


REVIEW ARTICLE OPEN ACCESS

Prevalence of Premarital Sex in Bangladesh: A Systematic Review and Meta-Analysis

Tonmoy Alam Shuvo¹  | Kabir Hossain¹ | Dipu Rani Dey² | Asma Ul Hosna¹¹Department of Statistics, Noakhali Science and Technology University, Noakhali, Bangladesh | ²Department of Pharmacy, Noakhali Science and Technology University, Noakhali, Bangladesh**Correspondence:** Tonmoy Alam Shuvo (tonmoyalamshuvo@gmail.com)**Received:** 26 November 2024 | **Revised:** 15 February 2025 | **Accepted:** 1 April 2025**Funding:** The authors received no specific funding for this work.**Keywords:** Bangladesh | intercourse | premarital | prevalence | sexual

ABSTRACT

Introduction: Premarital sex in Bangladesh is a sensitive and culturally complex topic influenced by social, religious, and traditional norms. This study aimed to find the pooled prevalence of premarital sex in Bangladesh.

Methods: We comprehensively searched multiple electronic databases and carefully selected 11 studies for inclusion in the analysis. We used a random-effects model to estimate the pooled prevalence of premarital sex in Bangladesh, assessing heterogeneity with the *Q*-test and *I*² statistic. Subgroup analyses, meta-regression, and sensitivity analysis were performed to explore sources of heterogeneity and assess the robustness of the test results. Publication bias was evaluated using Egger's test and funnel plots. All analyses were performed using STATA 17.

Results: The estimated pooled prevalence of premarital sex in Bangladesh was 31.87% (95% CI: 18.55–45.18). Males showed a higher prevalence at 37.75%, whereas younger individuals (≤ 19 years) had a prevalence of 10.29%. The prevalence increased with age, reaching 39.71% for those aged 15 and older and 43.98% for those aged 18 and above. Regarding partner types, most premarital sex occurred with boyfriends or girlfriends (39.87%), followed by commercial sex workers (16.70%), relatives or cousins (18.09%), and teachers or house tutors (5.97%).

Conclusion: This study reveals a significant prevalence of premarital sex in Bangladesh, with higher rates among males and older individuals. Culturally relevant sexual education and community support can promote responsible behavior and improve reproductive health awareness in Bangladesh. This approach helps reduce stigma and empowers young individuals to make informed decisions.

1 | Introduction

Humans have an inherent instinct for sex. A sexual relationship refers to a connection between two individuals that encompasses sexual closeness or intimacy [1]. Anyone under the age of 18 is deemed a child and is incapable of making decisions on marriage or giving consent to a sexual relationship, according to the Universal Declaration of Human Rights [2]. Sexual health, as

defined by the World Health Organization (WHO), is a condition of physical, mental, and social well-being about sexuality [3]. In addition to enabling safe and enjoyable sexual experiences free from force, bias, and harm, it also involves fostering a positive and respectful view of sexuality and sexual relationships [4]. Penetrative vaginal or sexual contact between partners before marriage is known as premarital sex [5]. Premarital sex, which is defined as voluntary sexual contact between unmarried individuals, is

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2025 The Author(s). *Public Health Challenges* published by John Wiley & Sons Ltd.

on the rise globally [6]. Premarital sexual activity is observed among 40% of individuals aged 15–19 and rises to 75% among those aged 20–24 [7]. Factors associated with premarital sex include drug use, such as alcohol consumption and khat chewing, and exposure to sexually explicit content [8, 9]. Seeking financial or academic support from boyfriends and permissive attitudes from partners are also contributing factors [10]. Additionally, living arrangements, such as boarding, educational level, and open discussions about sexuality, can influence the likelihood of premarital sexual activity [11].

Premarital sexual activity among adolescents is rising globally, and Bangladesh appears to be following this trend, as both past and recent studies confirm its increasing prevalence [12]. In Bangladesh, a higher proportion of male students who watch pornography have engaged in premarital intercourse compared to their female counterparts [13]. Notably, three out of four female students who watch pornography are also involved in premarital intercourse in Bangladesh. Among students who have engaged in premarital intercourse with their boyfriends or girlfriends, 43% express a willingness to marry their partners. In contrast, among couples who have not had premarital intercourse, only 30% are inclined to marry their partners [13]. There is a significant gender disparity in premarital sex, with unmarried men being five times more likely to engage in premarital sex (16%) compared to unmarried women (3%) [14]. Premarital sexual relationships in Bangladesh are generally considered taboo due to cultural and religious norms. However, attitudes have gradually shifted among certain segments of the population, particularly among adolescents and young adults in urban areas. Factors such as peer pressure, exposure to media, and changing social dynamics have contributed to a rise in premarital sexual activity, although it remains a sensitive and often controversial issue. Societal expectations and family values still strongly discourage premarital relationships, and those who engage in such behavior often face social stigma or backlash. The main objective of this study was to determine the prevalence of premarital sex in Bangladesh through a systematic review and meta-analysis.

2 | Methods

2.1 | Inclusion Criteria

Studies were included in the analysis if they reported the prevalence of premarital sex in Bangladesh and involved participants from any age group and profession. The studies provided sufficient data to calculate the prevalence of premarital sex. Both cross-sectional and other non-interventional study designs were considered. Only studies published in English with accessible full texts were included.

2.2 | Exclusion Criteria

Studies were excluded if they did not report the prevalence of premarital sex in Bangladesh or lacked the necessary data to calculate it. Studies with insufficient or unclear information, such as vague details on study periods, sample sizes, or sampling methods, were excluded. Case reports, editorial comments, interventional research, and letters to the editor were not included.

Studies without accessible full texts and those available only as preprints (not peer-reviewed) were also excluded.

