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Systematic Review

Utilization of maternal health services among adolescent women in Bangladesh: A scoping review of the literature*

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Abstract

OBJECTIVE To understand the health-seeking behaviour of adolescent women in Bangladesh with respect to the use of maternal health services.

METHODS Literature review of seven electronic databases: PubMed, ISI Web of Knowledge, PsycINFO, Embase, CINAHL, POPLINE and Global Health. Studies published in English between 1990 and 2013 which describe Bangladeshi adolescent women's healthcare-seeking behaviour during pregnancy, delivery and post-partum were included.

RESULTS Twelve studies were included in this review. 11 used quantitative methods and one used a mixed-methods approach. All studies included married adolescent women only. Women with lower educational levels are less likely to seek skilled maternal health services than those with higher levels of education. Use of maternal health services is also less common among rural married adolescent women than women in urban areas. Being part of the richest bands of wealth, having had previous experiences of childbirth and higher women's autonomy positively influence the use of skilled maternal health services among married adolescent women in Bangladesh. Antenatal care is a key predictor of the use of skilled birth attendants for delivery and post-natal care.

CONCLUSION Maternal health-related programmes should be designed targeting rural and uneducated married adolescent women in Bangladesh. More qualitative investigations are required to broaden our understanding on maternal health-seeking behaviour of both married and unmarried adolescent women.

keywords adolescent, pregnancy in adolescence, health-seeking behaviour or use of maternal health services, Bangladesh

Introduction

Adolescent childbearing has now become a global concern due to the potential impact on individual health or socio-economic consequences and also because of broader development implications. Each year, about 16 million girls aged 15–19 give birth and about 2 million girls give birth before the age of 15 in low-income countries (LIC) [40]. Because of the severity of the problems of adolescent childbearing, the first substantive UN General Assembly adopted the resolution of banning of all kind of child, early and forced marriage [41].

Adolescent pregnancy is associated with substantial health risks for both the girls and their newborns. It is associated with maternal complications, anaemia and Caesarean delivery, and with complications for infants such as premature birth, low birthweight, perinatal mortality and increased infant mortality [1,20,31,38]. Annually, about 70 000 adolescents die of causes related to pregnancy and childbirth in LIC [40]. Physical immaturity, poverty and lack of education which influence access to health services, health beliefs, social structure and customs including the power in decision-making process to use services, willingness to be pregnant and unsafe abortion are major determinants of maternal and newborn mortality and morbidity [20,25,43]. Utilisation of maternal healthcare services varies among adolescent and adult

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women. Adolescents are less likely to receive antenatal and post-partum care than older women, and facility-based deliveries are also less common than for adult women [23,24,39].

Over the past three decades, unlike other low-income countries, Bangladesh has dramatically reduced maternal mortality ratios and increased the use of contraceptives [9,29]. Despite substantial improvement of several maternal health indicators, adolescent childbearing remains a persistent problem in Bangladesh. Child marriage has traditionally been the leading cause of pregnancies among adolescent girls [5,7,21]. About 66% of adolescent girls get married before the age of 18; 33% of them become pregnant by the age of 19 [29].

Although several studies have been conducted in Bangladesh on the use of maternal health services by adolescent women, none of these thoroughly reviewed the literature to explore all aspects of their healthcare-seeking behaviour. Hence, this systematic review aimed to fill the gap, to help policymakers, programme planners and researchers improve the maternal health of adolescent women in Bangladesh.

Methods

We reviewed the literature to assess adolescent women's use of skilled maternal health services: sufficient antenatal care (ANC) by a qualified provider, trained birth attendant assisting childbirth, use of a medical facility for childbirth and post-natal care (PNC) from a qualified provider in Bangladesh. Articles related to adolescent women's maternal healthcare-seeking behaviour were searched for in seven electronic databases. There were no methodological restrictions to select relevant studies in this scoping review, which is the study method recommended for mapping a complex phenomenon [4].

