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Sexually Transmitted Infections in Bangladesh: A Narrative Synthesis of Multidimensional Impact

Thrina Islam[1], Md. Sohel Mahmud[2]

1. Chief Researcher
   The Scholaro
2. Research Assistant
   The Scholaro

Correspondence to:
Thrina Islam
Chief Researcher and CEO
The Scholaro
Email: thescholaroexplore@gmail.com

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Abstract

Background:
Sexually transmitted infections (STIs) remain a global public health challenge, especially in low- and middle-income countries where social, economic, and structural factors increase vulnerability.

Objective:
The objective of this narrative review was to synthesize evidence on the epidemiology, determinants, multidimensional impacts, and prevention strategies of sexually transmitted infections (STIs) in Bangladesh.

Methods:
A narrative literature review of studies published from 2000 to 2024 was conducted using PubMed, ScienceDirect, and Google Scholar. Ten studies met inclusion criteria. Data were analyzed using qualitative content analysis, categorizing themes into epidemiology, determinants, impacts, and control strategies.

Results:
HIV appeared in 20% of studies, mostly among people who inject drugs, while 60% reported high prevalence of other STIs among female sex workers. Structural determinants such as poverty and inequality were identified in 30% of studies, and behavioural factors such as low condom use in 20%. Health complications (60%), social stigma (20%), and gender-related vulnerability (20%) were documented. Prevention strategies were discussed in 70% of studies, but were mostly population-specific rather than integrated.

Conclusion:
STIs in Bangladesh are influenced by behavioural, social, and structural determinants. Integrated, inclusive, and evidence-based interventions addressing both individual and societal risk factors are necessary to prevent future escalation.

Keywords: STI, Epidemiology, Determinants, Vulnerability, Public health, Prevention strategies.

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Introduction:

Sexually transmitted infections (STIs) remain a major global public health challenge, affecting more than one million individuals daily and contributing substantially to morbidity, mortality, and long-term health consequences worldwide.[1] Common bacterial and viral STIs such as chlamydia, gonorrhea, syphilis, human papillomavirus (HPV), herpes simplex virus (HSV), and human immunodeficiency virus (HIV) are associated with adverse reproductive health outcomes, infertility, increased susceptibility to HIV acquisition, and considerable psychological distress. Persistent transmission is closely linked to structural and social determinants, including inequality, limited access to quality healthcare, stigma, discrimination, and weak surveillance systems. In Bangladesh, STIs represent an ongoing but under-recognized public health concern. Although national HIV prevalence remains relatively low, STI-related symptoms and risk behaviors are prevalent among vulnerable groups, including adolescents, ever-married women, urban slum residents, female sex workers, and displaced populations such as Rohingya refugees.[2] National survey data indicate that approximately

10% of ever-married women report abnormal genital discharge and 6% report genital sores or ulcers, suggesting a considerable hidden burden.[3] Urban–rural disparities, poverty, limited sexual and reproductive health education, and sociocultural stigma significantly influence care-seeking behavior and reporting, resulting in likely underestimation of true prevalence.[4] Broader structural determinants such as gender inequality, labour migration, informal employment, and inadequate surveillance infrastructure—continue to impede effective prevention and control efforts.[5] Across South and Southeast Asia, STI transmission is facilitated by rapid urbanization, mobility, evolving sexual norms, and persistent gender disparities.[6] Regional evidence from India, Pakistan, Nepal, Bhutan, Malaysia, and Vietnam highlights substantial variation in STI prevalence among key populations, including men who have sex with men (MSM), female sex workers, adolescents, married women, and people living with HIV. STIs are also strongly associated with intimate partner violence, poor mental health, and socioeconomic disadvantage, underscoring their multidimensional impact.[7] Beyond physical morbidity, STIs carry significant psychosocial and economic consequences. Affected individuals frequently experience shame, anxiety, depression, strained interpersonal relationships, and barriers to timely healthcare, which may perpetuate transmission cycles.[8] Evidence suggests that inadequate knowledge, negative attitudes toward condom use, and low self-efficacy remain critical drivers of vulnerability, particularly among youth and marginalized communities.[9] Therefore, integrated, context-specific strategies addressing biomedical, behavioral, and structural determinants are essential. This narrative review aims to synthesize evidence on the epidemiology, determinants, impacts, and prevention strategies of STIs in Bangladesh.

