BMJ Open

Continuation of education after marriage and its associated factors among young adult women: findings from the Bangladesh Demographic and Health Survey 2017–2018

Sihab Howlader, Md. Aminur Rahman, Md. Mosfequr Rahman

To cite: Howlader S, Rahman MA, Rahman MM. Continuation of education after marriage and its associated factors among young adult women: findings from the Bangladesh Demographic and Health Survey 2017–2018. *BMJ Open* 2023;**13**:e078892. doi:10.1136/bmjopen-2023-078892

► Prepublication history for this paper is available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2023-078892).

Received 15 August 2023
Accepted 09 November 2023

Department of Population Science and Human Resource Development, University of Rajshahi, Rajshahi, Bangladesh

Correspondence to
Dr Md. Mosfequr Rahman; mosfeque@ru.ac.bd

ABSTRACT

Objective To identify the individual and community-level variables associated with the continuation of education among currently married young adult women in Bangladesh.

Design Cross-sectional data extracted from the Bangladesh Demographic and Health Survey (BDHS), 2017–2018. The BDHS is a stratified cluster sample of households conducted in two and three stages in both rural and urban settings. A multilevel multinomial logistic regression analysis was employed to identify the associated factors.

Setting Bangladesh.

Participants Currently married young adult women aged 15–29 years (n=4595).

Primary outcome Continuation of education after marriage was measured in the BDHS by asking respondents, 'Did you continue your studies after marriage?' with the response options: no; yes, less than a year; yes, for 1–2 years; yes, for 3–4 years; and yes, for 5+ years.

Results Among young adult women, 28.2% continued education after marriage for different durations of years (<1 year to 5+ years). The odds of continuing education after marriage for <1 year (adjusted OR (aOR): 0.68; 95% CI 0.50 to 0.90), 1–2 years (aOR: 0.67; 95% CI 0.47 to 0.96) and ≥5 years (aOR: 0.38; 95% CI 0.17 to 0.85) were lower among women who justified wife beating compared with women who did justify it. Compared with the high-literate community, women from the low-literate community were less likely to continue education after marriage for <1 year (aOR: 0.53; 95% CI 0.42 to 0.66), 1–2 years (aOR: 0.47; 95% CI 0.36 to 0.61), 3–4 years (aOR: 0.32; 95% CI 0.22 to 0.46), and for ≥5 years (aOR: 0.29; 95% CI 0.17 to 0.48). Several other individual-level and community-level variables, such as age at marriage, first birth interval, partner educational status, household wealth index, community economic status and region, were found to be associated with the continuation of education after marriage for different durations.

Conclusions The proportion of women continuing their education after marriage in this sample is low. This study provides insight into the individual-level and community-level barriers women encounter in continuing their education after marriage. The identification of these barriers helps policy-makers develop effective intervention programmes to promote women's educational attainment.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ Using nationally representative data increases the generalisability of the study's findings.
⇒ The use of multilevel modelling allows us to take into account clustering effects to better estimate the level of association of the study variables with the outcome.
⇒ The self-reported nature of the variables might lead to information bias.
⇒ The cross-sectional nature of the survey limits the ability to ascertain causality.

INTRODUCTION

Education is one of the most closely examined factors, with social scientists paying particular attention to women's education. Even at the ages when women customarily get married and have children, education is still pursued. Marriage is a significant life event that frequently causes changes in an individual's priorities, roles and responsibilities[1]; therefore, they have had to make important decisions regarding their education and family roles. It is often regarded as a barrier to education because women are typically expected to leave school in order to focus on caring for their new home or on childbearing and childcare.[2] Continuing education after marriage and family responsibilities often conflict and are difficult for women to balance. There has been a significant shift in recent years as more Bangladeshi women opt to continue their education,[3] despite the fact that societal expectations and gender norms often lead to a decrease in educational aspirations for Bangladeshi females after marriage.[4]

Despite the implementation of numerous incentive programmes by the Bangladeshi government, significant progress has been made in girls' school enrolment. However, it is worth noting that only one-third of females have the opportunity to pursue upper secondary education. Additionally, the dropout rate among girls remains considerably higher than that of boys.[5] The significance of education in promoting the progress of women has been emphasized in the Beijing Platform for Action. This document identifies education as one of the twelve crucial areas of concern and recognises its essential role in achieving gender equality and empowering women.[6] Women with lower levels of education are often perceived as being economically unproductive, resulting in diminished negotiating power within their households.[7] The association between increased female education and delayed childbirth, reduced overall fertility, and enhanced children's health has been observed in numerous studies.[8–10] Furthermore, it is worth noting that maternal education plays a crucial role in influencing the educational outcomes of children.[11] Multiple studies have also demonstrated a positive association between a woman's higher educational attainment and a reduction in incidences of domestic violence.[12 13] According to Amin (2008), there is evidence to support the notion that increased education for girls leads to improved communication with their spouses, ultimately contributing to the promotion of gender equality.[14] Therefore, the promotion of women's education is imperative for achieving sustainable development in a country.

Child marriage is notably prevalent in South Asia, with 30% of women aged 20–24 years marrying before the age of 18,[15] when their education is typically incomplete. Given that marriage is often noted as a significant contributor to the early termination of girls education,[16] this is particularly evident in the South Asian context, where girls are typically withdrawn from school once their marriage is arranged.[17] In Bangladesh, a significant proportion of women married before their 18th birthday, while they were still enrolled in high school or colleges. Recent nationally representative documentation shows that 59% of women between the ages of 20 and 24 were married before turning 18.[18] Girls who are forced into early marriage are frequently forced to withdraw from school, reducing their educational and economic prospects.[19] Additionally, women's empowerment—particularly economic empowerment—may be constrained by their inability to earn an independent income due to education cessation following marriage or incomplete education.[20] On one hand, women who have higher levels of education are more independent and self-sufficient in their educational attainment, and they are less dependent on male partners. On the other hand, education confiscation limits women's access to information about sexual and reproductive health, social exclusion from peers and decreased social mobility, which is accentuated by economic vulnerability.[20–23] In addition, as an essential component of women's empowerment, the discontinuation of education has an effect on a variety of adverse health outcomes for both mothers and their children.[24 25] Therefore, it is crucial to identify the factors that influence the continuation of post-nuptial education, particularly in countries with widespread poverty and low educational enrolment.[26]

Earlier research on post-nuptial continuation of education among women in Bangladesh mainly focused on some individual-level variables, such as age at marriage, childbirth, owning a cell phone, or better sanitary conditions.[27 28] Bhowmik *et al* revealed that women who married before age 18 and adolescent mothers were less likely to continue education after marriage.[27] Although Ghose *et al*'s study in Bangladesh demonstrated that community-level variables have a significant effect on women's post-marital education, their analysis only took into account region and place of residence. However, research in other countries identifies several factors associated with the continuation of postnuptial education. For example, Raj *et al* reported on a qualitative study they carried out in India and Ethiopia, finding that a girl's capacity and desire for education, her self-efficacy, social support from her parents, in-laws, husband and teachers, as well as early marriage, childbirth and social norms against girls' education, were associated with continuing her education after marriage.[20] According to a US study, there are differentials in postnuptial education between blacks and whites. They observed that women who went to college before marriage, were married early, are currently divorced or separated, support egalitarian sex-role attitudes, or whose most recent occupation falls under the professional, managerial or administrative category are more likely to continue post-nuptial education.[29] Additional findings from the National Longitudinal Study of the High School Class of 1972 in the US reveal that married women tend to pursue education at 2-year schools rather than 4-year schools. Moreover, it was observed that blacks are more inclined to pursue further education after marriage compared with their white counterparts. The decision to return to school after marriage is also influenced by various factors, such as changing life-course patterns and sociodemographic variables, including place of residence, grades, prior educational attainment and potential income.[30] Despite the fact that a number of studies have examined the correlates of educational continuation following marriage across the globe, including Bangladesh, none of these studies have specifically explored the influence of community-level factors, such as community literacy status, the status of women within the community, or the economic status of the community, on the continuation of education after marriage. Therefore, it is necessary to perform a study to identify other sociodemographic and community-level factors that have an influence on postnuptial education in Bangladeshi settings where age at marriage and educational enrolment are low and adolescent birth is common.[18 26] This study uses a nationally representative sample of young adult women aged 15–29 to examine the proportion of women who

pursue further education after getting married. Additionally, it aims to identify the specific sociodemographic and community-level factors that are associated with this educational continuation.