2.3 | Data Sources and Search Strategy

A comprehensive search was conducted across multiple databases, including MEDLINE/PubMed, Google Scholar, Bangladesh Journals Online, EMBASE, Web of Science, and the reference lists of prior studies, to identify research on the prevalence of premarital sex in Bangladesh. Various combinations of keywords were utilized, and Boolean operators “OR” and “AND” were applied during the advanced search process. The detailed search strategies can be found in the [Supporting Information](#) section.

2.4 | Data Extraction

All selected studies were cross-sectional. From each included study, we extracted the author’s name, publication year, study period, age range, sample size, male prevalence of premarital sex, overall prevalence of premarital sex, and prevalence of sexual partners. Key characteristics of the extracted studies are presented in Table 1.

2.5 | Evaluation of Study Quality

The Joanna Briggs Institute (JBI) critical appraisal checklist was used to evaluate the methodological quality of studies that reported prevalence data [25]. This checklist includes nine questions organized into three domains. A study was rated as high quality if its methodology met the standards across all three domains.

2.6 | Statistical Analysis

To estimate the pooled prevalence, we used a restricted maximum likelihood (REML) random-effects model [26]. The meta-analysis summary provided the overall pooled prevalence, 95% confidence intervals, and heterogeneity statistics. Between-study heterogeneity was assessed using the Q -test and I^2 statistic at a 5% significance level [27]. Subgroup analyses were conducted to explore possible sources of substantial heterogeneity. We evaluated publication bias through Egger’s test and a funnel plot [28]. Meta-regression was used to identify potential sources of heterogeneity, and sensitivity analysis was conducted to assess the robustness of the results. Findings from the meta-analysis were presented in forest plots or tables. All analyses were conducted in STATA 17.

3 | Results

3.1 | Literature Search

A total of 856 articles were identified during the initial search. After removing duplicates, 533 articles remained. Screening of titles and abstracts resulted in the exclusion of 389 articles due to

TABLE 1 | Characteristics of the included studies.

Author	Study year	Sample size	Age	Male prevalence (%)	Overall prevalence (%)	Commercial sex worker (%)	Boyfriend/Girlfriend (%)	Cousin/Relatives (%)	Teacher/House tutors (%)
Md. Akter Hossen et al. (2020) [13]	2020	610	18–26	36.00	30.00	19.00	58.47	18.33	9.00
Ubaidur Rob et al. (2001) [15]	2001	2626	≤19	8.70	5.00	17.70	32.30	16.10	—
A. I. Mahbub et al. (2012) [16]	2010	238	10–49	—	41.60	23.40	29.14	20.80	2.94
Nan Li et al. (2010) [17]	2004	1048	15–19	12.80	12.80	—	—	—	—
ICDDR, B et al. (2007) [18]	2005	7122	18–49	18.00	18.00	10.00	—	—	—
Nan Li et al. (2008) [19]	2004	586	15–19	13.40	13.40	—	—	—	—
Sarah Hawkes et al. (2002) [20]	2002	1520	15–50	55.90	26.32	—	—	—	—
T. Roy et al. (2010) [21]	2007	437	18–35	84.00	84.00	—	—	—	—
Jay G Silverman et al. (2007) [22]	2004	3096	15–55	53.52	53.52	—	—	—	—
M. A. Kabir et al. (2012) [23]	2007	3771	15–54	41.50	41.50	—	—	—	—
S. M. Mostafa Kamal et al. (2011) [24]	2004	2165	15–54	24.80	24.80	—	—	—	—

Note: “—” indicates that the studies did not contain the information.

irrelevance, leaving 144 for full-text review. Of these, nine articles were inaccessible. A thorough assessment of the remaining 135 articles led to the exclusion of 124 that did not meet the validity criteria. Ultimately, 11 articles satisfied the inclusion criteria and were selected for data extraction. The article selection process is illustrated in the PRISMA flow diagram (Figure 1), and the PRISMA checklist is available in the [Supporting Information](#) section.

3.2 | The Pooled Prevalence

The pooled prevalence of premarital sex in Bangladesh was estimated at 31.87%, on the basis of data from 11 studies involving 23,219 individuals. The 95% confidence interval for this prevalence estimate ranged from 18.55% to 45.18%, indicating a broad variation in the data. A forest plot illustrating the pooled prevalence is shown in Figure 2. Our analysis revealed significant heterogeneity across the studies included in the meta-analysis. The heterogeneity measure, I^2 , was calculated to be 99.86%, indicating a high degree of variation between the studies. The Q statistic for heterogeneity was $\chi^2(10) = 4910.39$, with a p value of 0.00. This suggested that the variation in the prevalence estimates was statistically significant. The high I^2 value indicated that the differences observed were likely due to factors other than random chance. Possible reasons for this heterogeneity included variations in study design, sampling methods, or population

characteristics. Cultural, social, and economic factors may also have played a role in influencing the prevalence of premarital sex.

The wide confidence interval reflected the variability in the data, suggesting that the true prevalence might have varied significantly. Such variation underscored the challenges in obtaining a precise estimate of premarital sex prevalence in the country. The findings highlighted that a significant proportion of individuals in Bangladesh engaged in premarital sex, indicating changing social norms. This shift suggested that traditional cultural values around premarital sex may have been evolving, with greater acceptance in some segments of society. The broad confidence interval also suggested that different regions and communities may have exhibited varying levels of acceptance toward premarital sex.