Criteria for inclusion

We included studies that describe the utilisation of maternal health services among adolescents (10-19 years) residing in Bangladesh, specifically studies on the care-seeking behaviour of adolescent women during pregnancy, delivery and post-partum, and studies that compare the use of maternal health services between adult and adolescent women. Studies published in English between 1990 and 2013 were included.

Search strategy

Seven electronic databases were systematically searched to retrieve relevant articles. Firstly, we searched PubMed, ISI Web of Knowledge, PsycINFO, Embase, CINAHL, POPLINE and Global Health using several keyword combinations as follows: ['Pregnancy in Adolescence' or 'adolescent mother' or 'young mother' or 'teenage pregnancy' or 'adolescent pregnancy'] and ['Patient Acceptance of Health Care' or 'health care utilization' or 'Health Services Accessibility' or 'health service utilization' or 'antenatal health care' or 'Maternal Health Services' or 'perinatal health care' or 'neonatal health care' or 'reproductive health care' or 'reproductive care' or 'delivery care'] and ['Bangladesh']. Databases were searched independently by two reviewers. When there was disagreement (over the identification of relevant studies), studies were reassessed independently and consensus was reached following discussion. Secondly, we applied a snowball method by which we reviewed the bibliographies of all the studies identified as relevant in the preceding step.

Data extraction and analysis

Two reviewers selected the included articles. A standard template sheet was developed to capture relevant aspects of the research objective. The template comprised descriptive characteristics of the included studies such as author (s), year, study design, data collection, sample, type of study and outcome measured (Table 1). The data synthesis process involved both content and thematic analysis. The process involved reading and re-reading (iterative process) of the included studies by the two reviewers to identify key emerging themes [14,19].

Results

Search outcome

Of 2627 articles initially identified from seven databases using different keywords, 2001 proved irrelevant (not related to adolescents' health-seeking behaviour) after the titles were examined and 333 articles were duplicates. Abstracts of the remaining 293 articles were then screened using the inclusion criteria. When it was not clear from the abstract whether a study met them, the full-text article was read. Of these, 283 were excluded (did not meet the inclusion criteria) and 10 articles met the eligibility criteria. Related citations and reference lists of all relevant articles were checked, and two further articles were retrieved.

Description of the studies

Of the 12 studies that met the criteria for inclusion (Figure 1), 11 were quantitative and one combined both

Table 1 Characteristics of the included studies

Authors, year of publication	Study design	Data collection	Sample	Type of study	Outcome measured
Kamal *et al.* 2013 [23]	Survey	Bangladesh Demographic and Health survey (DHS) data, 2007	*N* = 4905 women of reproductive age. Among them, 1330 women are aged 15–19 years	Quantitative	Factors affect use and timing of ANC services
Kamal 2013 [22]	Survey	Bangladesh Demographic and Health survey data, 2007	*N* = 6058 births among women aged 15–49 years. Among them, 2011 women are aged between 15 and 19 years	Quantitative	Factors associated with place and mode of delivery
Godha *et al.* 2013 [15]	Survey	Demographic and Health Survey for Bangladesh 2007, India 2005–2006, Nepal 2006 and Pakistan 2006–2007	Women aged 20–24 years. Bangladesh *N* = 2129 India *N* = 14 628 Nepal *N* = 1658 Pakistan *N* = 1546	Quantitative	Association between child marriage, fertility and maternal health outcomes
Edmonds *et al.* 2012 [12]	Retrospective cross-sectional study	In-depth interviews with women for qualitative part and then structure questionnaire for quantitative part	Women aged 18–49 years. *N* = 25 women for qualitative study *N* = 246 women for quantitative study	Qualitative and quantitative	Determinants of place of delivery and delivery assistance
Haque *et al.* 2011 [18]	Survey	Bangladesh Demographic and Health Survey data, 2007	*N* = 1778 young women (15-24 years)	Quantitative	Association between women's autonomy and use of ANC and delivery assistance
Rahman *et al.* 2011 [34]	Survey	Bangladesh Demographic and Health Survey data, 2007	*N* = 2376 young women (15-24 years)	Quantitative	Determinants of post-partum care
Rahman *et al.* 2011 [33]	Survey	Bangladesh Demographic and Health Survey data, 2007	*N* = 580 adolescent women aged 15–19 years	Quantitative	Factors associated with post-partum care for non-institutional births
Rahman 2009 [32]	Survey	Bangladesh Demographic and Health Survey data, 2004	*N* = 867 births among women aged 15-19 years	Quantitative	Factors associated with modes of delivery assistance
Kamal 2009 [21]	Survey	Bangladesh Demographic and Health Survey data, 2004	*N* = 1728 women aged 15–19 years	Quantitative	Factors associated with the use of ANC, place of delivery and delivery assistance
Haque 2008 [17]	Survey	Bangladesh Demographic and Health Survey data, 2004	Women aged 15–19 years. *N* = 891 women *N* = 776 women for analysing use of PNC services	Quantitative	Individual characteristics associated with the use of ANC, place of delivery, assistance at delivery and PNC services
Reynolds *et al.* 2006 [35]	Survey	Demographic and Health Survey data from 15 developing countries including Bangladesh DHS 1996–1997	*N* = 2537 young women (15–23 years) for Bangladesh	Quantitative	Use of ANC, delivery care and infant immunisation among adolescent and adults
Chakraborty *et al.* 2003 [8]	Survey	Bangladesh Institute of Research for Promotion of Essential and Reproductive Health and Technologies (BIRPERHT) Survey data	*N* = 993 women of reproductive age including 329 women aged <20 years	Quantitative	Factors associated with use of health services during antepartum morbidities

