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Sexual and Reproductive Health of Rohingya Refugees In Bangladesh: A Systematic Review

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ABSTRACT

Introduction: *The Rohingya refugees in Bangladesh, a severely persecuted ethnic minority of Myanmar, face numerous challenges related to their sexual and reproductive health (SRH), including access to appropriate services. This systematic review examines the SRH status of Rohingya refugee women in Bangladesh, focusing on barriers to accessing SRH services and interventions to address their specific SRH needs.*

Methods: *Following PRISMA guidelines, a systematic search was conducted across databases, including PubMed, CINAHL, Embase, Web of Science, and Scopus, as well as gray literature, from August 2017 to July 2023. Both quantitative and qualitative studies were included, with data extraction and analysis performed independently by two authors using a narrative synthesis approach.*

Results: *Out of 394 citations, ten studies met the criteria. The findings revealed that 48.9% of Rohingya women were unaware of SRH service access, only 11% received frequent (once fortnightly) visits by family planning personnel, 70% lacked knowledge about HIV/STIs, and over two-thirds believed that family planning required husband approval. The prevalence of contraceptive use was 50.9%, with cultural and religious beliefs and gender dynamics significantly influencing family size decisions.*

Discussion: *Cultural preferences impacted family size decisions, and limited awareness of permanent birth control widened the SRH education gap. The review emphasizes the need for comprehensive, community-based interventions, including door-to-door visits, culturally tailored outreach programs, and SRH education within refugee camps. To*

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address the SRH needs of Rohingya women, adopting a multifaceted approach that promotes SRH education, improves service accessibility, and empowers women to make informed reproductive choices is essential.
Registration: *This review is registered with PROSPERO under the ID CRD42023444386.*
Keywords: *Sexual reproductive health, family planning, HIV/STIs, Rohingya refugee, Bangladesh.*

BACKGROUND

The refugee population is one of the world's most vulnerable groups, facing multiple challenges that significantly impact their sexual and reproductive health (SRH) and access to essential SRH services (Hossain & Dawson, 2022). SRH is an integral aspect of well-being and is universally recognized as a fundamental human right (Desrosiers et al., 2020a). It encompasses the ability to make informed decisions regarding one's SRH, including access to comprehensive healthcare services such as family planning, contraception, antenatal care, childbirth, and prevention and management of sexually transmitted infections (STIs) (Desrosiers et al., 2020a; Singh et al., 2018). Globally, despite efforts to ensure universal access to SRH services by 2030, conflict, violence, and natural disasters have left approximately one billion people in need of humanitarian aid, with forced displacement exacerbating the vulnerabilities of women and girls (Munyuzangabo et al., 2020). In Asia and the Pacific, 14.3 million refugees and displaced and stateless people require humanitarian assistance, 74% of whom are women of reproductive age, adults, and children (UNHCR, 2022). The Inter-Agency Working Group for Reproductive Health in Crisis (IAWG) developed the Minimum Initial Service Package (MISP) to provide SRH services in humanitarian settings, but the quality and effectiveness of these services vary across refugee settings (Casey, 2015a; Desrosiers et al., 2020a; Rice et al., 2016).

The Rohingya represent one of the largest refugee groups worldwide (Hossain & Dawson, 2022; Hossain & Zablotska-Manos, 2022; Munro et al., 2022). Most Rohingya who fled from Myanmar reside in Bangladesh, which provides shelter to 1.2 million Rohingya (approximately 85% of all Rohingya refugees in the region), half of whom are women and girls (UNHCR, 2020). Although we use the term “refugees” in this paper, the government of Bangladesh does not recognize Rohingya as refugees, referring to them as the Forcibly Displaced Myanmar Nationals (FDMN).

Displacement and associated challenges can have severe consequences for the SRH of Rohingya, particularly women and girls. To address their needs, the SRH Working Group, led by the UNFPA, has been formed. This group comprises over 40 partners, including

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international nongovernmental organisations (NGOs), working in coordination with the local government to provide family planning (FP), maternal and child health services, HIV/STI prevention, and gender-based violence (GBV) support in the camps (Rahman et al., 2024). They mostly serve women presenting to health clinics in camps or, sometimes, make door-to-door visits. Common SRH issues in Rohingya refugee settings include inadequate access to reproductive healthcare services, limited contraceptive options, the absence of skilled birth attendants, a lack of FP knowledge, restrictions on permanent contraception methods, little awareness of HIV/STI prevention and insufficient understanding of SRH in general, early and forced marriages, early childbearing, the strict social prohibition of sex outside marriage, and GBV (UNHCR, 2020; UNICEF, 2020).

An earlier review summarized evidence about the SRH of refugees in Asia and suggested a pressing need for SRH services and interventions tailored to this population, identifying several barriers to accessing SRH care. However, that review focused on both Rohingya and Afghan refugees without distinguishing each group. While there are similarities between them, it is crucial to recognize significant differences in terms of country context, culture, and contrasting needs. By focusing specifically on the needs of Rohingya refugees, a deeper understanding can be gained, leading to the development of more tailored and effective interventions.

Therefore, the purpose of this systematic review is to synthesize the existing evidence on the SRH status (specifically, the areas of FP and HIV/STIs) and needs of Rohingya refugees in Bangladesh, their barriers to accessing SRH services, and currently delivered interventions to address their SRH needs.

METHODS

This systematic review was officially registered in the PROSPERO database with a unique registration ID of CRD42023444386. The PROSPERO registration includes details of the review protocol, including the search strategy, inclusion/exclusion criteria, and planned methods for data extraction and synthesis. The review protocol has been previously published (Hossain et al., 2023). This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and checklist (Page et al., 2021). The process of selecting publications for inclusion in this review is presented in the PRISMA flowchart (see Figure 1).

