

## Abstract

# Adaptation of a Theory-Based, Clinic-Affiliated Smartphone App to Improve HIV Testing and Pre-exposure Prophylaxis Uptake Among Gay, Bisexual, and Other Men Who Have Sex With Men in Malaysia

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## Abstract

**Background:** In Malaysia, HIV disproportionately affects gay, bisexual, and other men who have sex with men (GBMSM). Homosexuality and substance use are criminalized in Malaysia, making GBMSM bear multilevels of social stigma and discrimination, including in health care. Mobile health (mHealth), particularly smartphone apps, is a promising and cost-effective strategy for reaching stigmatized and hard-to-reach populations like GBMSM and linking them to HIV prevention services (eg, HIV testing and pre-exposure prophylaxis [PrEP]), particularly in the context of COVID-19.

**Objective:** This study aimed to adapt the HealthMindr app (Emory University), which was developed with GBMSM in the United States, to improve HIV testing and PrEP uptake for GBMSM in Malaysia.

**Methods:** We conducted online focus group discussions (FGDs) between August and September 2021 with 20 GBMSM and 16 community stakeholders (eg, doctors, nurses, pharmacists, and nongovernmental organization staff). Participants were asked questions regarding their preferences for functions and features in mHealth apps among GBMSM and suggestions for adapting the HealthMindr app to the Malaysian context. Each session was digitally recorded and transcribed. Transcripts were inductively coded using Dedoose software (University of California, Los Angeles) and analyzed to identify and interpret emerging themes.

**Results:** The FGDs with GBMSM revealed preferences for interfacing with apps to access HIV testing, PrEP, and counseling services. Stakeholders showed strong interest in using the app-based platform to deliver integrated care (eg, HIV and mental health). The key themes mostly focused on adaptation and refinement for the Malaysian context and were related to cultural and stylistic preferences (design and user interface), engagement strategies (reward systems, marketing campaigns, and reminders), and recommendations for new functions (enhanced communication options via chat and discussion forums) in a one-stop hub for all HIV prevention needs (HIV self-testing, PrEP, and postexposure prophylaxis) that minimize privacy and confidentiality risks.

**Conclusions:** Our data suggest that a tailored HIV-prevention app would be acceptable for GBMSM in Malaysia. The findings provided detailed recommendations for the successful adaptation and refinement of the existing platform for optimal use in the Malaysian context.

**Conflicts of Interest:** None declared.

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**KEYWORDS**

HIV; HIV prevention; pre-exposure prophylaxis; PrEP; HIV test; men who have sex with men; MSM; mHealth; eHealth; Malaysia; focus groups

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