3.3 | Subgroup Analysis

The pooled prevalence of premarital sex in Bangladesh, categorized by gender, age, and type of sex partner, varied across different groups (Table 2). Among males, the prevalence was 37.75%, with a confidence interval ranging from 22.24% to 53.25% (Figure S1). Regarding sex partners, the prevalence varied significantly. Premarital sex with commercial sex workers had a pooled prevalence of 16.70%, with a confidence interval ranging

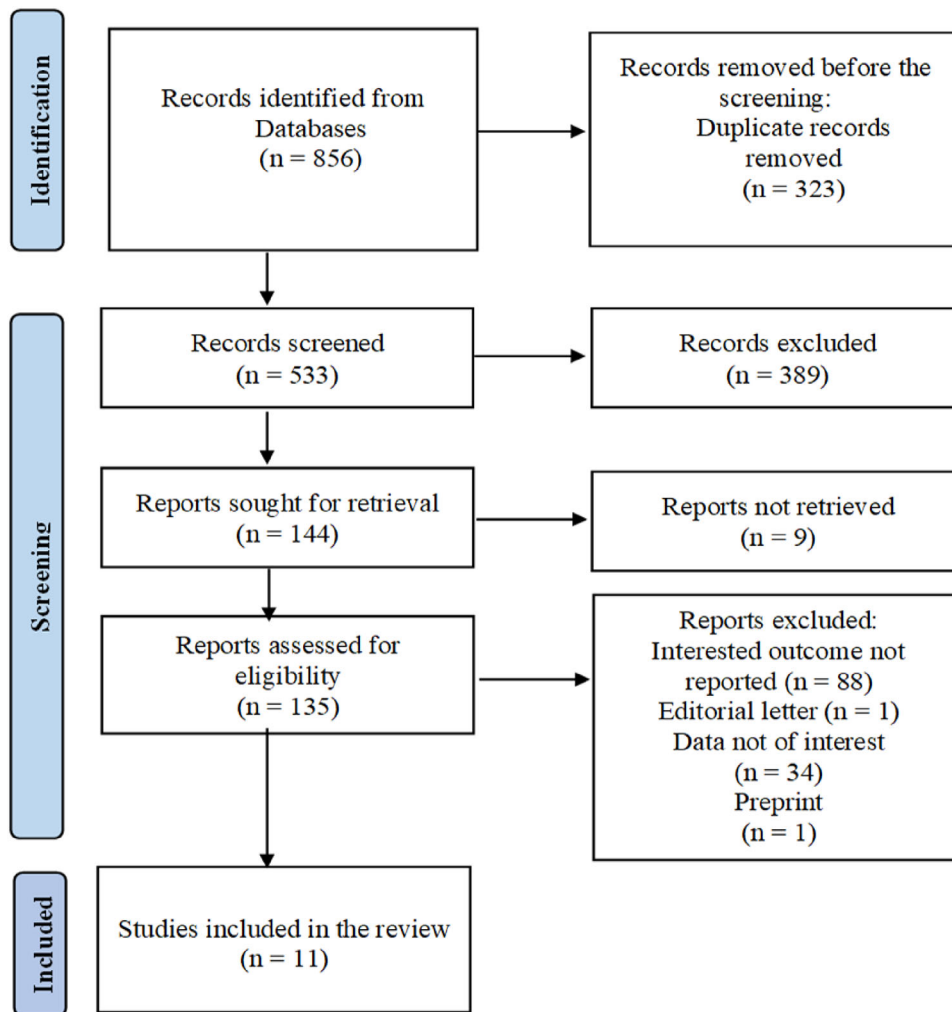


FIGURE 1 | PRISMA diagram.

from 10.80% to 22.59% (Figure S2). Those engaging in premarital sex with a boyfriend or girlfriend had a much higher pooled prevalence of 39.87%, with a confidence interval between 21.76% and 57.98% (Figure S3). In contrast, the prevalence of premarital sex with relatives or cousins was 18.09%, with a 95% confidence interval of 14.38% to 21.81% (Figure S4). The lowest prevalence was observed among individuals involved with teachers or house tutors, with a pooled prevalence of 5.97% and a confidence interval ranging from 0.03% to 11.91% (Figure S5). Among those aged 18 and above, the prevalence increased to 43.98%, with a wide confidence interval of 4.20% to 83.76% (Figure S6). The pooled prevalence for individuals aged 15 and older was 39.71%, with the confidence interval spanning from 22.84% to 56.59% (Figure S7). In the age group of 19 or younger, the prevalence was 10.29%, with a confidence interval of 4.89% to 15.69% (Figure S8). The wide confidence intervals observed in the subgroup analyses indicated significant uncertainty around the estimates for certain subgroups. For example, the age group ≥ 18 showed an exceptionally broad confidence interval (4.20%–83.76%), suggesting a high level of variability in the pooled prevalence for this category. This may have been due to differences in study design, sample size, or underlying population characteristics. A similar pattern was seen with the male subgroup, where the confidence interval ranged from 22.24% to 53.25%. Additionally, categories such as the

sex partner group, specifically commercial sex workers, showed variability (10.80%–22.59%). Such wide intervals reflected either a lack of data or the heterogeneity within the studies included. The teacher/house tutor category also exhibited a broad range (0.03%–11.91%), which may have signaled limited data or small sample sizes. These wide intervals suggested that more targeted and larger studies were necessary to reduce uncertainty and increase the precision of the estimates.

3.4 | Meta-Regression

The random-effects meta-regression analysis showed that male prevalence significantly positively affected the overall prevalence of premarital sex in Bangladesh (coefficient = 0.897, $p < 0.0001$), indicating a strong relationship. However, sample size and study year were insignificant predictors of the prevalence ($p > 0.05$). The model explained 90.14% of the variation in prevalence.