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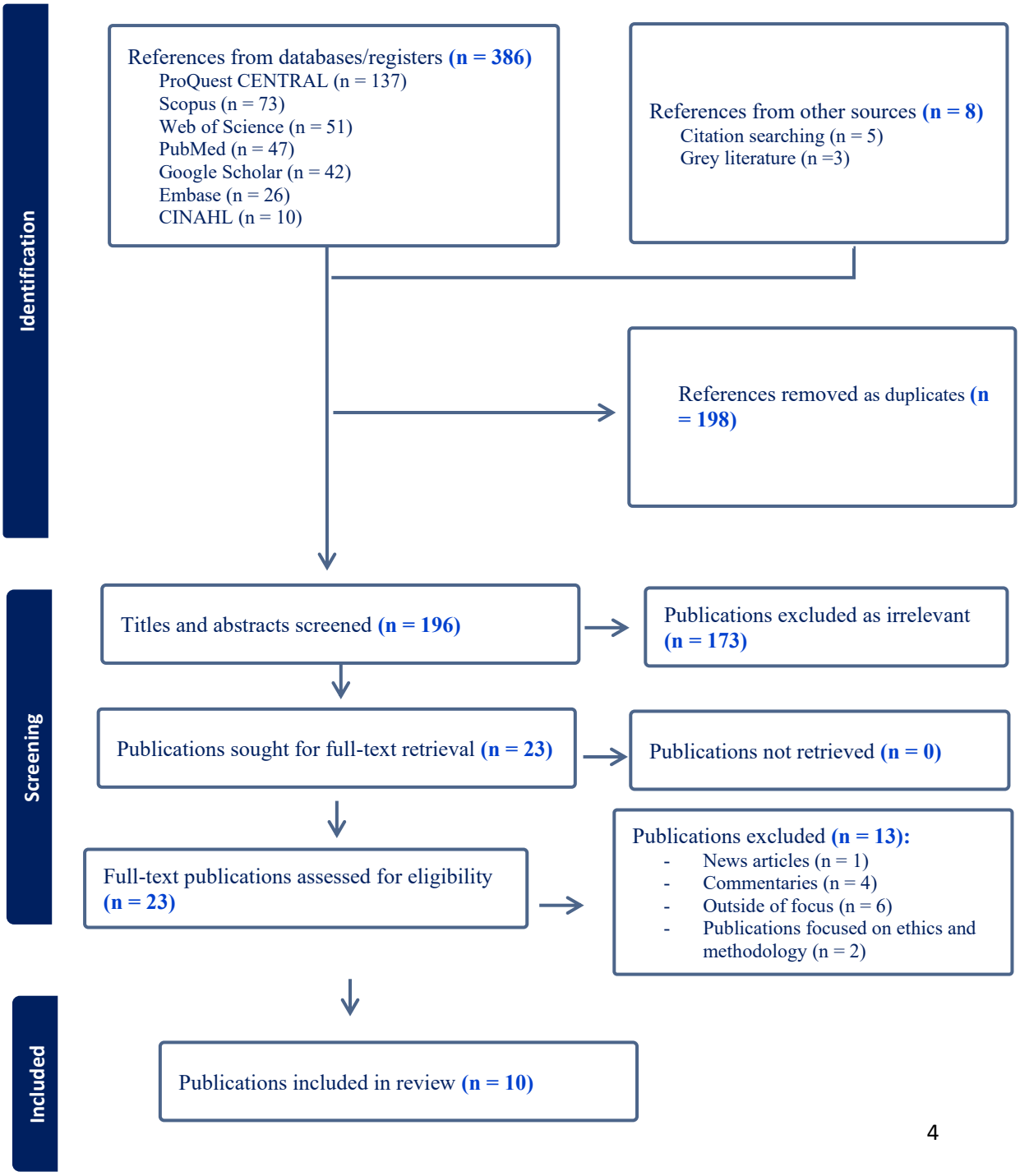
Figure 1 PRISMA flowchart



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Search and selection of the papers

We searched multiple databases for peer-reviewed publications, including PubMed, CINAHL, Embase, Web of Science, and Scopus. Additionally, we searched gray literature sources such as ProQuest and Google Scholar and manually screened reference lists of the included studies for any missed sources.

This review encompasses studies meeting specific inclusion and exclusion criteria. The included studies met the following parameters: studies published from August 2017 through July 2023, available in English (at least an abstract), focused primarily on women and girls of reproductive age (15--49 years) among Rohingya refugees in Bangladesh, and specifically focused on sexual health, FP and contraception, STIs, HIV/AIDS, and adolescent reproductive health. The review considered qualitative, quantitative, and mixed-method studies that included primary data. HIV and STIs were prioritized because of their significant public health impact in refugee settings, where healthcare access is limited. Studies concerning Rohingya refugees in other countries were excluded because of the smaller number of refugees reaching other countries and the differing contexts and health services in those countries. Additionally, studies addressing other SRH topics, such as maternal and child health, GBV, female genital mutilation, menstrual regulation (MR), postabortion care (PAC), forced or early marriage, and reproductive cancers, were excluded from the review to focus on the core SRH issues of FP and HIV/STIs. Reviews, cases, case reports, commentaries, opinion letters/pieces, and editorials, although screened for references, were also excluded.