METHODS

Data sources

This study examined publicly accessible secondary data that was extracted from the most recent 2017–2018 Bangladesh Demographic and Health Survey (BDHS), which was conducted from October 2017 to March 2018 as a joint project of the National Institute of Population Research and Training, ICF International, USA, and Mitra & Associates. The BDHS 2017–2018 data were obtained in accordance with the guidelines and standards set forth by the Monitoring and Evaluation to Assess and Use Results Demographic and Health Surveys (MEASURE DHS).[31] Further information regarding sampling methodologies and data collection procedures can be found elsewhere.[18]

Study population and survey design

The sampling frame used for the 2017–2018 BDHS consisted of a comprehensive compilation of enumeration areas (EAs) encompassing the entirety of the population of Bangladesh. This list was obtained from the Bangladesh Bureau of Statistics and was derived from the 2011 population and housing census of the People's Republic of Bangladesh. The survey's primary sampling unit (PSU) was an EA, including an average of 120 households. The 2017–2018 BDHS was a stratified cluster sample of households conducted in two and three stages in both rural and urban settings. In the first stage, 675 EAs were selected using a probability proportional to the EA size, with 425 EAs located in rural areas and 250 in urban areas, respectively. In the second stage of sampling, an average of 30 households were selected systematically per EA. The sampling yielded statistically reliable estimates of key demographic and health factors for each division separately. The final report of the BDHS 2017–2018 provides a comprehensive account of the survey design, methodology employed, sample size, questionnaires used and findings.[18] The data in this study were restricted to young adult women aged 15–29 who were currently married. As a result, a final sample of 4595 women was used for the current analysis after removing any missing responses on a case-by-case basis.

Dependent variable

The continuation of postmarriage education was the dependent variable in this study. The measurement of postmarriage continuation of education in the 2017–2018 BDHS involved surveying women who were engaged in studying or attending school prior to their marriage. The survey question was: 'Did you continue your studies after marriage?' with the response options: no; yes, less than a year; yes, for 1–2 years; yes, for 3–4 years; and yes, for 5+ years. For bivariate analysis, this variable was dichotomised as no (did not continue education after marriage) or yes (continued education after marriage).

Explanatory variables

The analysis considered several individual-level and community-level factors that may have a potential influence on the continuation of education after marriage. The individual characteristics examined in this study encompass various factors. These factors include the age of the respondent (grouped into three categories: 15–19, 20–24 or 25–29), age at first marriage (<18 years or ≥18 years), marriage to first birth interval (no birth, <2 years, or ≥2 years), partner's education status (no education, primary education, or secondary/higher education), age difference between spouses (<5 years, 5–10 years, or ≥11 years), number of household members (≤4, 5–8, or ≥9), current residence with husband (yes, or no), wealth index (poorest, poorer, middle, richer, or richest), household decision-making power index (based on 3 items, categorised as 0, 1, 2, or all 3 items), media access (no access or some access), and religion (Muslim or non-Muslim). Women's attitudes towards wife beating in five hypothetical scenarios were investigated using five questions: (1) going out without telling her husband/partner; (2) neglecting children; (3) arguing with the husband/partner; (4) refusing sex; and (5) burning food. Justification of wife beating is a binary variable equal to 1 if the woman justifies wife beating in at least one of the five hypothetical scenarios and 0 otherwise. The wealth variable categorises respondents into quintiles based on their household's score on the DHS wealth index, which takes into account durable consumer goods, housing quality and water and sanitation facilities.[32]

In order to assess community-level indicators, we used three aggregated community-level variables: community economic status (distinguishing between affluent and impoverished communities), community literacy status (distinguishing between high-literate and low-literate communities), and the status of women within the community (distinguishing between progressive and conservative communities). Communities were delineated based on the EAs. In the DHSs, each EA is considered a PSU. Each participant in the BDHS was assigned a unique PSU number for identification purposes. To generate community-level variables, the individual responses were averaged and aggregated at the PSU level. Nevertheless, a moderate correlation (r=0.43) was observed between the household wealth index and community economic status. Despite this correlation, both variables were included in the model as they could not be regarded as proxy measures for one another. It is, therefore, important to control for their partial effects on the postmarital education of women. In addition, a recent multicounty DHS analytical study examines the inequalities by classifying households based on their wealth in relation to the average wealth of their respective communities. The study reveals that certain countries exhibit heterogeneity when evaluating household wealth in comparison to the average wealth

of their communities, indicating that significant proportions of households reside in communities with varying levels of average wealth.[32] As community-level variables, we additionally included place of residence (urban or rural) and region (Barishal, Chattogram, Dhaka, Khulna, Mymensingh, Rajshahi, Rangpur or Sylhet).

Ethical considerations

The study used secondary data sourced from the DHS database in accordance with the established guidelines and regulations governing the use of such databases. As one of the host nations of the DHS, the BDHS ensured that written consent was obtained from all respondents prior to conducting each interview. Importantly, the informed written consent statement emphasizes the strict confidentiality of the respondent's identity and information.[33] All procedures and questionnaires for standard DHS surveys have been reviewed and approved by the Institutional Review Board (IRB) and ICF International. In addition, the protocols for conducting country-specific DHS surveys undergo a review process by the IRB, ICF International, and typically by an IRB located in the host country.[33]

Data analysis

Datasets were cleaned before formal data analysis. Descriptive statistics, including frequency and per cent distribution for each variable, were computed. Pearson's χ^2 test statistics were performed to assess associations between postmarriage continuation of education and individual sociodemographic and community-level variables included in the study. We applied the sampling weight provided by the BDHS in all analyses to ensure the acceptability of our results at the national level. Given the hierarchical structure of the BDHS, a multilevel regression model at two levels with respondents nested in the communities would be appropriate to consider the cluster variation in the analysis. Thus, to consider the cluster effect in the analysis, a multilevel multinomial logistic regression procedure was used to identify the associated individual-level and community-level factors for the continuation of postmarriage education. The generalised structural equation modelling (GSEM) was employed to estimate the multinomial logistic model using the '*gsem*' command in Stata. Four different nested models were fitted. We first estimated an 'empty' model (model I, containing only the outcome variable). In model II, only individual-level variables were added. Model III contains only community-level variables along with the outcome. Finally, in model IV, all the individual-level and community-level variables were included. The model IV was chosen and interpreted due to its superior goodness of fit, as evidenced by a lower Akaike information criterion (AIC) value. Fixed effects were reported as adjusted ORs (aOR) with 95% CIs. For the random effect, area variance, intraclass correlation coefficient, proportional change in variance and median OR were reported to assess the variability of the continuation of education between clusters/communities. In addition, the AIC was used to check the goodness of fit of the model. Age at the time of having a child was not included in the multivariate models due to the potential issue of multicollinearity with the variable marriage to first birth interval. The presence of multicollinearity in the remaining variables was assessed by examining the tolerance values and variance inflation factor. In all cases, tolerance values and variance inflation factor values were found to be about equal to one, suggesting that there is no multicollinearity problem. All statistical tests were two-sided and considered significant at the $p<0.05$ level. Data were analysed using Stata V.14.2 (StataCorp).