Sample size varies depending on the objectives of the study although several studies used the same year's BDHS data set.

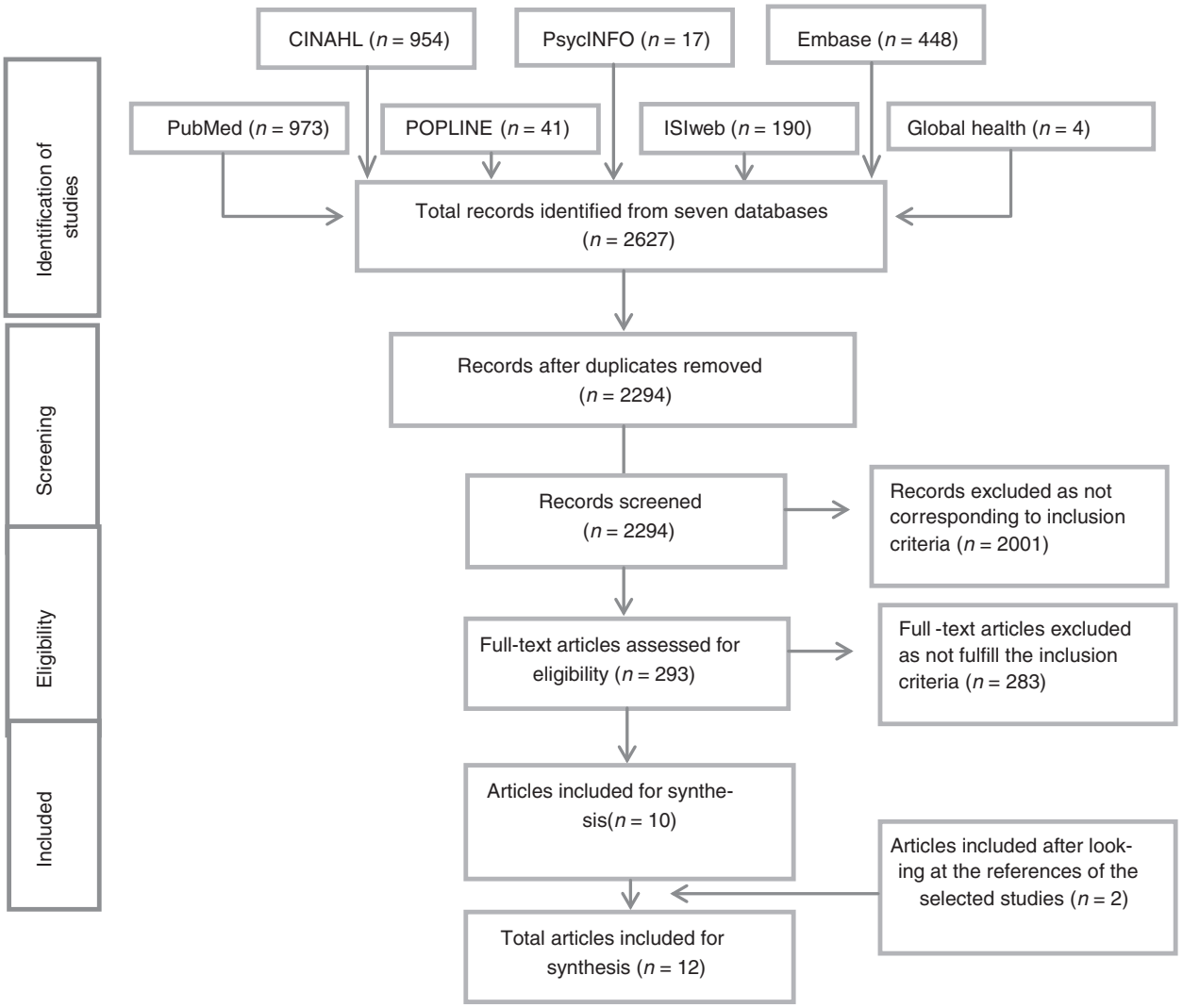

Figure 1 Flow diagram of study selection process.

quantitative and qualitative methods (Table 1). Ten analysed secondary data from demographic and health surveys (DHS), one analysed secondary data from another national survey, and only one was a primary study (used a mix of qualitative and quantitative methods). Two studies focused on several countries including Bangladesh. Four themes on the utilisation of maternal health services of Bangladeshi adolescents emerged: use of antenatal care (ANC), place of delivery, assistance at delivery and use of post-natal care. Marriage is considered the cultural norm in Bangladesh context, and there is no official record of pregnancy of unmarried women [37]. Thus, all studies in this review considered only married adolescent women.

Utilisation of maternal health services

Use of antenatal care. Seven studies described the determinants associated with the utilisation of ANC among adolescent women (Table 1). Women's education appeared to be the key determinant of receiving ANC services. A study with a sample of 1728 participants showed that adolescent women with secondary or higher education and women with primary education were, respectively, 2.2 times and 1.4 times more likely to receive ANC services from a skilled provider than women with no education [21]. Adolescent women residing in urban areas were almost twice as likely to receive ANC than those residing in rural areas [21]. The use of

antenatal care by adolescent women belonging to households of the highest wealth quintile was 12% higher than the use by adolescent women belonging to households of the lowest quintile [17]. A previous experience of childbirth negatively affects the use of ANC services [18]. Adolescent women who had previous experiences of childbirth were almost 28% less likely to receive ANC services than those who experienced childbirth for the first time [21].

The number of antenatal visits made by women married before they turned 18 was 14.5% lower than for women married at over 18 years of age [15]. Adolescents aged 18 or younger were significantly less likely to use ANC than women aged 19–23 years [35]. Being an adolescent no longer had a significant impact on receiving ANC, but adolescent women were more likely to seek ANC services later (at the fourth month or later) than adults [23].

Only one study described the effect of women's autonomy on the use of ANC. Adolescent mothers who had high overall autonomy were 1.92 times more likely to receive sufficient ANC as mothers who had low overall autonomy [18]. Autonomy was defined by four elements, namely economic decision-making power, health and family planning decision-making power, extent of free movement and women's attitude towards partner's violence.