3.5 | Publication Bias

The results of Egger's test for premarital sex prevalence yielded a p value of 0.202, suggesting no evidence of publication bias

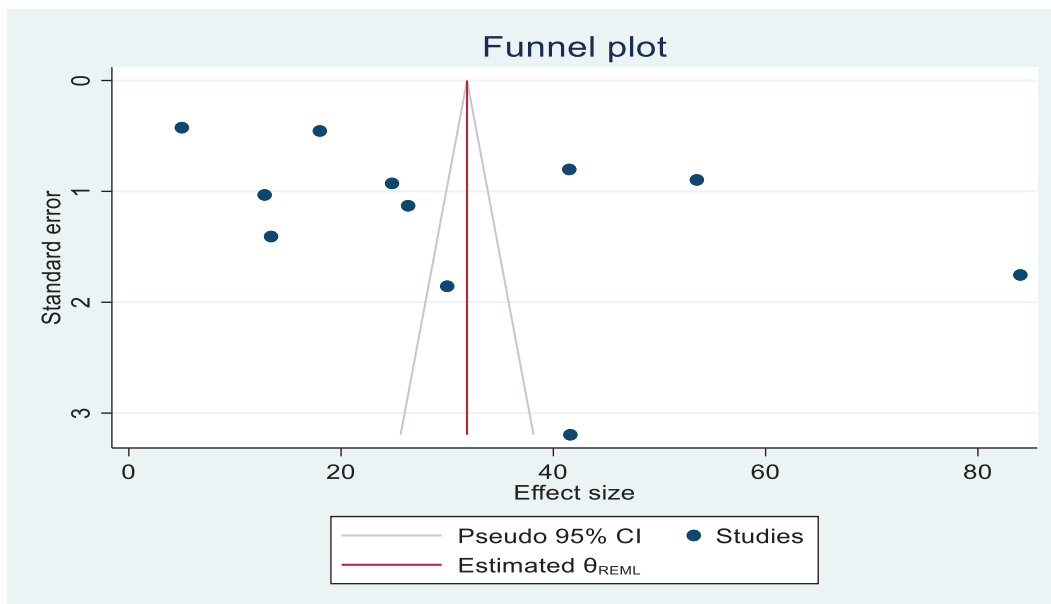
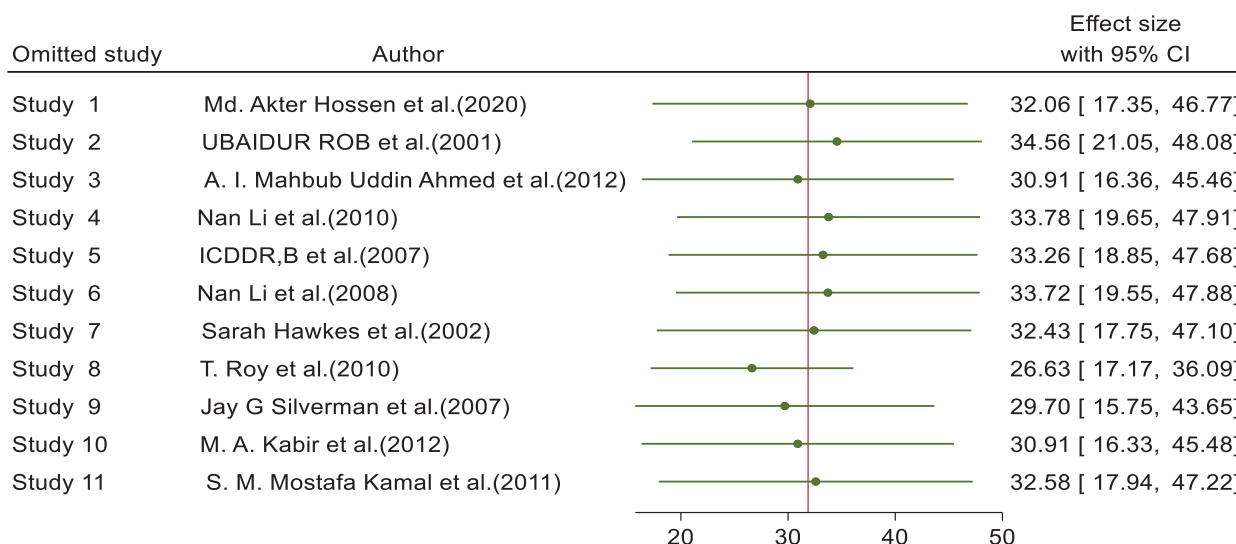


FIGURE 3 | Funnel plot.



Random-effects REML model

FIGURE 4 | Sensitivity analysis plot.

designs that adhered to rigorous research standards. The studies showed minimal risk of bias, which reduced the likelihood of systematic errors influencing the results. This combination of strong research design and low risk of bias ensured the reliability of the findings. The methodological rigor of each study contributed to the credibility of the conclusions drawn. As a result, the findings were considered trustworthy, and the overall outcomes were deemed valid. These factors collectively reinforced the robustness of the results.

4 | Discussion

Premarital sex is less common in Asia compared to developed countries [30]. In South Asian societies, young people's sexuality

is often stigmatized, as premarital sex is neither culturally nor socially accepted [31]. Premarital sex in Bangladesh is a sensitive topic due to cultural, religious, and social norms. In Bangladesh, premarital sex is infrequent [32]. Although many studies have been conducted on young men and women worldwide, only a few have focused on Bangladesh, likely due to the influence of its conservative Muslim society. Premarital intercourse is observed in various Asian cultures, including Bangladesh, suggesting a transition from traditional norms to a more permissive outlook [13]. A recent study spanning three generations found that respondents from the middle and present generations acknowledged premarital sex within their age groups. In contrast, the older generation denied its occurrence during their youth in Bangladesh [33]. This systematic review and meta-analysis explored the prevalence of premarital sexual relationships in

Bangladesh, highlighting variations by gender, age, and partner type. The estimated pooled prevalence was found to be 31.87%.