Patient and public involvement

No patient involved.

RESULTS

Table 1 presents the distribution of young adult women who are currently married, aged 15–29, based on their background characteristics. The average age of the respondents was 22.58 (SD: 3.86) years, and the majority of the respondents (76.2%) were married before 18. Approximately one-fourth (23.3%) of the respondents had no children, while 47.1% had the first child within 2 years of their marriage. Nearly one in every four respondents (23.6%) had no media access, and 24.3% of the respondents were from the richest households. Table 1 also shows that nearly half of the respondents were from impoverished communities (51.5%), and 57.4% of women were from low-literate communities. The majority of the respondents were from rural areas (72.7%). Figure 1 displays the proportion of women continuing education after marriage. The majority of the respondents (71.7%) did not continue education after marriage, while 12.4% continued for less than 1 year, 8.8% continued for 1–2 years, 4.5% continued 3–4 years and only 2.6% continued 4–5 years (figure 1).

Table 2 presents the bivariate association between individual-level and community-level variables and the continuation of education after marriage. Continuation of education after marriage is significantly higher among young adult women who were married at 18 years of age or older (49.6% vs 21.6%; $p \leq 0.001$) than their counterparts who were married before age 18. The proportion of women who continued education was lower among women who justified beating their wives than women who did not (16.3% vs 30.7%; $p \leq 0.001$). Compared with women who are not currently residing with their husbands, women who currently reside were less likely to continue education after marriage than those who were not currently living with their husbands (26.6% vs 33.0%; $p \leq 0.001$). Young adult women who had some media access were more likely to continue education than women who had no media access (31.8% vs 16.9%; $p \leq 0.001$). Among community-level variables, community economic status, community literacy status and place of residence were significantly associated with the

Table 1 Sociodemographic and other characteristics of currently married young-adult women aged 15–29 years (n=4595), Bangladesh Demographic and Health Survey, 2017–2018

Variables	Categories	Number (n)	Per cent (%)*	95% CI
Respondent age (Mean 22.58 (SD: 3.86)) Range: 15–29	15–19	1196	27.1	25.6 to 28.8
	20–24	1796	39.0	37.4 to 40.7
	25–29	1603	33.8	32.3 to 35.4
Age at first marriage	<18 years	3439	76.2	74.5 to 77.9
	≥18 years	1156	23.8	22.1 to 25.5
Marriage to first birth interval	No birth	1083	23.3	21.9 to 24.8
	< 2 years	2105	47.1	45.3 to 48.9
	≥ 2 years	1407	29.5	27.9 to 31.2
Partners educational status	No Education	257	5.7	4.9 to 6.6
	Primary and/or secondary	2945	66.2	64.4 to 67.9
	Higher	1393	28.1	26.4 to 29.9
Age difference between husband and wife	<5 years	965	20.5	19.2 to 21.8
	5–10 years	2438	52.8	51.2 to 54.4
	≥11 years	1192	26.7	25.1 to 28.4
Currently residing with husband	Yes	3491	74.2	72.2 to 76.1
	No	1104	25.8	23.9 to 27.8
Justification of wife beating	Not justified	3840	83.1	81.3 to 84.7
	Justified	755	16.9	15.3 to 18.7
Household decision-making power index	0 of 3 items	861	18.9	17.5 to 20.4
	1 of 3 items	787	17.6	16.3 to 19.0
	2 of 3 items	717	15.6	14.4 to 16.9
	All 3 items	2230	47.9	45.9 to 49.8
Media access	No access	1122	23.6	21.6 to 25.8
	Some access	3473	76.4	74.2 to 78.4
Number of household members	≤4	1810	39.6	37.7 to 41.5
	5–8	2155	46.5	44.8 to 48.2
	≥9	630	13.9	12.4 to 15.6
Wealth index	Poorest	628	13.0	11.5 to 14.8
	Poorer	778	17.4	16.0 to 19.0
	Middle	940	21.5	19.9 to 23.2
	Richer	1060	23.8	22.0 to 25.7
	Richest	1189	24.3	22.3 to 26.4
Religion	Muslim	4224	92.4	90.7 to 93.9
	Non-Muslim	371	7.6	6.1 to 9.3
Community economic status	Affluent community	2296	48.5	44.4 to 52.7
	Impoverished community	2299	51.5	47.4 to 55.6
Community illiteracy status	High-literate community	2171	42.6	38.1 to 47.3
	Low-literate community	2424	57.4	52.7 to 61.9
Status of women in community	Impoverished	2339	49.4	44.7 to 54.2
	Conservative	2256	50.6	45.8 to 55.3
Place of residence	Urban	1663	27.3	25.6 to 29.0
	Rural	2932	72.7	71.0 to 74.4

Continued

Table 1 Continued

Variables	Categories	Number (n)	Per cent (%)*	95% CI
Region	Barishal	537	5.9	5.3 to 6.6
	Chattogram	655	18.1	16.5 to 19.9
	Dhaka	678	25.1	23.0 to 27.3
	Khulna	708	13.4	12.3 to 14.7
	Mymensingh	444	6.5	5.8 to 7.2
	Rajshahi	676	15.6	14.1 to 17.2
	Rangpur	630	12.6	11.4 to 13.9
	Sylhet	267	2.8	2.5 to 3.3

*In estimating percentages, the complex survey design and sampling weights were taken into account.

continuation of education after marriage. Continuation of education was found to be significantly higher among young adult women from affluent communities (33.3% vs 23.6%; p ≤0.001), high-literate communities (42.5% vs 17.7%; p ≤0.001), and urban residents (37.4% vs 24.8%; p ≤0.001) than their respective counterparts. Figure 2 represents the regional variations in the continuation of education after marriage among young adult women.

Table 3 presents the findings from the multilevel multinomial logistic regression analysis investigating the individual-level and community-level variables associated with the continuation of education after marriage. Age at marriage was found to be associated with increased odds of continuing education after marriage for <1 year, 1–2 years and 3–4 years (with not continuing education as the base category). The odds of continuing education after marriage for <1 year (aOR: 1.96; 95% CI 1.54 to 2.50), 1–2 years (aOR: 2.05; 95% CI 1.57 to 2.67) and 3–4 years (aOR: 2.67; 95% CI 1.92 to 3.74) were higher among women who were married at age 18 or older compared with those who were married at age<18 years. Compared with women who had no birth, women who had their first

