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Evaluation of ICT-based intervention to promote essential SRHR services among gender and sexually diverse people in Bangladesh

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Background

Sexual and Reproductive Health (SRH) needs of Gender and Sexually Diverse People (GSDP), i.e., men who have sex with men (MSM), Male Sex Workers (MSW), and hijra, often remain unmet due to pervasive stigma, discrimination, and legal constraints. Globally, these populations encounter significant barriers to accessing SRHR services, predominantly because these interventions are HIV/STI-focused, thus neglecting broader SRHR needs. Previous HIV intervention experiences indicate that MSM/MSW/hijra from lower-income backgrounds and those involved in sex work are more inclined to use facility-based HIV prevention services in Bangladesh, such as Drop-in Centers (DICs). In contrast, educated and affluent GSDP often avoid these services due to concerns about stigma and identity disclosure, leaving them out of current HIV prevention services. Many MSM/MSW/hijra, especially self-identified gay men, rely on private networks, prefer to stay hidden, and avoid available HIV/STI prevention service centres.

To ensure access to comprehensive SRHR services for these hidden groups, innovative outreach strategies were essential. Global studies have shown that digital health intervention models can improve SRHR accessibility, especially by offering private, convenient options for groups facing social and legal barriers. While these models have been piloted successfully in high-income settings, their adaptation to low-resource settings remains limited. In this context, this research aims to evaluate the ICT-based SRHR services among these groups compared to conventional DIC-based services in Bangladesh.

Methodology



Map of Bangladesh

Design Implementation research (Hybrid effectiveness trial Type 1) involving a mixed-methods approach

Participants MSM, MSW, Hijra

Study sites and sample size

Manikganj (Intervention site)			Mymensingh (Comparison site)		
Target	Baseline	Endline	Target	Baseline	Endline
341	343	302	341	344	344

Study Period: **August 2023 – June 2026**

Formative Assessment

Qualitative exploration to:

- Identify participants' SRHR needs
- Current practices and service-use patterns
- Assess contextual barriers and facilitators
- Understand stakeholders' perspectives
- Identify preferred contents

Intervention Development

- Intervention conceptualisation
- Content development and refinement
- Pilot testing of draft content
- ShebaSathi app and hotline development
- Referral-network workshop with tertiary healthcare providers

Implementation

- Baseline survey using quasi experimental method
- Participant orientation on the intervention
- Sharing the ShebaSathi app download link
- App installation and registration support
- Demonstration video on app features

Evaluation

- Endline survey in both sites
- Qualitative assessment of acceptability and implementation challanges