Methods:

This narrative literature review, conducted over a three-month period from November 2025 to January 2026, synthesizes evidence on the epidemiology, determinants, impacts, and intervention strategies of sexually transmitted infections (STIs) in Bangladesh. A structured search was conducted in PubMed, ScienceDirect, and Google Scholar for studies published between 2000 and 2024, using keywords such as "HIV," "gonorrhea," "syphilis," "chlamydia," "female sex workers," and "Bangladesh." Inclusion criteria were primary research studies conducted in Bangladesh that examined HIV or other STIs, reported on prevalence, determinants, impacts, or interventions, and were published in English.

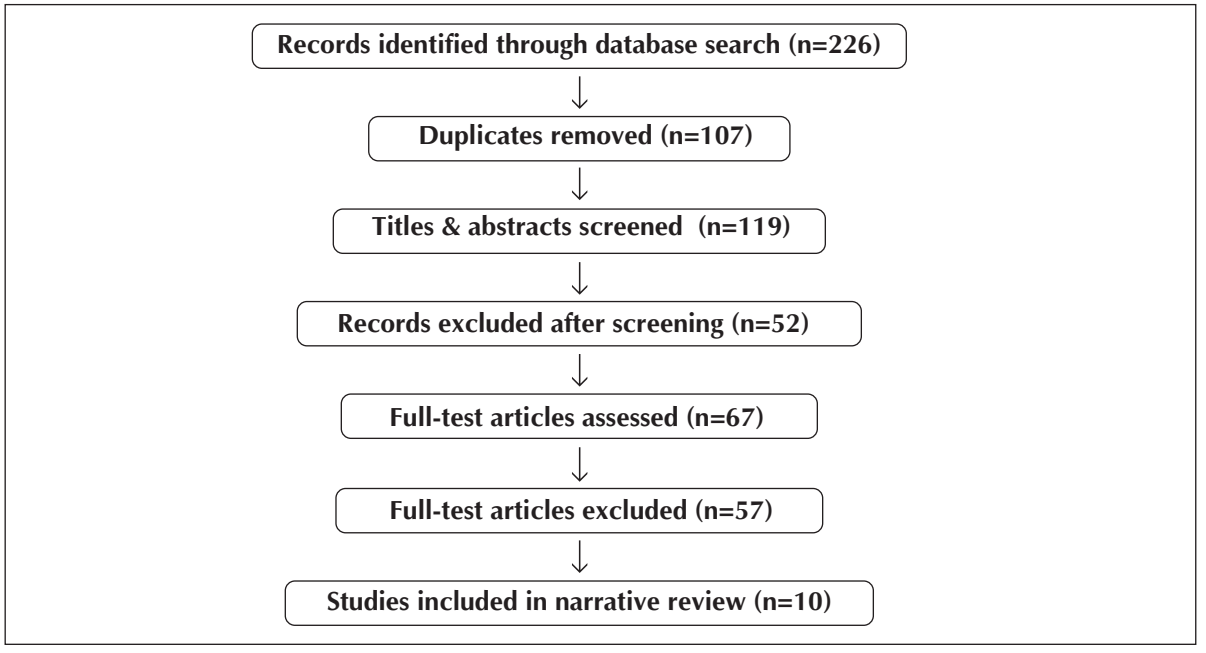

Figure 1: PRISMA flow diagram of study selection process for the narrative review

Review articles, commentaries, conference abstracts, and studies conducted outside Bangladesh were excluded. Ten studies were selected, and data on study design, population, STI type, findings, determinants, and interventions were extracted and organized into summary tables.

Data Analysis

A qualitative content analysis approach was applied to categories epidemiological patterns, determinants, multidimensional impacts, and intervention strategies. The proportion of studies addressing each theme was calculated to provide a structured synthesis of the literature.