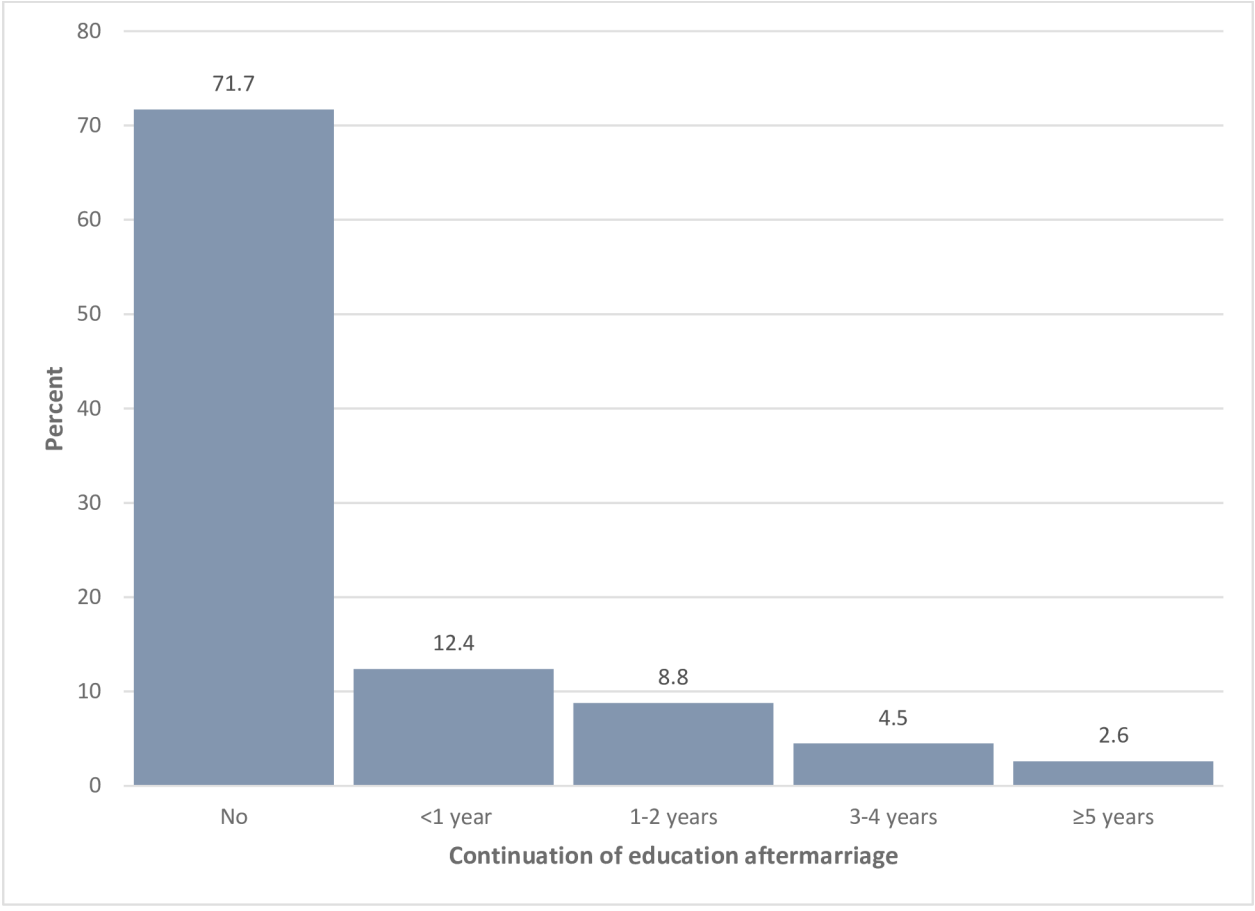

Figure 1 Proportion of women aged 15–29 years continuing education after marriage.

Table 2 Descriptive statistics of currently married young adult aged 15–29 years (n=4595), by different sociodemographic and community-level variables, Bangladesh Demographic and Health Survey, 2017–2018

Characteristics	Continuation of education after marriage		P value χ2 test
	Yes n (%)*	No n (%)*	
Individual-level variables			
Respondent age			<0.001
15–19	371 (28.9)	825 (71.1)	
20–24	639 (31.8)	1157 (68.2)	
25–29	423 (23.6)	1180 (76.4)	
Age at first marriage			<0.001
<18 years	812 (21.6)	2627 (78.4)	
≥18 years	621 (49.6)	535 (50.4)	
Marriage to first birth interval			<0.001
No birth	529 (44.4)	554 (55.6)	
< 2 years	460 (20.1)	1645 (79.9)	
≥ 2 years	444 (28.6)	963 (71.4)	
Partners educational status			<0.001
No education	11 (4.5)	246 (95.5)	
Primary and/or secondary	578 (18.2)	2367 (81.8)	
Higher	844 (56.8)	549 (43.3)	
Age difference between husband and wife			0.898
<5 years	300 (27.6)	665 (72.4)	
5–10 years	761 (28.6)	1677 (71.5)	
≥11 years	372 (28.2)	820 (71.8)	
Currently residing with husband			<0.001
Yes	1028 (26.6)	2463 (73.4)	
No	405 (33.0)	699 (67.0)	
Justification of wife beating			
Not justified	1298 (30.7)	2542 (69.3)	<0.001
Justified	135 (16.3)	620 (83.7)	
Household decision-making power index			0.478
0 of 3 items	250 (27.0)	611 (73.0)	
1 of 3 items	254 (29.5)	533 (70.5)	
2 of 3 items	235 (30.3)	482 (69.7)	
All 3 items	694 (27.7)	1536 (72.3)	
Media access			<0.001
No access	201 (16.9)	921 (83.1)	
Some access	1232 (31.8)	2241 (68.2)	
Number of household members			0.002
≤4	517 (24.8)	1293 (75.2)	
5–8	710 (30.4)	1445 (69.6)	
≥9	206 (30.8)	424 (69.2)	
Wealth index			<0.001
Poorest	78 (11.5)	550 (88.5)	
Poorer	136 (16.8)	642 (83.2)	
Middle	246 (24.7)	694 (75.4)	

Continued

Table 2 Continued

Characteristics	Continuation of education after marriage		P value χ2 test
	Yes n (%)*	No n (%)*	
Richer	365 (32.0)	695 (68.0)	
Richest	608 (45.1)	581 (54.9)	
Religion			0.034
Muslim	1306 (27.8)	2918 (72.2)	
Non-Muslim	127 (33.7)	244 (66.3)	
Community-level variables			
Community economic status			<0.001
Affluent community	876 (33.3)	1420 (66.7)	
Impoverished community	557 (23.6)	1742 (76.5)	
Community literacy status			<0.001
High-literate community	989 (42.5)	1182 (57.5)	
Low-literate community	444 (17.7)	1980 (82.3)	
Status of women in community			0.070
Impoverished	783 (29.9)	1556 (70.1)	
Conservative	650 (26.7)	1606 (73.3)	
Place of residence			<0.001
Urban	689 (37.4)	974 (62.6)	
Rural	744 (24.8)	2188 (75.2)	
Region			0.082
Barishal	199 (34.1)	338 (65.9)	
Chattogram	159 (23.4)	496 (76.6)	
Dhaka	216 (30.3)	462 (69.7)	
Khulna	233 (29.4)	475 (70.6)	
Mymensingh	148 (29.5)	296 (70.5)	
Rajshahi	195 (26.6)	481 (73.4)	
Rangpur	194 (28.7)	436 (71.3)	
Sylhet	89 (27.3)	178 (72.7)	

*In estimating percentages, the complex survey design and sampling weights were taken into account.

birth within 2 years of their marriage were 57% (aOR: 0.43; 95% CI 0.33 to 0.55), 67% (aOR: 0.33; 95% CI 0.25 to 0.45), and 35% (aOR: 0.65; 95% CI 0.43 to 0.99) less likely to continue education after marriage for <1 year, 1–2 years and 3–4 years, respectively. Among other individual-level variables, partner educational status and household wealth index were found to be positively associated with different varying years of continuing education after marriage. Another important individual-level variable, justification of wife beating, was found to be negatively associated with the continuation of education. The odds of continuing education after marriage for <1 year (aOR: 0.68; 95% CI 0.50 to 0.90), 1–2 years (aOR: 0.67; 95% CI 0.47 to 0.96), and ≥5 years (aOR: 0.38; 95% CI 0.17 to 0.85) were lower among women who justified wife beating compared with women who did justify it.

Among community-level variables, community economic status, community literacy status and region were found to be associated with the continuation of education. Compared with the high-literate community, women from the low-literate community were less likely to continue education after marriage for <1 year (aOR: 0.53; 95% CI 0.42 to 0.66), 1–2 years (aOR: 0.47; 95% CI 0.36 to 0.61), 3–4 years (aOR: 0.32; 95% CI 0.22 to 0.46), and for ≥5 years (aOR: 0.29; 95% CI 0.17 to 0.48). However, we found that women from impoverished communities were more likely to continue education for different durations of years after marriage than women from affluent community. Postmarital continuation of education was lower among women from Chattogram division compared with women from Barishal division.

