Denyehi

10   Effect of performance-based incentives for traditional birth attendants on access to maternal and newborn health-care facilities in Gombe State, Nigeria: a pilot study
B C Oyebola and others

11   Vulnerabilities to the risks of changes in infectious disease transmission caused by climate change: a modelling study
J E Sok and others

12   Prevention of cardiovascular diseases in Nairobi slums: a cost-effectiveness study
S van de Vijver and others

THE LANCET

New Voices in Global Health 2014 · October, 2014

Presented at the World Health Summit regional meeting, São Paulo, Brazil, April 2014

13   Nursing workforce activities in the Family Health Program in Brazil: a prospective observational study
D Bonfim and others

14   Air monitoring coverage in low-income countries: an observational study
L Fajersztajn and others

15   Function and public awareness of sustainable development and population health projects in Montreal, Canada: a logic model and survey of the Quartiers 21 Program
L Gauvin and others

16   Effectiveness of rotavirus vaccine against hospital admission for rotavirus diarrhoea in Brazilian children: a case-control study
M Y T Ichihara and others

17   Access and equity in use of diagnostic imaging in Brazil: a longitudinal ecological study
D Lima and others

18   Trends in behavioural disorders in children in Brazil from 1993 to 2004: a cohort study
A Matijasevich and others

19   Introduction of universal human papillomavirus vaccination of girls aged 11 years to the National Immunization Program in Brazil: a cost-effectiveness analysis
H M D Novaes and others

20   Research and development funding for 13 neglected tropical diseases: an observational economic analysis
S Regmi and others

21   Management of depression during pregnancy in primary care in Brazil: a cluster ransomised trial
M Scazufca and others

22   Patterns of multimorbidity in the general population of São Paulo, Brazil: a retrospective observational study
Y-P Wang and others

Child marriage-related policies and reproductive health in Bangladesh: a cross-sectional analysis

Mohammad M Islam, Anita J Gagnon

Abstract

Published Online
October 19, 2014

University of Dhaka, Dhaka,
Bangladesh
(M M Islam PhD); and McGill
University, Montreal, QC,
Canada (A J Gagnon PhD)

Correspondence to:
Dr Mohammad M Islam,
Department of Population
Sciences, Faculty of Social
Sciences, University of Dhaka,
Dhaka 1000, Bangladesh
mainul@du.ac.bd

Background Marriage below the age of 18 years is practiced in low-income countries despite policies to diminish this practice. We assessed these policies and age at marriage, sociodemographic characteristics and child marriage, and child marriage and grand multiparity (gave birth five or more times) and pregnancy termination.

Methods We did this cross-sectional analysis of data from the 2011 Bangladesh Demographic and Health Survey, which contains data for 17842 ever-married women. We plotted age at marriage (1993–2011) against time corresponding to policies to diminish child marriage and tested for trends. We also did cross tabulations to compare sociodemographic characteristics of women married as children with those married as adults, and logistic regression to assess child marriage and grand multiparty, and pregnancy termination.

Findings 13859 women (77·7%) were married before the age of 18 years and 8327 (65·4%) women married as children gave birth before age 18 years. 507 (77·3%) of 45–49-year-old respondents in 1993–94 were married by age 15 years, compared with 741 (17·2%) of 15–19-year-olds in 2011. Factors associated with child marriage included being Muslim, being in the poorest wealth index, being uneducated and unemployed, living in a rural area, having more children, and preferring more children or undecided fertility. Child brides were more likely than were adults to be grand multiparous and have had a pregnancy terminated.

Interpretation Child marriage in Bangladesh has decreased but remains high. The use of law as a means of regulating early marriage is not sufficient, although policies such as the adoption of the International Conference on Population and Development programme of action (1994) and the Birth and Death Registration Act (2004) seem to have had some effect. Additional strategies to address child marriage include furthering law reform, communicating through religious leaders, improving women's economic status, promoting female education, providing more employment opportunities to women, and ensuring access to information in rural areas.

- *Although the legal age of marriage remains 18 years for girls last year the government of Bangladesh has taken an initiative to make age 16 as the legal age of marriage with permission either from their parents or from the court.*

- The vulnerable situation of millions of young females may be under the threat of further deterioration if women get married before age 16.

- This will raise questions to achieve socioeconomic enhancement and empowerment of the women who marry by <16 as well as <18 years as children.

- Moreover, studies on the impact of different married age groups on educational attainment, particularly <16 and <18 years of women are not adequately available.

Research questions

- To what extent the effect of child marriage on educational attainment vary by women married as children aged below 16 and 18 years?, and

- How does age at first marriage of a woman affect her length of participation in school?