We used search terms and Medical Subject Headings (MeSH), which describe the following key concepts: sexual and reproductive health, Rohingya refugees, family planning, contraception, STIs, HIV, and access to services. They were connected using Boolean terms, connectors, and wildcards via the following search formula:

(Rohingya) AND ("family planning" OR "contraception" OR "Sexual Health" OR "reproductive health" OR "reproductive health services" OR "HIV" OR "STIs" OR "sexually transmitted infections"). The accuracy of this search formula was evaluated by primary reviewers and our institution librarian.

All the retrieved papers were uploaded into and managed using Covidence (version 1) to facilitate the study selection process. The study selection was conducted in two consecutive stages. In the initial stage, two independent primary reviewers thoroughly assessed the titles and abstracts of 196 studies identified during the initial screening and selected 23 studies for full-text review. Any discrepancies or uncertainties between the reviewers were resolved through consensus or consultation with the third reviewer—the

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senior author. In stage 2, 23 studies were subjected to full-text review. Thirteen studies were excluded for the following reasons: four studies were commentaries, two focused primarily on ethics and methodology, one was a news report, and six were outside the focus of our review. Consequently, a total of ten studies were deemed eligible for inclusion in this systematic review (Figure 1).

Data extraction

We developed a standardized data extraction form, and two independent reviewers used this form to extract pertinent data into a Microsoft Excel spreadsheet. We extracted the study-specific characteristics (author, publication year, study design) and all the information that was required to address our study objectives, including participant demographics, intervention details, outcome measures, and significant findings directly related to the SRH of Rohingya refugee women in Bangladesh. This included comprehensive information concerning SRH status, including family planning, contraception, pregnancy, HIV/STIs, sexual health, barriers to accessing SRH services and interventions addressing SRH needs. In the event of discrepancies or uncertainties arising during data extraction, consensus was reached through the same reconciliation process as in stage 1. We manually coded all the information to identify recurring patterns and themes.

Quality assessment

To assess the quality and risk of bias in the selected studies, we employed the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018), which features tailored criteria for qualitative, observational descriptive quantitative, and mixed-methods research components. The MMAT assigns a score of 1 for each met criterion, contributing to a final proportion score, which categorizes articles into quality levels: Strong (≥0.80), Moderate-Strong (0.66--0.79), Moderate-Weak (0.51--0.65), and Weak (≤0.50) (Crowley et al., 2023; Wynter et al., 2022). We resolved any discrepancies in assessment, particularly in interpreting findings related to researchers' influence and quantitative data sampling strategies, following established procedures. We did not exclude or prioritize any studies on the basis of their quality assessment scores.

Results

We identified ten papers describing the SRH of Rohingya refugees in Bangladesh. These included five quantitative, three qualitative, and two mixed-methods research designs, with all employing convenience sampling methods. Among the reviewed studies, three received weak ratings (Mirończuk-Chodakowska et al., 2018; Saidu, 2022; Zakaria et al., 2022), six attained moderate–strong scores (Ainul et al., 2018; Azad et al., 2022; Chowdhury et al., 2022; Jannat et al., 2022; Khan et al., 2021), and only one was

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categorized as strong (see Supplementary Table 1 for more details). Most of them (n=9) focused on FP and contraception (Ainul et al., 2018; Azad et al., 2022; Chowdhury et al., 2022; Jannat et al., 2022; Persson et al., 2021; Saidu, 2022; Zakaria & Datau, 2021), and four studies reported on HIV/STIs. We found no papers describing an evaluation of the efficacy of interventions, but they described participants' reports of receiving ongoing interventions in the camps. Below, we describe the detailed findings concerning the SRH needs of Rohingya refugee women in Bangladesh, their barriers to accessing SRH services, and currently delivered interventions to address these needs.

SRH status and needs

Awareness about and use of family planning and contraceptive methods: The common themes in the papers published in this area were awareness, knowledge about, and practice of contraceptive methods. Chowdhury et al. (2018) reported that 86.3% of married Rohingya women know about FP methods (Chowdhury et al., 2022). However, Ainul et al. (2018) and Jannat et al. (2022), in their qualitative studies, reported limited knowledge about FP and contraception among these women (Ainul et al., 2018; Jannat et al., 2022). Similarly, Azad et al. (2022) reported that only 40% of Rohingya refugee women were aware of permanent contraceptive methods and SRH services. Fewer than half of the interviewed women (48.9%) were aware of where to access SRH services. Moreover, half of the participants lacked knowledge regarding the legal age of marriage, which is 18 years (Azad et al., 2022).

The published papers highlighted beliefs that were not in support of modern methods of family planning. The average reported family size was 3.96. A high average number of children was associated with a preference for boys. Azad et al. (2022) reported that 58% of participants believed that a couple should continue having children until they have a son (Azad et al., 2022; Zakaria et al., 2022).

With respect to contraceptive use by Rohingya women, the evidence varies. Khan et al. (2021) reported a contraceptive use prevalence of 50.9%, whereas Chowdhury et al. (2018) and Ainul et al. (2018) reported a lower prevalence of 34%. Jannat et al. (2022) also noted low contraceptive use in their qualitative study. The most common and accepted methods of contraception were injections (particularly Depo-Provera) (67.3%) and oral contraceptive pills (29.9%). In contrast, men's participation in FP and contraceptive use is rare, with only 2% of them using condoms as an FP method. Contraception use among Rohingya women prior to the first pregnancy was infrequent, and the spacing periods were short. Islam et al. (2021) reported that 80% of the participating women had recently given birth or were pregnant. Interest in contraception also remains low among unmarried adolescent girls, with Saidu (2022) reporting that 62% were uninterested in contraception (Saidu, 2022).