A study of 610 students at a public university in Bangladesh found a slightly lower prevalence of premarital sex (30%), with males exhibiting a higher prevalence (36%). Similarly, the same investigation found that the most common partners for sexual activity were boyfriends (58%) or girlfriends (60%), sex workers (19%), relatives or cousins (18%), and teachers (9%) [13]. In a separate study of 3771 male Bangladeshis aged 15–54, the prevalence of premarital sex was 41.50%, which is slightly higher than our findings [27]. Our findings are in parallel with a previous study that found a much lower prevalence of 5% among urban adolescents in Bangladesh, with the most common partners for sexual activity being sex workers (17.7%), relatives or cousins (16.10%), and boyfriends or girlfriends (32.30%) [19]. The prevalence of premarital sex experience was found at 21.6% in Bangladesh, with partner types displaying slightly higher rates for sex workers (23.40%) and relatives or cousins (20.80%) and lower rates for boyfriends or girlfriends (29.14%) than our results [20].

A meta-analysis in Ethiopia, encompassing 32 studies with a total of 18,354 participants, found a pooled prevalence of premarital sex among youth to be 33.59% [34], whereas a study in Iran reported a lower overall prevalence of 24%, with a higher rate among males (33%) and lower rates among females (14%) [35]. Furthermore, in the Philippines, a significant increase in the prevalence of premarital sex was observed between 1993 and 2003, rising from 2.6% to 7.1%, whereas in Kenya, the prevalence declined over the same period from 51.3% to 44% [36]. Similarly, in Nepal, a study of 573 male college students found that 39% of them reported having premarital sex, with a significant portion involving commercial sex workers [37]. The findings of this study also align with a baseline study conducted among adolescent students in Chitwan, Nepal, where the prevalence of premarital sex was 18.32%, with the rate increasing with age and being higher among boys (25.8%) as opposed to girls (9.2%) [38]. A cross-sectional study of 324 health science students at Madawalabu University in Ethiopia found that 42.7% had engaged in premarital sex [11]. In Gujarat, India, a survey of 450 male undergraduate students aged 18–24 found that 13.78% had premarital sex, mostly with girlfriends (95.16%), commercial sex workers (14.5%), homosexual partners (6.45%), and multiple partners (33.88%) [39]. A cross-sectional study of 2400 men aged 16–45 in six Pakistani cities found that 16% reported premarital sex [40]. Among 2722 college students in Luzhou, China, 22.42% had engaged in premarital sex [41]. A study using data from the National Survey of Family Growth (1982–2002) in the United States found that 75% of respondents had premarital sex by age 20 [42]. In a study of 223 high-risk Indonesian adolescents, including street children and scavengers aged 10–21, 16.6% reported premarital sex [43].

In Bangladesh, premarital sexual relationships are heavily stigmatized due to deep-rooted cultural, religious, and societal norms. The concept of honor plays a significant role, particularly concerning women, where virginity and chastity are highly valued. Traditional beliefs emphasize modesty, and engaging in premarital sex is viewed as a violation of these values, making it morally and socially unacceptable. The pressure to conform to these expectations often results in individuals, especially women, facing social ostracism, family disapproval, and reputational dam-

age. Women, in particular, are subjected to harsher judgment, as their behavior is perceived as a reflection of their family's honor. In many rural areas, these cultural standards are more strictly enforced, with any deviation from traditional norms leading to severe consequences. The notion of shame attached to premarital sex often restricts individuals from openly discussing or exploring their sexual identities. However, in urban centers, there has been a slight shift in attitudes, especially among the younger generation, who are exposed to global perspectives and ideas. Despite this, the overarching societal pressure remains a strong deterrent for many individuals contemplating premarital sexual relationships. Premarital and extramarital relationships among slum dwellers in Dhaka City have become an increasingly concerning issue [44]. The stigma surrounding premarital sex is perpetuated through various channels, including family, religious institutions, and the media, reinforcing the idea that it is an immoral act. The fear of judgment and the repercussions that follow often lead to secrecy, further reinforcing the negative perceptions surrounding premarital sexual activity. Although attitudes toward premarital sex are slowly evolving, the stigma remains a significant force in shaping social behavior and expectations in Bangladesh. The tension between traditional values and modern influences continues to create a complex landscape for individuals navigating their personal choices in a society deeply rooted in cultural norms.

Delivering sexual health education in a culturally conservative society requires a sensitive and context-specific approach. Integrating sexual health topics into broader discussions on health, family values, and responsible decision-making can make the content more acceptable. Using trained educators who understand cultural sensitivities can help facilitate discussions in a respectful and informative manner. Community leaders and religious institutions play a crucial role in shaping societal attitudes. They can be engaged to promote discussions on health, morality, and responsible behavior within a framework that aligns with cultural and religious values. Involving parents through workshops and counseling sessions can also encourage open conversations at home. Schools can collaborate with healthcare professionals to provide students with confidential counseling and access to reliable health information.

Additionally, media campaigns using culturally appropriate messaging can raise awareness. Interactive methods such as storytelling, role-playing, and discussions can make learning more engaging and acceptable. Encouraging peer-led education can also foster a comfortable environment where young individuals feel safe discussing sensitive topics. Engaging educators, parents, religious leaders, and healthcare professionals can help integrate sexual health education into society in a culturally respectful and sensitive manner.

This systematic review and meta-analysis offered several advantages in understanding premarital sex prevalence in Bangladesh. It provided a comprehensive view of premarital sexual behavior across diverse demographic groups, integrating data from multiple studies to present a clearer picture of prevalence trends. By including gender-specific prevalence estimates, the analysis highlighted important differences. Furthermore, the study examined prevalence on the basis of various partner types, such as relationships with boyfriends/girlfriends, commercial sex workers,

and others, which enriched the understanding of the contexts in which premarital sexual relationships occurred. This detailed approach allowed for a more nuanced interpretation of sexual behaviors, considering the different social and cultural factors influencing these relationships. By drawing on a range of data, the study provided a more robust foundation for understanding premarital sex prevalence, contributing to ongoing discussions about sexual health and social norms in Bangladesh.