Objectives

- To examine the effects of child marriage on secondary incompletion and higher educational attainment of women married before 16 and 18 years of age ; and

- To examine to effect of child marriage on total years of schooling of women who were married before age 16 and 18 years.

Data & methods

- **Data:** *2011Bangladesh Demographic and Health Survey* of which 17,749 respondents were 15-49 years old ever-married women.

- **Methods:** Bivariate and multivariate analyses were conducted

Results

Table 1: Percentage Distribution of Women's Background Characteristics, BDHS 2011

Characteristics	Proportion (%)	Number of women
Current age of women (years)		
15-19	11.1	1970
20-24	19.8	3514
25-29	19.1	3394
30-34	15.0	2654
35-39	12.7	2246
40-44	12.1	2152
45-49	10.3	1820
Divisions		
Barisal	5.6	1002
Chittagong	18.2	3222
Dhaka	32.3	5736
Khulna	12.0	2139
Rajshahi	14.9	2646
Rangpur	11.5	2039
Sylhet	5.4	967
Place of residence		
Urban	26.0	4619
Rural	74.0	13130
Women's education		
No education	27.7	4912
Primary incomplete	18.4	3264
Primary complete	11.6	2062
Secondary incomplete	30.3	5383
Secondary complete	4.7	827
Higher	7.3	1300
Religion		
Islam	90.0	15980
Others	10.0	1769
Wealth index		
Poorest	18.3	3250
Poorer	19.6	3487
Middle	20.1	3567
Richer	20.6	3664
Richest	21.3	3781
Employment Status		
Employed	13.2	2335
Not employed	86.8	15414
Total	100.0	17749

Figure 1: Patterns of Women's Educational Attainment by Age at First Marriage (%)
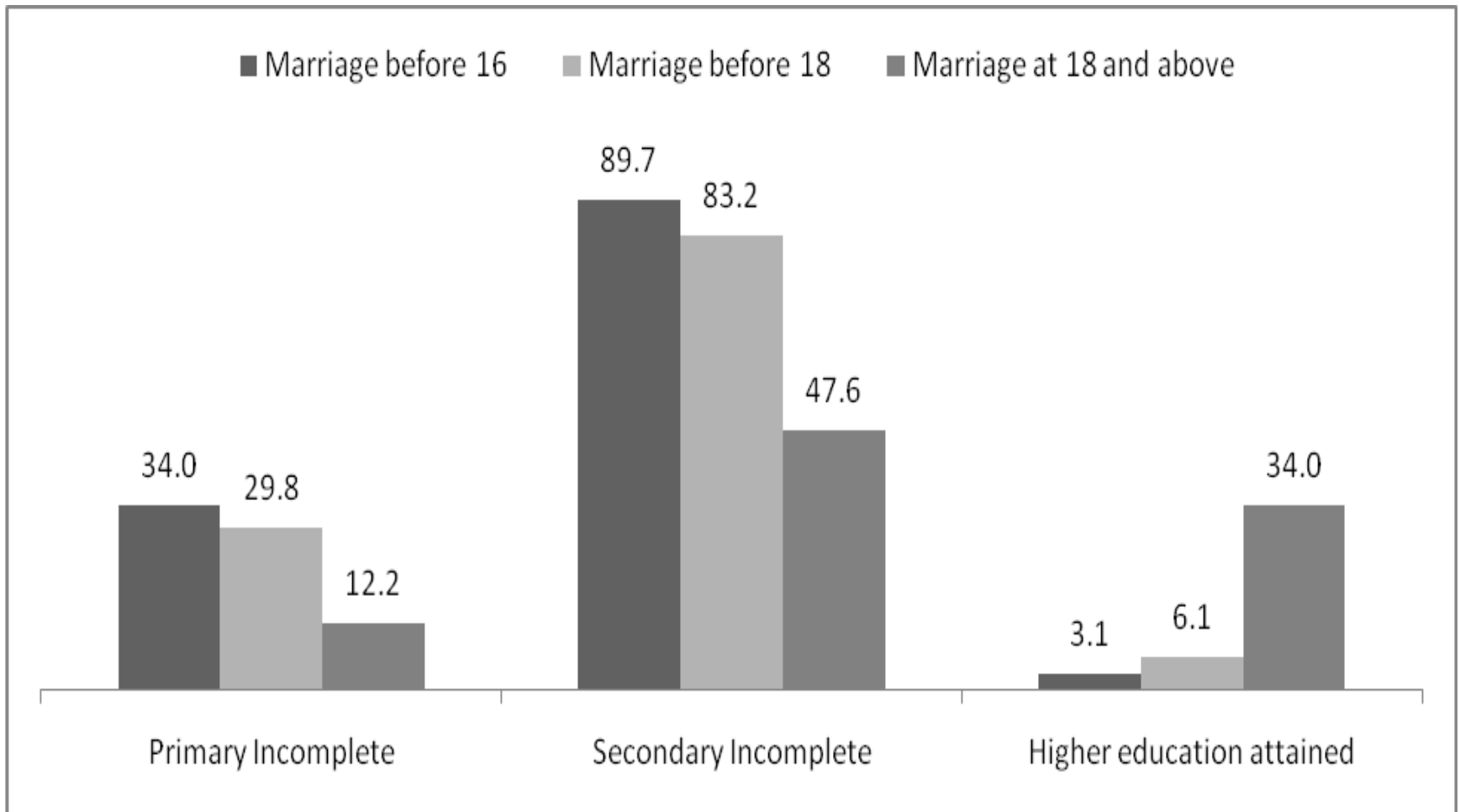
RESULT 1