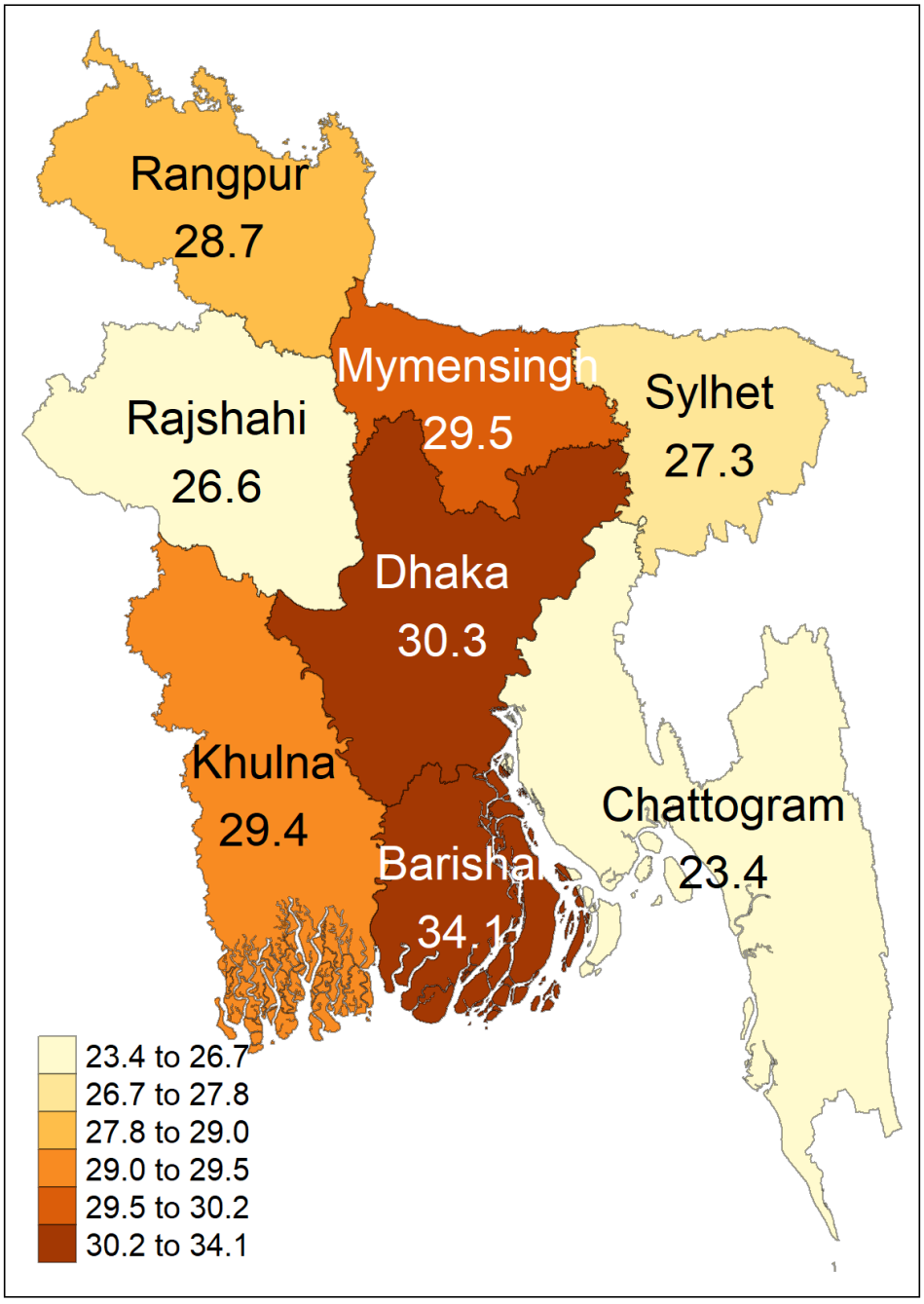

Figure 2 Regional variations in the continuation of education after marriage among young adult women aged 15–29 years.

DISCUSSION

The purpose of this study was to investigate how different individual-level and community-level variables are associated with the continuation of education after marriage among young adult women aged 15–29 years in Bangladesh. In this nationally representative sample of currently married young adult women, we found that only 28.3% of women pursue further education subsequent to their marriage. Several individual-level and community-level variables were reported to be associated with the continuation of postmarital education. These include: current age, age at marriage, marriage to first birth interval, partner educational status, justification to wife beating, women's household decision-making, wealth index, community economic status, community literacy status and region. These factors should be taken into account by policy-makers when formulating intervention strategies designed to increase educational attainment after marriage.

This study adds to the existing literature on the consequences of child marriage and early childbearing after marriage on the postmarital continuation of education. Early marriage is frequently linked to the occurrence of early childbirth, which serves as a significant milestone

Table 3 Results from the multilevel multinomial logistic regression analysis of the factors associated with continuation of education among currently married young adult aged 15–29 years, Bangladesh Demographic and Health Survey, 2017–2018

Characteristics	Continuation of education after marriage			
	<1 year versus no aOR (95% CI)	1–2 years versus no aOR (95% CI)	3–4 years versus no aOR (95% CI)	≥5 year versus no aOR (95% CI)
Individual-level variables				
Respondent age				
15–19	1.0	1.0	1.0	1.0
20–24	0.79 (0.61 to 1.03)	1.03 (0.75 to 1.41)	1.31 (0.83 to 2.08)	6.24 (2.17 to 17.95)
25–29	0.41 (0.30 to 0.57)	0.64 (0.44 to 0.93)	0.62 (0.37 to 1.05)	5.22 (1.77 to 15.40)
Age at first marriage				
<18 years	1.0	1.0	1.0	1.0
≥18 years	1.96 (1.54 to 2.50)	2.05 (1.57 to 2.67)	2.67 (1.92 to 3.74)	1.15 (0.75 to 1.74)
Marriage to first birth interval				
No birth	1.0	1.0	1.0	1.0
<2 years	0.43 (0.33 to 0.55)	0.33 (0.25 to 0.45)	0.65 (0.43 to 0.99)	0.73 (0.39 to 1.37)
≥ 5 years	0.47 (0.35 to 0.63)	0.53 (0.39 to 0.74)	1.59 (1.04 to 2.44)	1.87 (1.01 to 3.45)
Partners educational status				
No education	1.0	1.0	1.0	1.0
Primary and/or secondary	5.17 (1.88 to 14.18)	2.76 (0.99 to 7.65)	4.62 (0.63 to 33.99)	1.11 (0.25 to 4.81)
Higher	13.93 (5.02 to 38.65)	11.28 (4.04 to 31.49)	23.37 (3.17 to 172.39)	6.48 (1.50 to 27.98)
Age difference between husband and wife				
<5 years	1.0	1.0	1.0	1.0
5–10 years	1.07 (0.82 to 1.38)	1.04 (0.78 to 1.39)	0.83 (0.58 to 1.18)	1.20 (0.73 to 1.96)
≥11 years	1.03 (0.76 to 1.38)	1.06 (0.76 to 1.48)	0.67 (0.43 to 1.03)	0.88 (0.49 to 1.57)
Currently residing with husband				
Yes	1.0	1.0	1.0	1.0
No	1.42 (1.14 to 1.78)	1.28 (0.98 to 1.66)	1.38 (0.98 to 1.93)	1.53 (0.99 to 2.37)
Justification of wife beating				
Not justified	1.0	1.0	1.0	1.0
Justified	0.68 (0.50 to 0.90)	0.67 (0.47 to 0.96)	0.73 (0.45 to 1.19)	0.38 (0.17 to 0.85)
Household decision-making power index				
0 of 3 items	1.0	1.0	1.0	1.0
1 of 3 items	1.01 (0.75 to 1.35)	1.40 (0.96 to 2.02)	1.27 (0.73 to 2.22)	2.20 (0.99 to 4.94)
2 of 3 items	1.02 (0.74 to 1.41)	1.29 (0.87 to 1.91)	1.39 (0.80 to 2.40)	1.34 (0.58 to 3.11)
All 3 items	0.84 (0.63 to 1.20)	1.48 (1.05 to 2.09)	1.74 (1.08 to 2.83)	2.45 (1.19 to 5.07)
Media access				
No access	1.0	1.0	1.0	1.0
Some access	1.55 (1.18 to 2.05)	1.35 (0.98 to 1.87)	1.44 (0.90 to 2.30)	1.51 (0.77 to 2.96)
Number of household members				
≤4	1.0	1.0	1.0	1.0
5–8	1.05 (0.84 to 1.31)	1.41 (1.10 to 1.80)	1.34 (0.98 to 1.85)	1.38 (0.92 to 2.07)
≥9	1.12 (0.83 to 1.52)	0.92 (0.63 to 1.33)	0.99 (0.63 to 1.56)	1.08 (0.61 to 1.92)
Wealth index				
Poorest	1.0	1.0	1.0	1.0
Poorer	1.07 (0.70 to 1.62)	1.04 (0.59 to 1.83)	0.85 (0.35 to 2.09)	1.76 (0.33 to 9.34)