Results:

Table-I to V summarized the studies regarding on Sexually Transmitted Infections,prevalence and determinants of STIs,multidimensional impacts of STIs,interventionstrategies for STI prevention and controlin Bangladesh.

Epidemiological Landscape and Determinants of STIs in Bangladesh

The literature indicates that STIs in Bangladesh are largely concentrated among high-risk populations. HIV was reported in 20% of studies, mainly among PWID, while 60% reported other STIs, including gonorrhea and syphilis, particularly among FSWs. Key determinants include poverty and social

Table-I: Summary of selected studies on sexually transmitted infections in Bangladesh

Article	Purpose	Design & Sample	Population/ Area	Key Findings	Conclusion
Azim et al (2008)[10]– HIV and AIDS in Bangladesh	Estimate HIV prevalence among youth	Cross-sectional; 1,860 youth	National	No HIV detected; high behavioral vulnerability	Targeted prevention needed among youth
Azim et al (2008)[11] –PWID in Dhaka	Investigate HIV outbreakCross-sectional; 1,200 PWID	Dhaka HIV prevalence 7%	in PWID cluster	Harm reduction programs essential	
Kawser et al (2024)[12] – Gonorrhea	prevalence Gonorrhea burden	Cross-sectional; 731 FSWs	Dhaka	7–15% prevalence Routine STI	screening required
Huda et al (2022)[13] – Chlamydia infection	Chlamydia prevalence	Cross-sectional; 731 FSWs	Dhaka	10–20% prevalence	Untreated infections risk infertility
Alim et al (2023)[14] – STI prevalence	Observational; STI burden	urban high-risk groups Urban	High HSV-2 &	syphilis rates Syndromic	management insufficient
Hasan (2020)[15]– Women's vulnerability	Gender dimensions of STI risk	Qualitative; married women	Rural Bangladesh	Limited condom negotiation power Gender empower-	ment necessary
Kundu et al (2023)[16] – MSM healthcare access	Barriers to STI care Qualitative; MSM	& Hijra Urban	Discrimination	delays treatment Reduce stigma in	healthcare system
Hussain & Ferdous (2020)[17] – Bangladesh	Country Report National overview	Surveillance data; national	National	<0.1% HIV in general population Concentrated	epidemic persists
Khanam et al (2017)[18]– Syphilis among street-based FSWs	Syphilis prevalence Cross-sectional;	395 FSWs Dhaka	8–11% prevalence;	low condom use Strengthened outreach needed	
Haseen (2012)[19] – STI risk among male clients	Risk among male clients	Cross-sectional behavioral survey Urban	Low condom use	with regular partners Male clients critical	in prevention

Table-II: Prevalence and determinants of STIs in Bangladesh

Infection	Prevalence (Bangladesh)	Key Population	Determinants	Source
HIV	<0.1% general; 7% PWID Dhaka	PWID	Needle sharing, unsafe injecting	Azim et al, 2008
Syphilis	8–11%	Street-based FSWs	Low condom use, multiple partners	Khanam et al, 2017
Gonorrhea	High prevalence	FSWs Dhaka	Structural vulnerability, poverty	Kawser et al, 2024
Chlamydia / STI symptoms	Nationally reported	Ever-married women	Socioeconomic and behavioural factors	Huda et al, 2022
Overall STI burden	Increasing trends	Urban high-risk groups	Age, education, income, behavioural risks	Alim et al, 2023

Table-III: Multidimensional impacts of STIs in Bangladesh

Impact Domain	Manifestations	Evidence
Health Impact	Infertility, reproductive complications, HIV risk	Kawser et al, 2024; Khanam et al, 2017
Psychological Impact	Fear, stigma, distress	Hossain & Ferdous, 2020
Social Impact	Exclusion, discrimination	Hossain & Ferdous, 2020
Economic Impact	Higher healthcare costs, poverty	Kawser et al, 2024
Gender Impact	Limited condom negotiation, adolescent vulnerability	Hasan, 2012; Huda et al, 2022