- Child marriage (whether married before 16 or18 years) leads to higher rate of secondary in complete education for women compared to their respective reference category even after adjusting for their age, employment status, economic condition, religion and division.

Table 2. Odds ratios of the effect of child marriage on secondary incomplete education				
	Age at marriage <16 years		Age at marriage <18 years	
Characteristics	Unadjusted OR (95 % CI)	Adjusted OR (95 % CI)	Unadjusted OR (95 % CI)	Adjusted OR (95 % CI)
	Model 1	Model 2	Model 3	Model 4
Child marriage				
No	[REF]	[REF]	[REF]	[REF]
Yes	5.94 (5.21, 6.77)[a]	5.72 (4.98, 6.57)[a]	5.46 (4.90, 6.09)[a]	5.02 (4.46, 5.65)[a]
Age (years)				
15-19		[REF]		[REF]
20-24		0.92 (0.75, 1.12)		1.15 (0.94, 1.40)
25-29		0.56 (0.46, 0.69)[a]		0.73 (0.60, 0.89)[b]
30-34		0.42 (0.34, 0.52)[a]		0.56 (0.45, 0.69)[a]
35-39		0.45 (0.35, 0.57)[a]		0.58 (0.46, 0.74)[a]
40-44		0.50 (0.38, 0.65)[a]		0.65 (0.50, 0.85)[b]
45-49		0.69 (0.51, 0.95)[b]		0.90 (0.66, 1.23)
Divisions				
Barisal		[REF]		[REF]
Chittagong		1.37 (1.05, 1.78)[b]		1.41 (1.08, 1.84)[b]
Dhaka		0.96 (0.74, 1.23)		1.10 (0.85, 1.41)
Khulna		1.25 (0.94, 1.65)		1.33 (1.00, 1.77)[b]
Rajshahi		1.03 (0.78, 1.37)		1.21 (0.92, 1.60)
Rangpur		0.75 (0.56, 1.00)[c]		0.75 (0.56, 1.00)[c]
Sylhet		2.27 (1.57, 3.27)[a]		2.79 (1.92, 4.06)[a]
Religion				
Islam		[REF]		[REF]
Others		0.98 (0.82, 1.16)		1.02 (0.85, 1.21)
Economic Status				
Not poor		[REF]		[REF]
Poor*		5.61 (4.48, 7.03)[a]		5.71 (4.56, 7.17)[a]
Employment Status				
Employed		[REF]		[REF]
Not employed		2.21 (1.88, 2.59)[a]		2.00 (1.71, 2.35)[a]
-2Loglikelihood	8057.545	7352.88	7960.918	7352.417
N	7510	7510	7510	7510

[a] p value <0.001, [b] p value < 0.05, [c] p value <0.10

*belong to poorest and 2nd quintile

Result 2

- Higher educational attainment rate is lower for women who were married as children (whether before 16 or 18 years) after adjusting the selected socio-demographic characteristics.