A key limitation of this study was the potential heterogeneity among the included studies, which may have affected the accuracy of the pooled prevalence estimates. The variation in study designs and measurement tools across studies could have led to inconsistencies in the results, making it difficult to draw precise conclusions. Additionally, the absence of protocol registration weakened the study's transparency, as there was no formal documentation to guide the research process and ensure its reproducibility. Another limitation was the reliance on self-reported data, which could have been inconsistent or inaccurate due to social desirability bias. Respondents may have underreported or misreported premarital sexual activity, impacting the reliability of the findings. The stigma around premarital sex in Bangladesh leads to underreporting, as individuals fear social judgment and repercussions. Cultural norms and interviewer presence often influence responses, making self-reported data less reliable. Moreover, the lack of data from both rural and urban areas limited the study's ability to provide a comprehensive view of premarital sex prevalence across the entire country, as rural and urban populations may exhibit different patterns. These combined factors, including heterogeneity, absence of protocol registration, reliance on self-reported data, and lack of geographical representation, may have compromised the validity of the study. Addressing these limitations in future research could lead to more reliable and generalizable results. The wide confidence interval indicates low precision, suggesting that the results should be interpreted with caution. Future research should aim to include a more diverse sample, incorporating data from both males and females across various regions of Bangladesh to enhance generalizability. Longitudinal studies are needed to better understand the causal factors influencing premarital sex and its long-term consequences.

5 | Conclusion

This study provides important insights into the prevalence of premarital sexual relationships in Bangladesh. The increase in prevalence with age suggests a growing occurrence of premarital sex as individuals mature. The study also identifies various partner types, including boyfriends or girlfriends, commercial sex workers, relatives, and teachers, highlighting the diverse nature of premarital sexual encounters. These findings suggest the need for targeted sexual health education and interventions addressing different age groups and relationship types. To address these issues, culturally appropriate and evidence-based interventions should be implemented. Comprehensive sexual education programs tailored to the Bangladeshi context can promote awareness about reproductive health, safe practices, and consent. Parental and community engagement is crucial for fostering open discussions and enabling young individuals to access accurate information in a supportive environment. Strengthening healthcare services, including confidential sex-

ual and reproductive health counseling, can provide essential guidance and resources. Awareness campaigns that align with cultural and religious values can help reshape perceptions, promoting responsible behavior while respecting societal norms. By addressing these factors holistically, Bangladesh can create a more informed and health-conscious society while ensuring young individuals receive the necessary support and education to make responsible choices.

Author Contributions

Tonmoy Alam Shuvo: conceptualization, investigation, writing – original draft, methodology, validation, visualization, software, formal analysis, supervision, resources, project administration. Kabir Hossain: writing – review and editing, writing – original draft, investigation, methodology, conceptualization, resources, software, visualization. Dipu Rani Dey: writing – review and editing, writing – original draft, resources, data curation, investigation, validation. Asma Ul Hosna: writing – review and editing, writing – original draft, resources, investigation.

Acknowledgments

The authors have nothing to report.

Ethics Statement

The authors have nothing to report.

Consent

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The authors have nothing to report.

References

1. D. K. Symons and A. L. Szielasko, "Sexual Relationships," in *Encyclopedia of Child Behavior and Development* (Springer, 2011), 1349–1350, https://doi.org/10.1007/978-0-387-79061-9_2625.
2. F. Abdulla, M. M. Hossain, and A. Rahman, "Determinants of Early Sexual Initiation Among Female Adolescents in Bangladesh: Evidence From a Countrywide Cross-Sectional Survey," *Public Health* 223 (2023): 102–109, <https://doi.org/10.1016/j.puhe.2023.07.019>.
3. World Health Organization. *Defining Sexual Health Report of a Technical Consultation on Sexual Health 28–31 January 2002, Geneva* (WHO, 2002).
4. S. Gruskin, V. Yadav, A. Castellanos-Usigli, G. Khizanishvili, and E. Kismödi, "Sexual Health, Sexual Rights and Sexual Pleasure: Meaningfully Engaging the Perfect Triangle," *Sex Reprod Heal Matters* 27, no. 1 (2019): 29, [10.1080/26410397.2019.1593787](https://doi.org/10.1080/26410397.2019.1593787).
5. G. K. Behulu, K. T. Anteneh, and G. L. Aynalem, "Premarital Sexual Intercourse and Associated Factors Among Adolescent Students in Debre-Markos Town Secondary and Preparatory Schools, North West Ethiopia, 2017," *BMC Research Res Notes* 12, no. 1 (2019): 95, <https://doi.org/10.1186/s13104-019-4132-4>.
6. W. L. Arega, T. A. Zewale, and K. A. Bogale, "Premarital Sexual Practice and Associated Factors Among High School Youths in Debretabor town, South Gondar Zone, North West Ethiopia, 2017," *BMC Research Res Notes* 12, no. 1 (2019): 1–7, [10.1186/S13104-019-4348-3/TABLES/3](https://doi.org/10.1186/S13104-019-4348-3/TABLES/3).