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Access to contraception and SRH services appears inconsistent. A survey conducted by Zakaria et al. in 2022 reported that 79.8% of Rohingya women had consulted a healthcare provider about SRH, 68.4% had received door visits from health workers, and 58.3% were well informed about the benefits of contraception. Similarly, Azad et al. (2022) reported that 79.8% of women had visited a health center or facility for SRH services, and 68.2% had discussed FP with a health worker. In contrast, Khan et al. (2021) reported that 51.7% of women received no visits, and only 11% received frequent (once fortnightly) visits during the three months immediately preceding the survey. Ainul et al. (2018), in their qualitative study, reported limited access to contraception and SRH services. Despite these variations, both Zakaria et al. (2022) and Ainul et al. (2018) noted a common reluctance among Rohingya women to continue using contraception (Ainul et al., 2018; Zakaria et al., 2022).

Knowledge and awareness about HIV/STI and preventive practices: Knowledge and awareness of HIV/STIs among Rohingya refugee women remain limited, as highlighted by two surveys and two qualitative studies. Khan et al. (2021) reported that 70% of Rohingya women had inadequate knowledge of HIV transmission, a finding corroborated by Ainul et al. (2018), who highlighted prevalent misinformation about HIV transmission methods. Similarly, Jannat et al. (2022) reported that they were unaware of STI transmission. Khan et al. also revealed that knowledge of HIV transmission was 2.4 times greater among women who received formal education than among those who did not receive formal education. Additionally, the Rohingya refugee women in that study had also had a substantially lower knowledge of HIV than local women in Bangladesh as well as women in Myanmar. This low level of knowledge about HIV transmission was in disagreement with the women's belief that they should have knowledge about HIV and STIs before marriage. Specifically, Zakaria et al. reported that 81.7% of women who participated in a survey agreed that girls should be familiar with SRH and STIs before marrying. Furthermore, Khan et al. reported that, compared with 60.3% of local women in Bangladesh and 67.3% of women in Myanmar, only 20% of Rohingya women believe that consistent condom use can prevent HIV infection. Importantly, no studies have evaluated condom use for HIV and STI prevention among the Rohingya population.

Table 1 Description and quality assessment of the studies included in the review.

Study ID (year of publication)	Focus/aim	Methodology and methods	Population, sample and data collection period	Quality assessment		
				Tool points	Score	Quality
Ainul et al. (2018)	Evaluate Rohingya youth SRH needs, assess Service Delivery Points	Qualitative research	48 Rohingya adolescents (aged 14-24), 48 leaders, 20 adult women, 24	3/4	0.75	Moderate-Strong

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	(SDPs) services, and pinpoint delivery challenges for better services.	Purposive sampling IDI [3] and FGD [2]	program managers, and 53 host community youth. Data collection period: 2018			
Azad et al. (2022)	KAP[5] as to FP[1] and associated factors	Cross-sectional survey Convenience sampling	400 female Rohingya refugees from Cox's Bazar, Bangladesh Data collection period: 14 October to 26 December 2019	3/4	0.75	Moderate-Strong
Chowdhury et al. (2018)	Prevalence of pregnant and lactating Rohingya women, SRH needs among Rohingya and health evaluation of children under five.	Cross-sectional survey Structured questionnaires Did not specify the sampling method	Collected data from 3,050 Rohingya households currently residing in Bangladesh. Data collection period: 2017	2/4	0.50	Weak
Islam et al. (2022)	Examines the barriers to condom use as a contraceptive method among married Rohingya couples.	Qualitative research Convenience sampling Open-ended questionnaires IDI[3]	Interviewed 14 women and 10 men Data collection period: Not specified	3/4	0.75	Moderate-Strong
Islam, Khan, et al. (2021)	Examines the factors affecting child marriage and contraceptive use among Rohingya girls who have experienced child marriages.	Mixed method Quantitative: cross-sectional survey Partially random sampling Qualitative: IDI[3]	Rohingya girls (10-19) in Cox's Bazar refugee camps were recruited, with 96 participants for quantitative and 18 for qualitative data, additional interviews conducted with 9 healthcare providers. Data collection period: November 2019	09/11	0.81	Strong
Jannat et al. (2022)	Assess the SRH of Rohingya refugee women, focusing on contraception, sanitation, and hygiene.	Qualitative research Purposive sampling Semi-structured questionnaires IDI[3], FGD[4], KII[4]	50 IDI[3], one FGD[2] consisting of 10 participants and 3 KIIs[4] of Rohingya refugee women and adolescents in Bangladesh. Data collection period: Not specified	3/4	0.75	Moderate-Strong
Khan et al. (2021)	Prevalence of the use of contraceptives and the associated factors.	Cross-sectional survey Convenience sampling	493 female Rohingya refugees from Cox's Bazar, Bangladesh Data collection period: November 2019	3/4	0.75	Moderate-Strong

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Khan, Rahman, et al. (2021)	Examine the knowledge about HIV transmission among Rohingya refugee women and identify factors that are associated with that knowledge	Cross-sectional survey Multistage random sampling-respondent selection did not specify Structured questionnaire	508 Rohingya women from Cox's Bazar, Bangladesh. Data collection period: November 2019	4/4	1.00	Strong
Saidu (2022)	Contraceptive knowledge, practices, and influencing factors among adolescent Rohingya refugee girls.	Mixed method Cross-sectional survey Convenience sampling Qualitative: IDI[3], FGD[2] Purposive sampling	Survey of 340 adolescent girls, 8 IIDs[3] of husbands, 2 FGDs[2] with married and unmarried adolescent girls. Data collection period: Not specified	5/11	0.45	Weak
Zakaria et al. (2022)	Assess NGO interventions' impact on SRH	Cross-sectional survey Convenience sampling	415 Rohingya married women aged 18-49 residing in Cox's Bazar camps Data collection period: 10 November 2019 to 10 January 2020	2/4	0.50	Weak

Family planning[1] Focus group discussion[2] In-depth interviews[3] Key informant interviews[4]. Knowledge, attitudes, and practice[5]

Barriers to accessing SRH services

All the papers described the barriers experienced by Rohingya women in Bangladesh when accessing FP and SRH services. These barriers, categorized into cultural, religious, sociostructural, and health system-related challenges, significantly limit their access to FP and SRH services (Khan et al., 2021; Saidu, 2022; Zakaria et al., 2022).