Place of delivery. Five studies assessed the use of medical facilities for childbirth. One study (n = 867) showed that 93% of deliveries of adolescents took place at home and almost 80% of these are attended by untrained traditional birth attendants, relatives or neighbours [32]. In three of these five studies, women's education appeared to be a key determinant of institutional deliveries. Adolescent women with primary and higher primary level of education were, respectively, 1.87 times and 3.43 times more likely to give birth in a health facility than those without education [17]. Urban women were 2.1 times more likely to deliver in a health facility than rural women.

Hindu and Christian adolescent women were on average 52% more likely to deliver their child in a health facility than Muslim women, and adolescent women who had previous experiences of childbirth were 63% less likely to use a health facility than primiparae [21].

Three studies showed that adolescent women were less likely to seek delivery services in a health facility than older women [12,15,22]. ANC-seeking behaviour was a strong predictor of institutional delivery. Adolescent women who sought skilled ANC were 4.4 times more likely use a health facility for their childbirth than women who had not received any skilled ANC [22].

Assistance at delivery. Seven studies described the use of skilled birth attendants (SBAs). Urban adolescent women were almost twice as likely to seek the assistance of SBA during childbirth than rural women [21]. The use of services from a SBA for child delivery increases with the education level of women. Adolescent women with secondary and above education and women who had primary education were, respectively, 2.2 times and 1.5 times more likely to seek the assistance of SBAs than those who had no education [21].

Use of adequate ANC services, residence in urban areas, exposure to mass media, wanting a last child and having a husband with higher education appeared to be positively associated (for adolescent women) with seeking assistance from SBAs during childbirth [17,21,32]. Two studies found that age at marriage has an effect on the use of SBA for childbirth [12,15]. Reynolds, Wong, and Tucker [35] showed that adolescents aged 16 or younger were less likely to use any health care than older women in Bangladesh. Adolescent women who had received adequate ANC services were 1.17 times more likely to be assisted by SBAs during childbirth than women who had not received adequate ANC [32].

The likelihood of seeking assistance from SBAs decreased by 61% among adolescent women with previous experiences of childbirth compared to those with first-time childbirth experiences. In comparison with adolescents who were poor, adolescents from rich and middle-class families were 3.6 times and 1.8 times more likely to use these services, respectively. Adolescent women who had informed their family members or husband of their pregnancy complications were 1.5 times more likely to seek assistance from SBAs than those who had not informed them [32]. Young women who had decision-making power over their mobility and the distribution of economic resources in the family were 1.3 times more likely to seek trained birth attendant care during their childbirth [18].

Use of post-natal care. Only two studies focused on the use of post-natal care (PNC). One study found that only one-third of adolescent women in Bangladesh received post-natal care [33,34]. A higher level of maternal education and belonging to the richest wealth quintiles were associated with skilled post-natal care within 24 h of birth [18] for adolescent women. Mother's age at delivery was found to be a significant determinant of using PNC services. Women who delivered their child at an age over 19 years were 1.6 times more likely to use PNC services than women who had delivered their child by the age of 19.

Use of sufficient (at least 4 ANC visits) ANC and assisted childbirth by a SBA were significantly associated with the use of skilled PNC. Another study found that young women who had made sufficient use of ANC were 4.8 times more likely to use PNC services within 24 h of childbirth than those who did not receive sufficient ANC and that women who had a facility delivery were 6.3 times more likely to use PNC services than those who delivered their child at home [18].

Discussion

Our review indicates that home deliveries by traditional birth attendants are still common among adolescent women in Bangladesh. Post-natal care by a skilled qualified provider within the most critical period (within 48 h after delivery) is comparatively rare for rural adolescent women [33,34].

Several issues emerged explaining the utilisation patterns of adolescents' maternal health services. Most studies found that women's education is the key factor explaining the use of ANC, delivery at the health facility by a qualified attendant and use of post-natal care services, and a net of other socio-demographic factors, which is consistent with the findings of other studies in LIC [3,26]. Women with higher education are more likely to have knowledge of the benefits of the use of skilled maternal health services and the required empowerment to seek care.