Table-IV: Intervention strategies for STIs prevention and control in Bangladesh

Intervention Domain	Description	Evidence
Harm Reduction	Needle/syringe exchange for PWID	Azim et al, 2008
Condom Promotion & Safe Sex	Condom distribution and behavioral interventions for FSWs & clients	Haseen et al, 2012
Structural & Social Interventions	Address poverty, vulnerability, and structural risks	Kawser et al, 2024
Behavioural Surveillance	Monitor high-risk behaviors and STI prevalence	Azim et al, 2008; Haseen et al, 2012
Reproductive Health & Women Empowerment	Targeted services for adolescents and women	Hasan, 2012; Huda et al, 2022
Social Inclusion & Stigma Reduction	Reduce discrimination among marginalized groups	Hossain & Ferdous, 2020
National Surveillance	Monitor HIV/STI trends nationally	Hussain & Ferdous, 2020

instability (30%), low condom use (20%), needle sharing among PWID (10%), and gender inequality (10%), highlighting structural, behavioral, and gender-related vulnerabilities.

Multidimensional Impacts of STIs

STIs in Bangladesh have wide-ranging impacts:

- Health: Reproductive complications and increased HIV susceptibility were discussed in 6 studies (60%).
- Social: Exclusion and stigma were noted in 2 studies (20%).
- Gender: Limited condom negotiation power among women was identified in 2 studies (20%).
- Structural determinants, including poverty and inequality, were reported in 3 studies (30%).

Prevention and Control Strategies

Interventions were discussed in 7 out of 10 studies (70%). Key strategies included:

- Condom promotion and behavioral interventions: 3 studies (30%) targeted FSWs and male clients.
- Harm reduction (needle exchange): 1 study (10%).
- Women empowerment and reproductive health: 2 studies (20%).
- Stigma reduction and social inclusion: 1 study (10%).

Table-V: Preventive and control strategies identified in STI studies in Bangladesh

Authors	Intervention Discussed	Type of Intervention
Azim et al (2008 – PWID)	Yes	Needle & syringe exchange
Kawser et al (2024)	Yes	Structural & social determinant intervention
Huda et al (2022)	Yes	Reproductive health awareness
Alim et al (2023)	No	-
Hasan (2020)	Yes	Women's empowerment & reproductive health
Kundu et al (2023)	No	-
Hossain & Ferdous (2020)	Yes	Social inclusion & stigma reduction
Khanam et al (2017)	Yes	Condom promotion & outreach
Haseen et al (2012)	Yes	Behavioural intervention & condom promotion
Azim et al (2008–youth study)	No	-