Cultural barriers, such as conservative religious beliefs, cultural taboos, preferences for sons, and early marriage practices, also play a significant role. Many Rohingya women believe that Islam prohibits contraception, a view reinforced by religious leaders who shape contraceptive practices. The use of contraception is often seen as a sin and immoral behavior, with 43% citing religious prohibition and 44.1% viewing FP as sinful. Additionally, the belief that children are gifts from God further complicates the acceptance of modern contraceptive methods. Moreover, cultural preferences for male offspring exacerbate the pressure on women to continue bearing children until a son is born, with 58% of women agreeing with this expectation. This cultural preference leads

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to actively seeking pregnancy (46.0%) and a general desire for more children (15.6%), which hinders the use of contraceptive methods (Zakaria et al., 2022).

Gender dynamics, traditional family norms, and male-dominated decision-making affect women's use of contraception. A significant number of women prefer to seek their husband's consent for family planning, with 45% feeling afraid to discuss FP with their husbands. Husbands' disapproval is a major barrier, with 51.9% of women in Azad et al. (2022) and 48.8% in Khan et al. (2021) reporting that they required their husband's approval to use contraception. In addition, 63.4% of women expressed reluctance to continue using contraception due to their husband's disapproval. Disagreement with partners (52%) and the perception that contraception use is always the husband's decision further exacerbates this issue (Jannat et al., 2022).

Perceived stigma and misconceptions about contraception also affect the use of SRH services. Ainul et al. (2018) and Saidu (2022) highlighted that many refugees from Myanmar feared the side effects of contraceptives, with misconceptions about permanent sterility and other health risks leading to reluctance to use these methods. Similarly, misconceptions about condom use are prevalent, with both men and women being unfamiliar with their proper use. Islam et al. (2022) discussed the contradiction of contraception as the responsibility of women while condom use is controlled by men. This study also identified other significant barriers to condom use, including the stigma attached to its usage and the insecurities it provoked in marital relationships. For example, the use of condoms by men often evokes distrust, with women associating it with infidelity or relationships with "bad women," further deterring its use. Additionally, the differential prioritization of other contraceptive methods over condoms by health workers also serves to restrict condom use and diminishes efforts to educate women about their contraceptive choices. As a result, both men and women were unfamiliar with this method and used it rarely (Islam et al., 2022).

Table 2 Findings regarding SRH status, barriers, and interventions among Rohingya refugees in Bangladesh

Study	**Findings**		
	SRH Status (FP and HIV/STIs)	**Barriers to Accessing SRH Services**	**Interventions, Programs, and Services Addressing SRH Needs**
Ainul et al. (2018)	- 34% contraceptive use - Primary methods: injections (70.5%) and pills (28.9%)	- Host community perceptions - Restricted mobility and stigma	- Outreach by healthcare providers

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	-Limited knowledge and use of contraception - Reluctance in using contraception - Limited knowledge about STI and HIV - Misinformation about HIV	- Cultural beliefs and religious prohibitions - Use of contraception as a sin and immoral behavior	
Azad et al. (2022)	- 40% know about permanent birth control methods - Half of the participants lacked proper knowledge regarding the eligibility for marriage before the age of 18 - Strong inclination toward having sons - 2% of respondents' husbands used condoms during the survey period -68.2% discussed FP with health workers -79.8% visited a health center for FP	- Preference for husband's consent in FP - 45% felt afraid to discuss FP with husbands - 58% believed a couple should keep having children until they have a son - Husbands' disapproval of the use of FP (51.9%) - Actively seeking pregnancy (46.0%) - FP as sin (44.1%)	-74.5% of participants received FP interventions in the camp - FP information through nurse and healthcare provider
Chowdhury et al. (2018)	- 86.3% aware of FP methods - 33.7% use contraceptive - Common methods: Depo-Provera (70.5%) and Pills (28.9%) -48.9% aware of where to access SRH services -42.4% had 4 or more children -60.4% had 3 or more kids	- Religious prohibition (43%) - Disagreement with the partner (52%) - Dislike any FP method (27.3%) - Fear of side effects (7.9%) - Desire for children (15.6%)	-Not specified
Islam et al. (2022)	- Rare male participation in FP - Condom use is also rare	- Education and religious barriers - Sociocultural issues -stigma attached to condoms -unfamiliarity with condoms - concerns about marital stability and safety of women	- Health workers gave priority to contraceptive methods other than condoms
Islam, Khan, et al. (2021)	- 80% recently pregnant or gave birth - 34% contraceptive use - Contraceptive use between marriage and the first childbirth was rare -FP personnel visited their homes (48%)	-Desire for children - Religious beliefs - Misapprehension about contraception - Long waiting times at health facilities	-Male volunteers in outreach services
Khan et al. (2021)	- 50.91% contraceptive use - Primary method: injections (67.3%) and pills (29.9%) -Received no FP personnel visits (51.7%) - Received frequent FP personnel visits (11%)	- Husbands' disapproval of the use of FP (48.8%) - Active pregnancy desire (17.4%) - Religious prohibition of using contraceptives (15.3%)	- Availability of healthcare centers in the camp - Only 11% received recommended frequent visits (once fortnightly) - In only 48.3% of visits, services included contraception and/or FP
Khan, Rahman, et al. (2021)	- 70% inadequate HIV knowledge -2.4 times higher HIV knowledge among educated women	- Limited HIV knowledge and prevalent misconceptions	- Availability of healthcare centers in the camp