7. W. A. Tegegne, "Self-esteem, Peer Pressure, and Demographic Predictors of Attitude Toward Premarital Sexual Practice Among First-year Students of Woldia University: Implications for Psychosocial Intervention," *Front Psychol* 13 (2022): 923639, [10.3389/FPSYG.2022.923639/BIBTEX](https://doi.org/10.3389/FPSYG.2022.923639/BIBTEX).
8. B. Biratu, S. Garoma, M. Getachew, and M. Desalegn, "Drinking Alcohol Raises the Chance of Premarital Sex by Four Folds Among Secondary School Adolescent Students in Jima Arjo, Southwestern Ethiopia, 2018: A School-Based Cross-Sectional Study," *Contraception and Reproductive Medicine* 7, no. 1 (2022): 4, <https://doi.org/10.1186/s40834-022-00171-2>.
9. M. B. Selgado, "Premarital Sexual Practices and Associated Factors Among High School Students in Hawassa City in Ethiopia, 2018: Institutional-Based Cross Sectional Study Design," *International Journal of Scientific Reports* 5, no. 8 (2019): 207–212, <https://doi.org/10.18203/issn.2454-2156.intjsci20193207>.
10. M. Abdullahi and A. Umar, "Factors Associated With Engaging in Pre-Marital Sex Among the Students of University of Maiduguri," *International Journal of Humanities and Social Science Invention* 2, no. 10 (2013): 40–49.
11. T. B. Teferra, A. N. Erena, and A. Kebede, "Prevalence of Premarital Sexual Practice and Associated Factors Among Undergraduate Health Science Students of Madawalabu University, Bale Goba, South East Ethiopia: Institution Based Cross Sectional Study," *Pan African Medical Journal* 20 (2015): 209, <https://doi.org/10.11604/pamj.2015.20.209.4525>.
12. H. Gebreyesus, T. Berhe, Z. Welegebriel, et al., "Premarital Sexual Practice and Associated Factors Among Adolescents in the Refugee Camps in Tigray, Northern Ethiopia," *BMC Research Notes* 12, no. 1 (2019): 415, <https://doi.org/10.1186/s13104-019-4459-x>.
13. M. Akter Hossen and A. H. G. Quddus, "Prevalence and Determinants of Premarital Sex Among University Students of Bangladesh," *Sexuality & Culture* 25, no. 1 (2021): 255–274, <https://doi.org/10.1007/s12119-020-09768-8>.
14. S. K. Singh, D. Vishwakarma, and S. K. Sharma, "An Epidemiology of Premarital Sexual Behaviour in India: Exploring Gender Differences," *J Health Manag* 22, no. 3 (2020): 389–412, [10.1177/0972063420937938](https://doi.org/10.1177/0972063420937938).
15. U. Rob and M. U. Mutahara, "Premarital Sex among Urban Adolescents in Bangladesh," *International Quarterly of Community Health Education* 20, no. 1 (2000): 103–111, <https://doi.org/10.2190/nflm-e0my-q26n-dbv>.
16. A. I. Mahbub, U. Ahmed, and T. H. Khan. Access to Mobile Phone and Premarital Sexual Relationships: A Case Study of the Selected Peri-Urban Areas of Munshiganj District of Bangladesh. Published online 2012, <https://www.researchgate.net/publication/326008953>.
17. N. Li and M. Boulay, "Individual, Familial and Extra-Familial Factors Associated with Premarital Sex among Bangladeshi Male Adolescents," *Sexual Health* 7, no. 4 (2010): 471–477, <https://doi.org/10.1071/SH09108>.
18. ICDDR, B, Health and Science Bulletin: Non-Marital Sexual Behaviour of Men in Bangladesh—Implications for HIV Transmission | HIV/AIDS Data Hub for the Asia-Pacific Region (ICDDR,B, 2007), <https://www.aidsdatahub.org/resource/non-marital-sexual-behaviour-men-bangladesh-implications-hiv-transmission>.
19. N. Li and M. Boulay, Predictors of Premarital Sex Among Bangladesh Male Adolescents (2008).
20. S. Hawkes, L. Morison, J. Chakraborty, et al., "Reproductive Tract Infections: Prevalence and Risk Factors in Rural Bangladesh," *Bulletin of the World Health Organization* 80, no. 3 (2002): 180–188.
21. T. Roy, C. Anderson, C. Evans, and M. S. Rahman, "Sexual Risk Behaviour of Rural-to-Urban Migrant Taxi Drivers in Dhaka, Bangladesh: A Cross-Sectional Behavioural Survey," *Public Health* 124, no. 11 (2010): 648–658, <https://doi.org/10.1016/j.puhe.2010.07.003>.
22. J. G. Silverman, M. R. Decker, N. A. Kapur, J. Gupta, and A. Raj, "Violence against Wives, Sexual Risk and Sexually Transmitted Infection among Bangladeshi Men," *Sexually Transmitted Infections* 83, no. 3 (2007): 211–215, <https://doi.org/10.1136/sti.2006.023366>.
23. M. A. Kabir, K. L. Goh, and M. M. H. Khan, "Tobacco Consumption and Illegal Drug Use among Bangladeshi Males: Association and Determinants," *American Journal of Men's Health* 7, no. 2 (2013): 128–137, <https://doi.org/10.1177/1557988312462737>.
24. S. M. M. Kamal, M. A. Islam, and M. A. Raihan, "Differentials of Tobacco Consumption and Its Effect on Illicit Drug Use in Rural Men in Bangladesh," *Asia-Pacific Journal of Public Health* 23, no. 3 (2011): 349–362, <https://doi.org/10.1177/1010539509345388>.
25. Z. Munn, S. Moola, K. Lisy, D. Riitano, and C. Tufanaru, "Methodological Guidance for Systematic Reviews of Observational Epidemiological Studies Reporting Prevalence and Cumulative Incidence Data," *International Journal of Evidence-Based Healthcare* 13, no. 3 (2015): 147–153, <https://doi.org/10.1097/XEB.0000000000000054>.
26. E. Tanriver-Ayder, C. Faes, T. Van De Castele, S. K. McCann, and M. R. Macleod, "Comparison of Commonly Used Methods in Random Effects Meta-Analysis: Application to Preclinical Data in Drug Discovery Research," *BMJ Open Science* 5 (2021): e100074, <https://doi.org/10.1136/bmjos-2020-100074>.
27. S. Mahmud, M. Mohsin, S. Hossain, M. M. Islam, and A. Mueyed, "The Acceptance of COVID-19 Vaccine at Early Stage of Development and Approval: A Global Systematic Review and Meta-Analysis," *Heliyon* 8 (2022): e10728, <https://doi.org/10.1016/j.heliyon.2022.e10728>.
28. J. P. T. Higgins and S. G. Thompson, "Quantifying Heterogeneity in a Meta-Analysis," *Statistics in Medicine* 21 (2002): 1539–1558, <https://doi.org/10.1002/sim.1186>.
29. L. Lin and H. Chu, "Quantifying Publication Bias in Meta-Analysis," *Biometrics* 74 (2018): 785–794, <https://doi.org/10.1111/biom.12817>.
30. M. Noroozi, F. Taleghani, E. S. Merghati-Khoei, M. Tavakoli, and A. Gholami, "Premarital Sexual Relationships: Explanation of the Actions and Functions of Family," *Iranian Journal of Nursing and Midwifery Research* 19, no. 4 (2014): 424–431.
31. Y. R. Upreti and D. Acharya, "Premarital Sexual Behaviours Among Secondary School Adolescents: A Cross-Sectional Study in Kathmandu," *Journal of Health Promotion* 8 (2020): 39–52, <https://doi.org/10.3126/jhp.v8i0.32984>.
32. M. Makino, T. D. Ngo, S. Psaki, S. Amin, and K. Austrian, "Heterogeneous Impacts of Interventions Aiming to Delay Girls' Marriage and Pregnancy Across Girls' Backgrounds and Social Contexts," *Journal of Adolescent Health* 69, no. s6 (2021): S39–S45, <https://doi.org/10.1016/j.jadohealth.2021.09.016>.
33. M. K. Hasan, P. Aggleton, and A. Persson, "Sexual Practices and Sexual Health Among Three Generations of Men in Bangladesh: Exploring Gender- and Sexuality-Assemblages," *Sexuality and Culture* 23, no. 2 (2019): 475–493, <https://doi.org/10.1007/s12119-018-9566-7>.
34. Y. Damtie, N. Cherie, H. Fentaw, et al., "Pre-Marital Sex and Its Association With Peer Pressure and Watching Pornography Among Young Individuals in Ethiopia: A Systematic Review and Meta-Analysis," *Scientific Reports* 12, no. 1 (2022): 9572, <https://doi.org/10.1038/s41598-022-13448-y>.
35. M. Khalili, A. Mirzazadeh, M. Chegeni, et al., "Prevalence of High-Risk Sexual Behavior Among Iranian Young People: A Systematic Review and Meta-Analysis," *Children and Youth Services Review* 119 (2020): 105526, <https://doi.org/10.1016/j.childyouth.2020.105526>.
36. C. Chiao, "Community Context and the Prevalence of Premarital Sex Among Young Women in Kenya and the Philippines: Trends and Differences From 1993 to 2003," *Health & Place* 16, no. 3 (2010): 512–522, <https://doi.org/10.1016/j.healthplace.2009.12.009>.
37. R. Adhikari and J. Tamang, "Premarital Sexual Behavior Among Male College Students of Kathmandu, Nepal," *BMC Public Health [Electronic Resource]* 9, no. 1 (2009): 1–9, <https://doi.org/10.1186/1471-2458-9-241/TABLES/7>.
38. S. K. Singh, G. Krishna, and C. M. Singh, "A Study on Prevalence of Premarital Sex Among Adolescent Students," *Journal of Institute of Medicine Nepal* 28, no. 2 (2006): 35–38, [10.59779/JIOMNEPAL.241](https://doi.org/10.59779/JIOMNEPAL.241).