Continued

Table 3 Continued

Characteristics	Continuation of education after marriage			
	<1 year versus no aOR (95% CI)	1–2 years versus no aOR (95% CI)	3–4 years versus no aOR (95% CI)	≥5 year versus no aOR (95% CI)
Middle	1.40 (0.93 to 2.11)	1.68 (0.99 to 2.86)	1.26 (0.55 to 2.87)	3.59 (0.78 to 16.58)
Richer	1.25 (0.81 to 1.95)	2.39 (1.39 to 4.11)	2.80 (1.25 to 6.26)	7.07 (1.55 to 32.16)
Richest	1.91 (1.19 to 3.07)	2.80 (1.56 to 5.04)	3.38 (1.44 to 7.96)	11.70 (2.47 to 55.39)
Religion				
Muslim	1.0	1.0	1.0	1.0
Non-Muslim	0.74 (0.50 to 1.10)	1.24 (0.86 to 1.79)	0.66 (0.38 to 1.14)	1.16 (0.64 to 2.10)
Community-level variables				
Community economic status				
Affluent community	1.0	1.0	1.0	1.0
Impoverished community	1.37 (1.03 to 1.82)	1.58 (1.14 to 2.21)	1.52 (0.98 to 2.37)	2.10 (1.18 to 3.74)
Community literacy status				
High-literate community	1.0	1.0	1.0	1.0
Low-literate community	0.53 (0.42 to 0.66)	0.47 (0.36 to 0.61)	0.32 (0.22 to 0.46)	0.29 (0.17 to 0.48)
Status of women in community				
Progressive	1.0	1.0	1.0	1.0
Conservative	1.14 (0.91 to 1.42)	1.09 (0.85 to 1.40)	0.89 (0.64 to 1.23)	1.03 (0.68 to 1.58)
Place of residence				
Urban	1.0	1.0	1.0	1.0
Rural	0.86 (0.67 to 1.10)	0.68 (0.51 to 0.90)	0.78 (0.54 to 1.13)	0.66 (0.40 to 1.07)
Region				
Barishal	1.0	1.0	1.0	1.0
Chattogram	0.60 (0.40 to 0.90)	0.41 (0.26 to 0.67)	0.45 (0.24 to 0.84)	0.41 (0.19 to 0.89)
Dhaka	0.68 (0.45 to 1.01)	0.53 (0.34 to 0.83)	0.53 (0.31 to 0.93)	0.54 (0.28 to 1.03)
Khulna	0.87 (0.59 to 1.28)	0.97 (0.64 to 1.47)	0.84 (0.49 to 1.45)	0.48 (0.24 to 0.98)
Mymensingh	0.80 (0.52 to 1.23)	0.91 (0.57 to 1.45)	1.11 (0.63 to 1.95)	0.57 (0.26 to 1.24)
Rajshahi	0.91 (0.62 to 1.33)	0.57 (0.37 to 0.90)	0.69 (0.39 to 1.21)	0.57 (0.28 to 1.15)
Rangpur	0.91 (0.61 to 1.36)	0.93 (0.61 to 1.44)	0.80 (0.45 to 1.42)	0.80 (0.41 to 1.56)
Sylhet	0.67 (0.40 to 1.14)	0.82 (0.47 to 1.41)	0.87 (0.43 to 1.75)	0.57 (0.23 to 1.42)
Measures of variation or clustering				
Area level variance (SE)	0.056 (0.054)			
PCV* (%)	78.1%			
ICC (latent variable method)	0.017			
MOR	1.25			
Model fit statistic				
AIC	7816.335			

*The proportion change in variance expresses the change in the cluster level variance between empty model and the individual level model, and between individual level model and the model further including the community level covariates.
aOR, adjusted OR; ICC, intraclass correlation; MOR, median OR; PCV, proportion change in variance.

in a woman's journey towards motherhood. In line with the previous studies,[20 27 34] this study found that age at first marriage and early childbearing after marriage were significantly associated with the continuation of education after marriage, where adolescent marriage (<18 years) and childbearing within 2 years of marriage led to a decrease in post-marital education. In the South Asian context, adolescent women often shoulder the responsibility of child care and parenting. Consequently, early marriage and motherhood hinder their ability to continue

their education after marriage.[34] Young individuals who get married or become pregnant at an early age may encounter social stigma and prejudice from their families, which can negatively impact their confidence to pursue further education. A study conducted on adolescent mothers in South Africa revealed that inadequate family support, characterised by parental views that perpetuate the stigma of teenage pregnancy, breakdowns in communication and financial burdens, resulted in the discontinuation of education among young women.[35] Typically, postmarriage education decisions are made by in-laws or husbands, who are frequently unsupportive, particularly in the South Asian context.[20] Even if they were supportive, domestic responsibilities, especially those related to child rearing, impede women from continuing their education. The occurrence of intimate partner abuse may shed light on one potential connection between early marriage and the cessation of postmarital education. Females who enter into marriage prior to reaching the age of 18 exhibit an increased likelihood of reporting occurrences of intimate partner violence (IPV),[36 37] which has the potential to hinder the pursuit of educational endeavours subsequent to marriage. In addition, it is noteworthy to mention that more than 50% of violence perpetrated by husbands takes place between the ages of 15 and 34,[38] the age when a woman is expected to persuade for higher education. Exposure to violence during this period has the potential to lead to the cessation of women's education following marriage.