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	- Lower HIV knowledge among Rohingya women compared to women in Bangladesh and Myanmar		
Jannat et al. (2022)	- Low contraceptive use - Frequent pregnancies - Lack of SRH knowledge -Unaware of STI transmission	- Religious belief (child is a gift of God) - Low literacy - Husband's decision on contraception	- SRH services by NGOs - SRH training and awareness initiatives - Creating "women-friendly" and "adolescent-friendly" spaces.
Saidu (2022)	- Significant knowledge gap between married and unmarried adolescent girls regarding contraceptive use - 96% of contraceptive users were married - 62% of unmarried adolescents were uninterested in practicing contraception -43% willing to use contraceptives in the future	- Inhibit unmarried adolescents to practice contraception - Influence of husband - Religious beliefs - Community influence - Fear of side effects	-Not specified
Zakaria et al. (2022)	- 79.8% consulted a healthcare provider about SRH - 68.4% received door visits from health workers - 58.3% well-informed about contraceptive benefits - 62.7% participated in NGO awareness program -52% saw any poster/billboard regarding SRH - 81.7% agree girls should know SRH and STIs before marriage -Average number of children was 3.96	- Cultural taboos and misconceptions - Gender-based violence - Limited knowledge and literacy - Disbelief in modern contraceptives and SRH issues -63.4% expressed reluctance to continue its use in the face of husband's disapproval	- Receiving health communication intervention with clear messages -Women's interpersonal communication with a healthcare provider

Rohingya women face significant sociostructural and logistical barriers, including restricted mobility within refugee camps, poor road infrastructure, overcrowded living conditions, and the location of camps in flood-prone hilly areas. These physical limitations are compounded by negative perceptions of the Rohingya within the host community, which view them as economic and social threats due to disruptions in daily life, involvement in illegal activities, and alleged transactional sex. These negative perceptions can create difficulties for refugees in accessing SRH services, with host community members reluctant to support or collaborate with Rohingya women to seek SRH services. Additionally, the health system in refugee camps often overcrowded and understaffed facilities, which, coupled with long waiting times, severely limit the capacity

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of women to receive timely care. These logistical issues, along with the inadequate supply of contraceptives and limited knowledge and literacy about SRH issues, contribute to the reluctance to use modern contraceptives (Khan et al., 2021).

Interventions, Programs, and Services Addressing SRH Needs

Eight studies described participants' reports of receiving ongoing interventions, programs and/or services. Two papers highlighted the importance of the presence of health services in the camps. Two papers discussed outreach and peer involvement in service provision to increase the engagement and use of FP services. Health communication and information intervention to address the SRH needs of Rohingya refugees were described in three papers. Prioritization of contraceptive methods other than condoms and their impact on the use of FP was reported by Islam et al. (2022). These services described in the papers were provided to Rohingya refugees in Bangladesh through collaborative efforts involving the Government of Bangladesh, UN agencies, and both national and international NGOs, coordinated under the SRH Working Group. Key interventions focused on FP, contraceptive provision, education, and outreach align with the MISP to meet the needs of this vulnerable population (Casey, 2015b; Hakim et al., 2024).

Efforts to improve SRH services in the camps emphasized the importance of community-based outreach programs. Effective outreach strategies, such as door-to-door visits by healthcare workers, provided FP counseling, distributed contraceptives, and educated women about SRH services. For example, 74.5% of women reported receiving FP interventions at the camp, with access to FP information facilitated by nurses and healthcare providers. Zakaria et al. (2022) reported that 68.4% of the study participants received door visits from healthcare workers. In only 48.3% of visits, services included contraception and/or FP, and only 11% received recommended frequent home visits (once fortnightly) by healthcare workers. Access to FP information was facilitated through nurses and healthcare providers, ensuring that healthcare services are available within the blocks where women reside. The involvement of Rohingya volunteers played a significant role in promoting contraceptive use and could help bridge gaps in access (Crowley et al., 2023; Desrosiers et al., 2020b; Jesmin, 2019; Krause et al., 2015).

Community engagement, including the participation of religious leaders and Rohingya men, has been highlighted as essential in overcoming cultural and religious barriers, dispelling misconceptions, and fostering trust between refugees and healthcare providers. The involvement of Rohingya men and volunteers in outreach efforts has also proven beneficial, particularly in promoting condom use and increasing awareness of contraceptive methods. Equitable promotion of various contraceptive methods and the active participation of volunteers in outreach services were found to enhance the effectiveness of these interventions. Training and deploying more community health

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workers with a focus on SRH education and services could help bridge the gap in access to contraceptives and SRH information.

Jannat et al. (2022) emphasized the importance of training and awareness initiatives that equip women with the knowledge and tools to manage their own SRH needs. The creation of "women-friendly spaces" and "adolescent-friendly spaces" ensures safe environments where women and girls could access SRH services, engage in discussions, and receive support tailored to their unique needs.