Figure 1: Study phases

Intervention Components

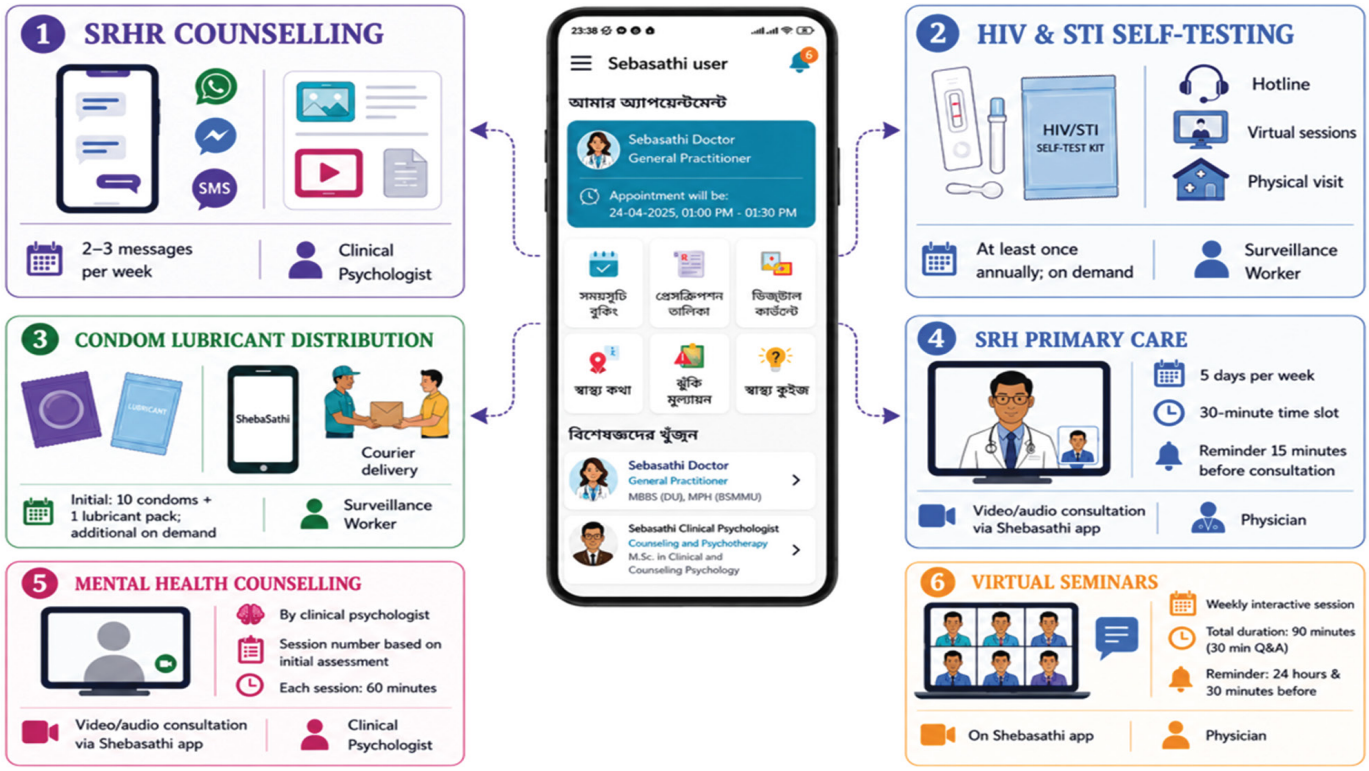


Figure 2: Intervention delivery through Shebasathi mobile app and hotline

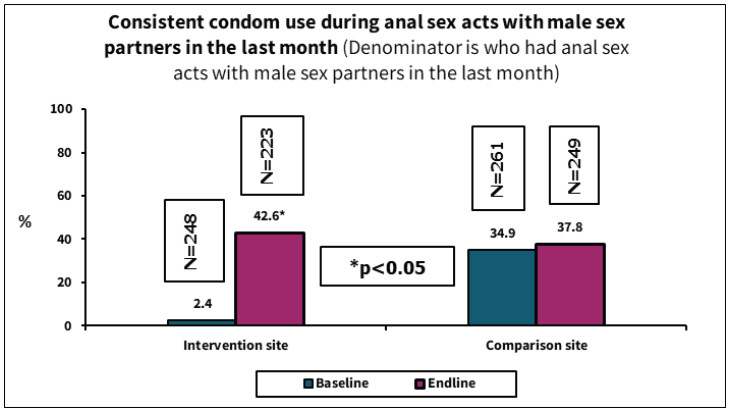






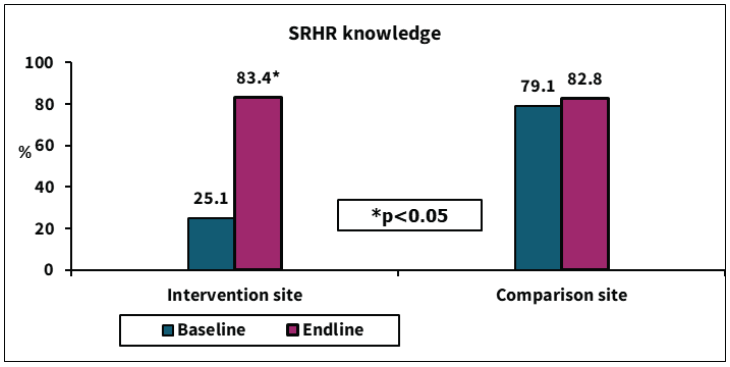
Key Findings

Intervention Effectiveness



Difference-in-Differences (DiD) estimate of consistent condom use: 37.3 percentage points (p<0.05)