39. V. R. Dave, N. R. Makwana, B. S. Yadav, and S. Yadav, "A Study on High-Risk Premarital Sexual Behavior of College Going Male Students in Jamnagar City of Gujarat, India," *International Journal of High Risk Behaviors and Addiction* 2, no. 3 (2013): 112–116, <https://doi.org/10.5812/ijhrba.11855>.
40. A. M. Mir, A. Wajid, S. Pearson, M. Khan, and I. Masood, "Exploring Urban Male Non-Marital Sexual Behaviours in Pakistan," *Reproductive Health* 10, no. 1 (2013): 22, <https://doi.org/10.1186/1742-4755-10-22>.
41. Z. Rong, H. Jing, Y. Lin, et al., "Sex Differences in the Association of Childhood Sexual Abuse Severity With Premarital Sex Among Chinese College Students in Luzhou, China," *BMC Public Health [Electronic Resource]* 24, no. 1 (2024): 290, <https://doi.org/10.1186/s12889-024-17767-9>.
42. L. B. Finer, "Trends in Premarital Sex in the United States, 1954–2003," *Public Health Reports* 122, no. 1 (2007): 73–78, <https://doi.org/10.1177/003335490712200110>.
43. H. Gunardi, W. Indriatmi, S. Soedjatmiko, et al., "Premarital Sex and Its Contributing Factors in High-Risk Indonesian Adolescents: An Observational Study," *Journal of Social Distress and Homelessness* 32, no. 1 (2023): 25–33, <https://doi.org/10.1080/10530789.2021.1953890>.
44. M. Muniruzzaman, M. R. Siddiky, S. Akter, and I. E. Haque, "Premarital and Extramarital Relationships: A Study of a Selected Slum in Dhaka, Bangladesh," *Indones J Soc Res* 5, no. 1 (2023): 1–22, [10.30997/IJSR.V5I1.277](https://doi.org/10.30997/IJSR.V5I1.277).

Supporting Information

Additional supporting information can be found online in the Supporting Information section.