Health communication interventions (HCIs), as highlighted by Zakaria et al. (2022), were identified as significant for improving SRH education among Rohingya women. These interventions included clear and comprehensive SRH messages in the Rohingya language and interpersonal communication with healthcare providers. Expanding HCIs to address common misconceptions and increase awareness about contraception, HIV prevention, and STI management could significantly enhance SRH outcomes in camps.

Discussion

The findings from our systematic review shed light on the challenges surrounding the SRH of Rohingya refugee women in Bangladesh. First, the reviews highlight significant gaps in SRH education, contraceptive practices, and awareness of HIV/STIs within the Rohingya community. Second, the published evidence points to considerable and persistent barriers to access to SRH services, including the need for the husband's consent for FP and cultural and religious norms; gender dynamics; stigma and misconception; and logistic and structural factors that impact contraceptive use and SRH services. Third, the papers reported the interventions already delivered in the Rohingya refugee camps in Bangladesh, but more emphasis is needed on interventions prioritizing home-based healthcare, i.e., visiting the residents in the camps, tailored health communication, comprehensive SRH care within refugee camps, and educational initiatives.

The review revealed significant gaps in SRH education, particularly regarding awareness and knowledge about contraceptive methods, HIV/STI, and SRH services. Despite some level of awareness about FP methods, comprehensive knowledge and consistent use remain limited. There is a significant lack of detailed knowledge about various contraceptive methods, especially long-term or permanent options, condoms and multipurpose approaches for the prevention of unwanted pregnancy. The inconsistent use of contraception, particularly among married women, and the limited awareness of permanent contraceptive methods, which are not provided in the camps, are the result of a lack of comprehensive SRH education.

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Knowledge and awareness about HIV/STIs among Rohingya communities are inadequate, contributing to low condom use, misconceptions about HIV transmission, and increased overall vulnerability to HIV/STIs. The estimated number of HIV-infected Rohingya individuals in Bangladesh is likely to be largely underestimated due to poor testing rates. The large-scale forced displacement of Rohingya refugees has resulted in a lack of systematic HIV data in both host and home countries. Approximately 5,000 HIV-infected Rohingya individuals are estimated to have arrived in Bangladesh, on the basis of Myanmar's 0.8% HIV prevalence rate, and this number is likely to be largely underestimated; however, fewer than 600 cases have been identified, mainly due to poor testing rates.

The prevalence of contraceptive use among Rohingya women varies significantly. The most commonly used methods are injections and oral contraceptive pills. Men's participation in FP is minimal, with very few using condoms as a contraceptive method. This low level of participation is influenced by sociocultural norms and misconceptions about condom use.

Cultural and religious norms play a pivotal role in shaping attitudes toward FP. Many Rohingya women face societal pressure to adhere to traditional reproductive roles, which often prioritize large family sizes and the preference for male children. These deep-rooted beliefs not only influence reproductive decision-making but also reinforce the notion that women should continue having children until a son is born. Such cultural expectations limit women's autonomy in deciding the number and spacing of their children and perpetuate the high fertility rates observed within the community. The persistence of these norms poses a significant challenge to the adoption and sustained use of modern contraceptive methods.

Gender dynamics further exacerbate the challenges associated with FP. In many cases, FP decisions are predominantly influenced by male partners, with women requiring spousal consent to access contraception. This power imbalance limits women's ability to make independent reproductive choices and perpetuates the idea that contraception is solely a woman's responsibility. Men's participation in FP remains rare, particularly in terms of the use of contraceptives such as condoms. This lack of male involvement, combined with traditional gender roles, restricts the potential for shared responsibility in reproductive health and undermines efforts to promote more equitable FP practices.

Moreover, misconceptions about contraception, often reinforced by religious and community leaders, contribute to a reluctance to adopt or continue using contraceptive methods. Misinformation about the potential side effects of contraceptives and religious prohibitions against their use has led to widespread discontinuation and underutilization of available services. This reluctance is further reflected in the low contraceptive uptake

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among unmarried adolescent girls, who face additional cultural stigma around sexual activity and contraception. The lack of interest in contraception among young girls highlights the need for more targeted and culturally sensitive educational initiatives aimed at addressing these misconceptions and promoting the benefits of contraception from an early age.

Access to SRH services also remains inconsistent within refugee camps. Although some women have reported receiving SRH counseling and services, there is a lack of uniformity in healthcare outreach, with many women receiving infrequent or no visits from healthcare workers. This inconsistency in service provision, coupled with logistical challenges such as overcrowding and inadequate staffing, further limits women's ability to access timely and effective SRH care. Moreover, negative perceptions from the host community further exacerbated access to essential SRH care. Even when services are available, cultural reluctance and societal pressures often deter women from fully utilizing these resources.

Addressing the SRH needs of Rohingya refugee women in Bangladesh requires a holistic approach, which must be comprehensive, culturally sensitive, and community driven. This should involve the training of Rohingya refugee volunteers—both men and women—and their engagement with healthcare services, the implementation of effective HCI strategies, the provision of comprehensive SRH services, culturally sensitive education promoting gender equity, and initiatives to improve the uptake of the FP. Community-based approaches, home-based healthcare, and tailored outreach programs were identified as essential strategies for bridging gaps in knowledge, access, and utilization of SRH services among Rohingya refugees. For example, in Jordan's Za'atari refugee camp hosting Syrian refugees, the Women and Girls Comprehensive Centre exemplifies this approach, offering a spectrum of services spanning health, education, empowerment, and social support for women and girls. We believe that it is important to customize these interventions to address the specific challenges and barriers faced by the Rohingya population, taking into consideration accessibility to services, cultural sensitivity specific to the Rohingya community, and women's empowerment in making informed decisions about their SRH.