Our study revealed a significant correlation between women's continuation of education following marriage and their attitudes towards wife beating, as well as their participation in decision-making in the household. Women who held the belief that wife beating is never justified under any circumstances and who actively participated in household decision-making exhibited a higher likelihood of pursuing further education following marriage. The perception of a woman's status is reflected in her attitude toward wife beating.[18] A woman who deems such acts of aggression as 'unjustifiable' is likely to possess an elevated awareness of her heightened entitlement, self-esteem and status within society, leading to a favourable reflection on her sense of empowerment.[39] Conversely, a woman who deems such violence 'justifiable' acknowledges the entitlement of her spouse to exert control over her actions, including via the use of physical force.[40] There is a clear correlation between the prevalence of tolerant attitudes towards violence against women and the incidence of actual violence perpetrated against women.[41] The acceptance of violence may be attributed to the perception of violence as a customary aspect of a woman's existence,[42] and/or the presence of lowered entitlement or self-esteem in the individual. The absence of a sense of entitlement or self-esteem, in combination with an overarching feeling of normality, may serve as an impediment to pursuing further education on marriage. This study further found that the educational attainment of husbands and the household wealth index significantly influence the likelihood of married young adult women pursuing further education. Individuals who possess a higher level of education as spouses may exhibit a greater appreciation and emphasis on the importance of education, thus resulting in heightened encouragement and assistance towards the woman's educational endeavours.[43]

This study demonstrated several community-level characteristics that made significant contributions to the retention of education following marriage. We found that women are less likely to continue their education after marriage in communities with low levels of literacy. One plausible explanation may be that communities characterised by higher literacy rates tend to place greater importance on the status and worth of women, as well as prioritise the acquisition of education, information, skills and abilities among women.[44 45] Women residing within such communities may exhibit a greater sense of self-worth and confidence, enabling them to express their own preferences more effectively. Additionally, they may possess enhanced capabilities to use or even create tangible assets in order to achieve their choices.[45] These changes have the potential to have an effect on the prevailing social norms within a given community, thereby exerting an influence on the decision-making processes of young adult females residing in these areas. Moreover, women residing in highly literate communities may possess increased agency in both the domestic and public realms, enabling them to engage in resource allocation negotiations and pursue valued objectives such as the advancement of post-marital education within their communities.[45 46] Additionally, our research revealed that women residing in economically impoverished communities had a greater likelihood of pursuing further education following marriage in comparison to their counterparts from affluent communities. The finding is interesting as it reveals a positive correlation between women's continuation of education after marriage and their household wealth index. The observed contradiction might perhaps be explained by the existence of an additional individual-level variable, namely, women currently residing with their husbands. Our findings indicate that young adult women who are not currently residing with their husbands, owing to factors such as their husbands' geographical separation for career or educational reasons, are more likely to pursue further education for <1 year after marriage. Previous research indicates that a considerable number of individuals belonging to economically impoverished communities in Bangladesh migrate to different countries, particularly those in the Middle East, in pursuit of improved economic opportunities due to the prevalent poverty and limited employment opportunities in their home country.[47] The migrant husband engages in remittance activities to support their individual families and may also have the expectation that their wife back home should pursue educational opportunities while they are residing overseas. This factor may contribute to the continuation of higher education in economically disadvantaged communities. Further research is required to

explore the reasons for the increased prevalence of post-marital education among underprivileged communities.

This study has several strengths and limitations. Strengths include a large population-based sample with national coverage, standardised data collection and a large sample size, which increased the reliability of the findings with greater precision and power. Nevertheless, it is essential to assess the findings within the context of the study's limitations. First, due to retrospective reporting of the continuation of education after marriage, the data may be subject to recall bias. Under-reporting may also arise as a consequence of unforeseen educational pursuits on marriage. In order to mitigate the potential effects of recall bias and under-reporting on the pursuit of education following marriage, we exclusively relied on data pertaining to currently married young adult women aged 15–29 years. Second, we used secondary data, which limits the analyses to the variables that are available. Therefore, our study was limited in its ability to incorporate additional important sociocultural and institutional factors, such as social norms, gender roles and access to childcare, which might potentially exert a significant influence on the ongoing nature of educational pursuits following marriage. Third, the current investigation is of a quantitative nature, which implies an absence of crucial insights pertaining to the experiences, challenges, motives and thinking processes of women in their pursuit of further education subsequent to marriage. In addition to quantitative research, it is suggested to conduct an extensive qualitative investigation in order to obtain a more comprehensive knowledge of the factors that are linked to the continuation of education after marriage. Finally, the analysis of the study, due to its cross-sectional nature, can only offer evidence of statistical association, and it is not allowed to make inferences about cause–effect relationships.

Despite these limitations, the present research offers significant insights for policies and programmes concerning the continuation of education after marriage in a context with a high prevalence of early marriage and childbearing. The findings of this study have several implications. First, to enhance the educational retention of married women in Bangladesh, interventions should prioritise the prevention of early marriage. Increased awareness campaigns and strict application of child marriage laws by law enforcement organisations may be able to achieve this. Notwithstanding the existence of legal restrictions, a considerable proportion of women in Bangladesh persist in entering into marriage prior to attaining the age of 18, suggesting that the reliance on legislative measures alone has been ineffective in preventing this typical conduct. Hence, it is imperative for the Government of Bangladesh, along with its local and international development allies, to enhance ongoing efforts in combating the issue of child marriage. It is recommended that thorough implementation of initiatives aimed at boosting educational and economic opportunities, as well as changing community gender norms, be undertaken. These programmes have demonstrated a good impact on reducing child marriage in countries with similar settings.[48–50] In addition, social change interventions aimed at adults and counterbeliefs about early marriages could be introduced. Similar initiatives have demonstrated significant success in reducing the incidence of child marriage and reshaping societal norms.[51] Second, it has been observed that women who do not endorse the justification of domestic violence are more inclined to pursue further education following marriage. It is important to note that this association is solely correlational in nature, yet it holds significant implications for policy considerations. Social transformations are important in order to enhance women's perspectives on IPV and to eliminate the prevailing gender and cultural norms that perpetuate the phenomenon of spousal abuse. Furthermore, it is worth noting that disparities at the community level have been identified in terms of post-marriage continuation of education. Therefore, it is suggested that intervention initiatives targeting the enhancement of educational persistence among married women should prioritise low-literate communities.

CONCLUSION

The present study revealed a low prevalence of educational continuation among young adult women following marriage. Additionally, it identified various individual-level factors, including age at marriage, the gap between marriage and first birth, husband's educational attainment, justification of wife beating, and household wealth, as well as community-level factors such as low-literate communities and regional disparities, that exert a significant influence on the likelihood of educational continuation after marriage. These findings have the potential to inform policy-makers in the development and implementation of targeted intervention programmes aimed at vulnerable women, specifically those in low-literate and rural communities. Such programmes could contribute to enhancing educational retention among women in Bangladesh, thereby facilitating the country's progress towards achieving the relevant Sustainable Development Goals by 2030. However, because postmarriage education continuation reflects the much broader social phenomenon of changing sex-role perceptions, additional qualitative and quantitative research with more detailed retrospective data is required to gain a comprehensive understanding of the factors that enable young adult women to continue their education after marriage.

Acknowledgements The authors would like to thank MEASURE DHS Program and ICF International for giving permission to download and analyse the BDHS data.

Contributors SH conceptualised and designed, reviewed literatures, extracted and analysed data, and wrote first draft. MAR analysed data and wrote the draft. MMR supervised the study and critically reviewed the manuscript. All authors read and approved the final manuscript. As guarantor, MMR accepts full responsibility for the work, had access to the data and controlled the decision to publish.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants and was approved by International Institutional Review Boards at ICF (ICF IRB FWA00000845) and the Bangladesh Medical Research Council (BMRC) (BMRC/NREC/2016-2019/324). Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available in a public, open access repository. All data are publicly available at the Measure DHS website https://dhsprogram.com/data/available-datasets.cfm.