Table 3. Odds ratios of the effect of child marriage on higher education*

Characteristics	Age at marriage <16 years		Age at marriage <18 years	
	Unadjusted OR (95% CI) Model 1	Adjusted OR (95% CI) Model 2	Unadjusted OR (95% CI) Model 3	Adjusted OR (95% CI) Model 4
Child marriage				
No	[REF]	[REF]	[REF]	[REF]
Yes	0.11 (0.10, 0.13) [a]	0.12 (0.10, 0.13) [a]	0.13 (0.12, 0.15) [a]	0.14 (0.12, 0.15) [a]
Age (years)				
15-19		[REF]		[REF]
20-24		1.08 (0.89, 1.30)		0.75 (0.64, 0.93)[b]
25-29		1.44 (1.12, 1.64) [a]		0.98 (0.77, 1.13)
30-34		1.45 (1.20, 1.77) [a]		0.94 (0.80, 1.18)
35-39		1.20 (0.86, 1.31)[c]		0.75 (0.55, 0.84)[b]
40-44		0.78 (0.57, 0.89)[b]		0.51 (0.38, 0.59) [a]
45-49		0.50 (0.34, 0.57) [a]		0.31 (0.21, 0.36) [a]
Divisions				
Barisal		[REF]		[REF]
Chittagong		0.64 (0.54, 0.65) [a]		0.62 (0.44, 0.63) [a]
Dhaka		0.86 (0.60, 0.86)		0.74 (0.0.53, 0.75)[b]
Khulna		0.79 (0.59, 0.86)[c]		0.73 (0.55, 0.81)[b]
Rajshahi		0.83 (0.66, 0.97)		0.70 (0.56, 0.81)[b]
Rangpur		1.19 (0.84, 1.24)		1.14 (0.0.79, 1.18)
Sylhet		0.30 (0.26, 0.39) [a]		0.25 (0.22, 0.34) [a]
Religion				
Islam		[REF]		[REF]
Others		1.16 (0.96, 1.27)[c]		1.14 (0.95, 1.28)
Economic Status				
Not poor		[REF]		[REF]
Poor**		0.07 (0.05, 0.08) [a]		0.07 (0.05, 0.08) [a]
Employment Status				
Employed		[REF]		[REF]
Not employed		0.58 (0.51, 0.66) [a]		0.61 (0.54, 0.71) [a]
-2Log*Likelihood*	11235.513	9712.08	11233.623	9752.874
N	17749	17749	17749	17749

[a] p value <0.001, [b] p value < 0.05, [c] p value <0.10
*Secondary complete and higher **belong to poorest and 2nd quintile*

Result 3

- Reducing each year of age at first marriage for women would lead to six months reduction in their years of schooling suggesting that two years decline in age at marriage (e.g., from 18 to 16) would cause one year loss of schooling on average.

Table 4. OLS regression estimates of the effect of age at first marriage on years of schooling

Characteristics	Years of schooling			
	Model 1	Model 2	Model 3	Model 4
	Beta (SE)	Beta (SE)	Beta (SE)	Beta (SE)
Age at first marriage	0.576 (0.009) [a]	0.483 (0.008) [a]	0.500 (0.008)	0.500 (0.008) [a]
Age (years)		-0.143 (0.003) [a]	-0.143 (0.003) [a]	-0.143 (0.003) [a]
Employment Status				
Not employed		0.006 (0.070)	0.002 (0.070)	0.008 (0.070)
Employed (ref)				
Economic Status				
Poor		-2.812 (0.049) [a]	-2.844 (0.049) [a]	-2.842 (0.050) [a]
Not Poor (ref)				
Divisions				
Chittagong			-1.019 (0.113) [a]	-1.019 (0.113) [a]
Dhaka			-1.092 (0.107) [a]	-1.087 (0.107) [a]
Khulna			-0.522 (0.119) [a]	-0.527 (0.120) [a]
Rajshahi			-0.943 (0.116) [a]	-0.939 (0.116) [a]
Rangpur			-0.604 (0.120) [a]	-0.617 (0.121) [a]
Sylhet			-2.145 (0.141) [a]	-2.154 (0.141) [a]
Barisal (ref)				
Religion				
Other religion				0.132 (0.080) [c]
Islam (ref)				
Constant	-4.246 (0.149) [a]	2.676 (0.175) [a]	3.347 (0.200) [a]	3.229 (0.212) [a]
F (df)	3771.846 [a]	2826.364 [a]	1180.582 [a]	1073.609 [a]
R-squared	17.523	38.904	39.927	39.932
N	17749	17749	17749	17749

[a] p value <0.001, [b] p value < 0.05, [c] p value <0.10

Conclusions & policy implications

- Child marriage before age 16 (instead of 18) leads to higher rate of secondary incomplete education, and lower rate of higher educational attainment for women.

- Completing higher secondary education will bring higher employment opportunities compared to those who could not finish higher secondary education.

- If Bangladesh wants to harvest the benefits of education effective strategies should be taken to prevent child marriage instead of making 16 years as the legal age of marriage for female. Therefore, the government should take this rationally while reviewing legal age of marriage for young females in a way that is conducive for their socioeconomic advancement in general, more particularly for educational development.

Limitations

- Due to non-availability of data it was not possible to include parents' education into analysis to predict the differential impact of child marriage (whether before 16 or 18) on educational attainment of women.

Acknowledgement

THANK YOU!

mainul@du.ac.bd