There are some SRH challenges that are specific to the Rohingya refugee community, in addition to the challenges faced by refugees in general. First, Rohingya refugees arrived in Bangladesh from a particularly disadvantaged position, as they had been ostracized and had no access to formal education in Myanmar. Therefore, they urgently need comprehensive education and access to SRH services. Second, the government of Bangladesh does not recognize them as refugees, which also limits their access to essential services, including healthcare and legal protections. Third, Rohingya refugees

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have been denied citizenship in their homeland and are highly unlikely to return to Myanmar with full citizenship rights. There is a new generation of Rohingya women growing up in the camps, facing significant barriers to education and SRH resources, while their opportunity to receive SRH education is limited to refugee camps. Without a shift in the current status quo and meaningful interventions, such as those suggested in this review, the ongoing negative outcomes will likely persist, impacting future generations of Rohingya women. In our view, there is also a critical urgency to take immediate and decisive action to enhance SRH outcomes and break the cycle of disadvantage experienced by this vulnerable population. We call for interventions that are tailored or adapted to the unique circumstances that Rohingya refugees face. Understanding and addressing the multifaceted challenges within the SRH landscape of Rohingya refugee women in Bangladesh is vital for improving their overall health outcomes and ensuring their reproductive rights and well-being.

Implication for practice

The findings of this review underscore the urgent need for culturally sensitive and community-based interventions to address the sexual and reproductive health (SRH) challenges faced by Rohingya refugees in Bangladesh. Strengthening healthcare outreach through frequent, door-to-door visits and training Rohingya community health volunteers, including both men and women, can bridge cultural gaps and improve trust and engagement with SRH services. Expanding SRH education programs with culturally tailored materials in the Rohingya language is essential to dispel prevalent misconceptions about contraception and HIV/STIs. These efforts should actively engage religious and community leaders to normalize SRH discussions and promote gender equity. Additionally, increasing male participation in family planning through targeted interventions can help challenge traditional gender norms and foster shared responsibility in reproductive decision-making.

Improving access to SRH services requires prioritizing comprehensive healthcare within safe, easily accessible locations in refugee camps, including the integration of long-term contraceptive options. Establishing women- and adolescent-friendly spaces can empower individuals to make informed decisions while addressing the specific needs of younger populations. Tailored health communication strategies that emphasize accurate, consistent messaging can further enhance awareness and uptake of SRH services. Advocacy efforts are also critical to ensure the rights of Rohingya refugees to healthcare access, necessitating collaboration among governments, international NGOs, and local organizations. A holistic approach combining education, outreach, and policy advocacy is vital for improving the SRH outcomes and overall well-being of this vulnerable population.

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Limitations

We acknowledge certain limitations of this review. It did not include NGOs or government reports, and the search was limited primarily to English-language publications. Notably, our review focused on specific SRH issues, such as sexual health, FP, contraception, STIs, and HIV/AIDS, while omitting other issues, such as maternal and child health, MR, PAC, GBV, and reproductive cancers. Our focus was specifically on Rohingya refugees in Bangladesh, excluding those in other countries. Despite efforts to maintain consistency, variances in applying inclusion criteria may have arisen during the screening process conducted by two team members. Most of the studies were cross-sectional, with limited comparisons across refugee populations and insufficient discussions on the impact of local laws on SRH. Most publications included in this review were of weak or moderate quality, which could have impacted their findings and, consequently, our discussion here. This also indicates a need for higher-quality research in this field. The inclusion of gray literature, often based on self-reported data, may introduce potential biases due to the less rigorous methodological standards typically applied in these types of studies. Despite these limitations, the review highlights the need for and barriers to delivering SRH services among Rohingya refugees in Bangladesh, which may be used to improve the SRH services provided to them.

Conclusion

This systematic review highlights important gaps in SRH knowledge and service utilization among Rohingya refugee women in Bangladesh. The findings reveal deficiencies in SRH education, particularly with respect to awareness and knowledge about different contraceptive methods and SRH services, a limited understanding of HIV/STI prevention, inconsistent access to SRH services and multiple barriers to accessing SRH services. Cultural norms, gender dynamics, and misconceptions about contraception contribute to low contraceptive uptake and the use of SRH services. Additionally, the need for spousal consent and limited male involvement in family planning decisions further hinder women's autonomy in reproductive health. To meet the SRH needs of Rohingya refugee women, there must be a concerted effort to scale up a multifaceted approach to interventions, including culturally sensitive interventions, promoting comprehensive SRH education, community-based outreach, and improving access to SRH services. Only through sustained and well-coordinated efforts can we address the complex barriers faced by this vulnerable population and improve their overall reproductive health and well-being.

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Lists of abbreviations

EMBASE	Excerpt from the Medica database
FP	Family Planning
FGD	Focus Group Discussion
GBV	Gender-based violence
HCIs	Health Communication Interventions
HIV/AIDS	Human immunodeficiency virus, acquired immunodeficiency syndrome
IAWG	Interagency Working Group
IDI	In-depth Interviews
KAP	Knowledge, Attitudes, and Practice
KII	Key informant interviews.
MEDLINE	Medical literature and retrieval system online
MISP	Minimum Initial Service Package
MR	Menstrual Regulation
NGO	Nongovernmental organization
PAC	Post-Abortion Care
PRISMA	Preferred Reporting Items for Systematic Review
PROSPERO	International Prospective Register of Systematic Reviews
UNFPA	United Nations Population Fund
SRH	Sexual and reproductive health
STI	Sexually transmitted infection
WHO	World Health Organization

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