ORCID iD

Md. Mosfequr Rahman http://orcid.org/0000-0002-2402-5814

REFERENCES

1 Ebaugh HRF. *Becoming an ex: The process of role exit*. University of Chicago Press, 1988.
2 Jensen R, Thornton R. Early female marriage in the developing world. *Gender & Development* 2003;11:9–19.
3 Hahn Y, Nuzhat K, Yang H-S. The effect of female education on marital matches and child health in Bangladesh. *J Popul Econ* 2018;31:915–36.
4 Chan K, Spaid Miedema S, Naved RT, *et al*. Beyond girls' education: pathways to women's post-marital education in Matlab, Bangladesh. *Feminist Economics* 2023;29:38–69.
5 BBS. Policy brief. In: *Gender Based Education*. Dhaka: Bangladesh Bureau of Statistics, 2020.
6 Chaaban J, Cunningham W. Measuring the economic gain of investing in girls: the girl effect dividend. The World Bank; 2011.
7 Arends-Kuenning M, Amin S. Women's capabilities and the right to education in Bangladesh. *Int J Polit Cult Soc* 2001;15:125–42.
8 Güneş PM. The role of maternal education in child health: evidence from a compulsory schooling law. *Econ Educ Rev* 2015;47:1–16.
9 James J, Vujić S. From high school to the high chair: education and fertility timing. *Econ Educ Rev* 2019;69:1–24.
10 Keats A. Women's schooling, fertility, and child health outcomes: evidence from Uganda's free primary education program. *J Dev Econ* 2018;135:142–59.
11 Duflo E. Women empowerment and economic development. *J Econ Lit* 2012;50:1051–79.
12 Ahmed SM. Intimate partner violence against women: experiences from a woman-focused development programme in Matlab, Bangladesh. *J Health Popul Nutr* 2005;23:95–101.
13 Marium S, Development Studies, Brac Development Institute, Brac University, Bangladesh. Women's level of education and its effect on domestic violence in rural Bangladesh. *IOSRJHSS* 2014;19:40–5.
14 Amin S. *Reforming marriage practices in Bangladesh. Promoting Healthy, Safe, and Productive Transitions to Adulthood Brief no.31*. New York: Population Council, 2008.
15 UNICEF. *Child marriage in South Asia: an evidence review*. Kathmandu: UNICEF, 2019.
16 Finlay K, Neumark D. *Is marriage always good for children? Evidence from families affected by incarceration*. Cambridge, MA: National Bureau of Economic Research, 2008.
17 Khanna T, Verma R, Weiss E. Child marriage in South Asia: realities, responses and the way forward; 2013.
18 National Institute of Population Research and Training (NIPORT), ICF. *Bangladesh Demographic and Health Survey 2017-18*. Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT and ICF, 2020.
19 Sekine K, Hodgkin ME. Effect of child marriage on girls' school dropout in Nepal: analysis of data from the multiple indicator cluster survey 2014. *PLoS One* 2017;12:e0180176.
20 Raj A, Salazar M, Jackson EC, *et al*. Students and brides: a qualitative analysis of the relationship between girls' education and early marriage in Ethiopia and India. *BMC Public Health* 2019;19:19.
21 Islam MK, Haque MR, Hossain MB. Regional variations in child marriage in Bangladesh. *J Biosoc Sci* 2016;48:694–708.
22 Lee-Rife S, Malhotra A, Warner A, *et al*. What works to prevent child marriage: a review of the evidence. *Stud Fam Plann* 2012;43:287–303.
23 Singh S. Adolescent childbearing in developing countries: a global review. *Stud Fam Plann* 1998;29:117–36.
24 Kabir A, Rashid MM, Hossain K, *et al*. Women's empowerment is associated with maternal nutrition and low birth weight: evidence from Bangladesh demographic health survey. *BMC Womens Health* 2020;20:93.
25 Sey-Sawo J, Sarr F, Bah HT, *et al*. Women's empowerment and nutritional status of children in the Gambia: further analysis of the 2020 Gambia demographic and health survey. *BMC Public Health* 2023;23:583.
26 Bangladesh Bureau of Statistics (BBS). *Progotir Pathey, Bangladesh Multiple Indicator Cluster Survey 2019, Survey Findings Report*. Dhaka, Bangladesh: Bangladesh Bureau of Statistics (BBS), 2019.
27 Bhowmik J, Biswas RK, Hossain S. Child marriage and adolescent motherhood: a nationwide vulnerability for women in Bangladesh. *Int J Environ Res Public Health* 2021;18:4030.
28 Ghose B, Haque I, Mamun AA. Factors influencing post-marriage education and employment among Bangladeshi women: a cross-sectional analysis. *Women* 2023;3:396–407.
29 Davis NJ, Bumpass LL. The continuation of education after marriage among women in the United States: 1970. *Demography* 1976;13:161–74.
30 Teachman JD, Paasch K. Returning to school after marriage: results for whites and blacks. *Sociol Forum* 1989;4:423–33.
31 The DHS Program. Bangladesh: standard DHS, 2017-18, Available: https://www.dhsprogram.com/data/dataset/Bangladesh_Standard-DHS_2017.cfm?flag=1
32 Rutstein SO, Johnson K. The DHS wealth index. ORC Macro, MEASURE DHS; 2004.
33 DHS Program. Protecting the privacy of DHS survey respondents. 2023. Available: https://dhsprogram.com/methodology/Protecting-the-Privacy-of-DHS-Survey-Respondents.cfm [Accessed 23 Jul 2023].
34 Lloyd CB, Mensch BS. Marriage and childbirth as factors in dropping out from school: an analysis of DHS data from sub-Saharan Africa. *Population Studies* 2008;62:1–13.
35 Chigona A, Chetty R. Teen mothers and schooling: teen mothers and challenges. *S Afr J Educ* 2008:261–81.
36 Kidman R. Child marriage and intimate partner violence: a comparative study of 34 countries. *Int J Epidemiol* 2017;46:662–75.
37 Rahman M, Hoque MA, Mostofa MG, *et al*. Association between adolescent marriage and intimate partner violence: a study of young adult women in Bangladesh. *Asia Pac J Public Health* 2014;26:160–8.
38 BBS, UCEP Bangladesh, Diakonia Bangladesh. *Education Scenario in Bangladesh: Gender Perspective*. Dhaka, Bangladesh: Bangladesh Bureau of Statictics, 2017.
39 Hindin MJ. Understanding women's attitudes towards wife beating in Zimbabwe. *Bull World Health Organ* 2003;81:501–8.
40 Wado YD. Women's autonomy and reproductive health-care-seeking behavior in Ethiopia. *Women & Health* 2018;58:729–43.
41 Oyediran KA, Isiugo-Abanihe UC. Perceptions of Nigerian women on domestic violence: evidence from 2003 Nigeria demographic and health survey. *Afr J Reprod Health* 2005;9:38–53.
42 Gilchrist E. Implicit thinking about implicit theories in intimate partner violence. *Psychol Crime Law* 2009;15:131–45.
43 Adjiwanou V, Bougma M, LeGrand T. The effect of partners' education on women's reproductive and maternal health in developing countries. *Soc Sci Med* 2018;197:104–15.
44 Jo R. *Questioning empowerment: Working with women in Honduras*. UK: Oxfam Oxford, 1997.
45 Ramachandran V. *Education and the Status of Women*. New Delhi, 2000.
46 Burroway R. Empowering women, strengthening children: a multi-level analysis of gender inequality and child malnutrition in developing countries. *Adv Gend Res* 2016;22:117–42.
47 Siddiqu T. Migration as a livelihood strategy of the poor: the Bangladesh case. Regional Conference on Migration, Development and Pro-Poor Policy Choices in Asia; Dhaka, Bangladesh, 2003
48 Hindin MJ, Kalamar AM, Thompson T-A, *et al*. Interventions to prevent unintended and repeat pregnancy among young people in low- and middle-income countries: a systematic review of the published and gray literature. *J Adolesc Health* 2016;59:S8–15.
49 Amin S, Ahmed J, Saha J, *et al*. *Delaying child marriage through community-based skills-development programs for girls: results from a randomized controlled study in rural Bangladesh*. New York and Dhaka: Population Council, 2016.
50 Pande R, Kurz K, Walia S, *et al*. *Improving the reproductive health of married and unmarried youth in India: evidence of effectiveness and costs from community-based interventions*. Washington, DC: International Center for Research on Women, 2006.

51 Kanesathasan A, Cardinal LJ, Pearson E, *et al*. *Catalyzing change: Improving youth sexual and reproductive health through DISHA, an integrated program in India*. Washington, DC, USA: International Center for Research on Women, 2008.