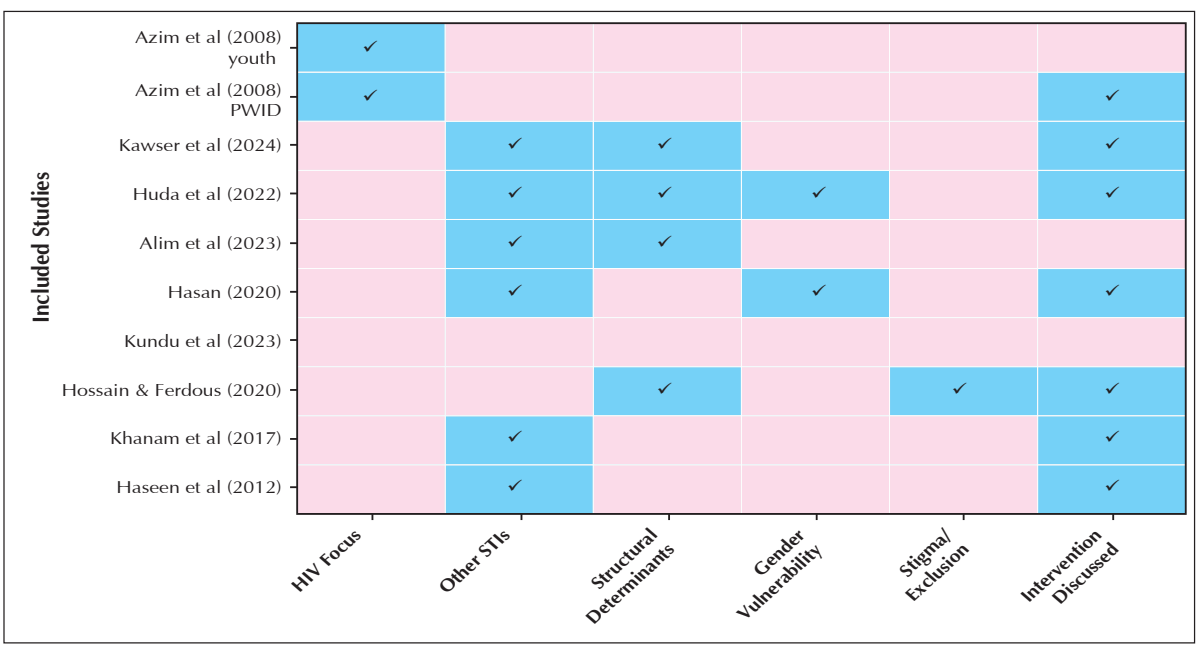

Figure 2: Thematic frequency heatmap of STI research coverage in Bangladesh

Discussion:

The literature indicates that sexually transmitted infections (STIs) in Bangladesh predominantly affect specific high-risk groups rather than the general population. This pattern aligns with global trends. According to the World Health Organization (WHO, 2022), more than 374 million new curable STI infections occur worldwide each year, disproportionately affecting marginalized and vulnerable populations. Similarly, Viswasam et al (2021) reported that approximately 10.4% of female sex workers globally are HIV positive, highlighting how occupational and structural vulnerabilities increase the risk of infection.[20] Consistently, this review found that 60% of the included studies reported a high prevalence of STIs among female sex workers, which reflects international patterns. In contrast, Bangladesh exhibits a very low HIV prevalence in the general population, whereas some African countries have rates exceeding 5% (UNAIDS, 2023).

Determinant analyses also show both similarities and differences compared to previous research. Baral et al (2007) found that 18% of men who have sex with men worldwide are HIV positive, emphasizing the role of stigma, discrimination, and limited healthcare access in increasing vulnerability.[21] Gupta et al (2019) also highlighted that poverty and gender inequality make women in South Asia more susceptible to STIs. This study identified structural factors in 30% of the included studies, yet only 20% examined gender inequality, suggesting a notable research gap in Bangladesh.[22] The effects of STIs on multiple domains mirror global findings. Untreated STIs are strongly linked to infertility and reproductive complications (Satterwhite et al, 2013) and also increase susceptibility to HIV. Psychological impacts, including fear, stigma, and distress, are consistent with Newman et al (2015), who demonstrated that stigma reduces treatment-seeking behaviour.[23] Social and structural inequalities including limited healthcare access, poverty, and restricted condom negotiation power further exacerbate STI risks and negative outcomes.

International evidence underscores the effectiveness of integrated prevention strategies. Fonner et al (2014) found that combining behavioural interventions with condom promotion can reduce STI risk by up to 25%. Similarly, 70% of studies included in this review suggested preventive measures.[24] However, interventions in Bangladesh remain largely fragmented and population-specific, unlike the nationwide integrated approaches implemented in other countries. This suggests that program structure, rather than the type of intervention, influences effectiveness.

Limitations:

The study's short duration and limited sample of ten studies may not capture Bangladesh's full STI diversity. Focus on urban/high-risk populations, cross-sectional designs, underreporting, and unexamined practical challenges such as resource, sociocultural, and healthcare system barriers limit comprehensive analysis.

Conclusion:

This review indicates that STIs in Bangladesh remain concentrated among high-risk and marginalized populations, driven by behavioural, structural, and gender-related determinants. Although HIV prevalence is low in the general population, persistent vulnerabilities and fragmented interventions highlight the need for integrated, inclusive, and evidence-based public health strategies to prevent future escalation.

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