> *"I also encourage my partners to use condoms. Some partners ask me to have sex without a condom, but I do not agree or show interest in such situations."*
>
> - *FGD-1, P2, 23yrs, intervention site*



DiD estimate of adequate knowledge: 54.6 percentage points (p<0.05)

Changes in mental health status

- Self-reported depression reduced significantly compared to comparison site
  (**DiD estimate:** -11.6 percentage points, p<0.05)
- Self-reported anxiety also reduced significantly compared to comparison site.
  (**DiD estimate:** -17.4 percentage points, p<0.05)

The knowledge was measured in five domains: STI, HIV, family planning, reproductive health, and sexual and reproductive rights. The score was calculated as the number of correct responses to 24 questions and having at least two-thirds of the knowledge score was considered adequate knowledge

Intervention Acceptability

ShebaSathi (N=302) vs Routine DIC Services (N=344) at endline:

HIV self-testing	Syphilis self-testing*	Received condoms & lubricants	STI treatment	Psychotherapy*
ShebaSathi: **98.3%**	ShebaSathi: **98.3%**	ShebaSathi: **100.0%**	ShebaSathi: **29.5%**	ShebaSathi: **15.9% - 17.9%**
DIC: **100.0%**	DIC: **Not available**	DIC: **100.0%**	DIC: **43.1%**	DIC: **Not available**

**Syphilis self-testing and psychotherapy (psychosocial and psychosexual counselling) were not available in the DIC*

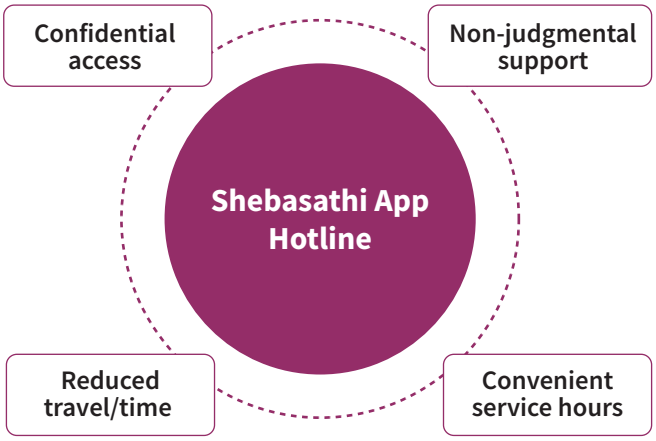


Figure 3: Intervention acceptability: participant perspectives

> *"In overcrowded government hospitals, we could not share our sexual health issues openly. Through ShebaSathi, I could speak with a doctor privately, and they took the time to listen to all of my concerns..."*
>
> - *FGD-1, P4, 20yrs, intervention site*

Implementation Challenges and Adaptations:

Participants experienced poor internet connectivity, limited digital literacy, and device incompatibility. Initially, engagement was disrupted by frequent changes in phone numbers and fear of identity disclosure, while daytime work and financial constraints delayed referrals. The icddr,b team addressed these challenges through technical support, alternative and discreet communication, reassurance about identity protection, regular follow-up, and coordination with healthcare facilities.

How this Study Adds Value

- This study highlights a substantial unmet demand for SRHR services beyond conventional HIV prevention among GSDP, which can be effectively addressed through ICT-based approaches such as digital health interventions.
- The high retention rate (88%) and positive user experiences suggest that digital SRHR interventions are both feasible and acceptable in stigmatized settings.
- The findings indicate that scaling up standalone digital SRHR platforms could be a promising strategy to expand service access among underserved GSDP populations in Bangladesh.

Recommendation

- Incorporate digital health interventions within the national health priorities, especially for underserved populations like GSDP.
- Expand digital SRHR service delivery as a complementary approach to conventional DIC-based HIV prevention programs.
- Incorporate mental health, counselling, and broader SRHR services within HIV programs to address the unmet needs of GSDP.

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In partnership with Canada

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