Studies included in this review only captured married adolescents, which indicate the prevailing problem of child marriage in Bangladesh. In particular, in rural areas and in urban slums, the practice of arranging child marriages remains common. This threatens the continuation of girls' education and their opportunities of gaining knowledge about skilled maternal health services [6]. Lack of education also increases the chances of unemployment, which leads to less decision-making autonomy (in distribution of financial resources and mobility) of a woman. Women with higher decision-making autonomy are more likely to have a higher number of ANC consultations and skilled birth attendance. This helps them to ensure better health for them and their child [44]. Rural women are less empowered than urban ones because they are mostly poor and have less access to formal education and employment, which ultimately affects their decision-making autonomy towards better health care [2].

The inequity in the use of maternal health services is worrying among the under 19 age group. Although adolescent women have a greater need for health services, they consult healthcare providers less. The situation is even worse among rural adolescents because rural areas have fewer health facilities.

The use of maternal health services is considered a complex behavioural phenomenon [8]. Healthcare services are related to the availability of services, quality of services, cost of services, health beliefs and personal characteristics of the users as well as social structure and custom [11,32,36]. Issues related to the impact of accessibility and quality of health services to receive adequate and skilled maternal health services were not well captured in the included studies; hence, there is a room for further research.

Social and cultural beliefs and practices regarding pregnancy and childbirth have a significant influence on maternal health [10,16]. For example, in the context of Bangladesh, pregnancy is considered as a normal event unless complications arise and care during pregnancy and childbirth is offered by female members of the household [10]. In sub-Saharan Africa and South Asia, religion is often considered as a marker of cultural background to influence beliefs, norms and values in the use of skilled maternal health services [27,28]. Beliefs (i.e. birth is a test of endurance or care-seeking a sign of weakness) and cultural requirements of seclusion influence a woman not receiving adequate ANC and home delivery [28,42]. None of the selected articles in this review explained the socio-cultural and religious (Islam, Hinduism) aspects of the healthcare-seeking behaviour, which might influence the use of maternal healthcare services among Bangladeshi adolescents. Further investigations are needed in this area.

The high prevalence of home delivery requires further investigation. None of the studies mentioned the cost as a barrier to skilled maternal care, although in developing countries the cost of accessing care (travel cost, cost of health providers, equipment cost, etc.) has been established as an important determinant of ANC use and facility delivery [30]. It is unclear why adolescent women seek ANC later than adult women, and none of the selected articles mentioned family planning methods (i.e. in post-natal care). Research is required in these areas as well.

Only one of the 12 studies used a mixed-methods approach. There is a need for more qualitative and mixed-methods research to explore the behavioural phenomena of adolescent women towards the use of maternal health services in Bangladesh.

We came across a few contradictory findings. While one study revealed that women's age at birth affects the use of ANC [35], another study found that women's age at birth no longer affects the use of ANC service [23]. One study found that adolescent women are less likely to use ANC services than adults, whereas another study

found that adolescent women are more likely to do so. One reason of this difference might be the use of different data sets. The study by Reynolds used the BDHS 1996–1997 data set, and the study by Kamal used the BDHS 2007 data set. An increased rate of youth literacy (about 32% during last two decades) and improved availability and access of maternal health services since 1990 in Bangladesh may influence the increased rate of ANC use among adolescent women in recent years [13].

A limitation of this review is its findings could only be generalised to countries where marriage in the norm and no official records of pregnancy among unmarried adolescent women are available.

Conclusion

Education appears to be the most important factor in the use of skilled maternal health services among married adolescent women in Bangladesh. Receiving adequate ANC during pregnancy is important to motivate and to encourage the women towards their childbirths in health facilities. Married adolescent women living in rural areas are less likely to use skilled maternal health services than those residing in urban areas. Maternal health-related programmes should be designed in Bangladesh targeting rural and uneducated married adolescent women to ensure equity of using skilled maternal health services. More qualitative and mixed-methods research is needed to broaden our knowledge of healthcare-seeking behaviour among married and unmarried adolescent women in Bangladesh.

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