

Enhancing HIV pre-exposure prophylaxis using telehealth: Insights from the iPARTY study

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Human immunodeficiency virus (HIV) infections are increasing globally despite significant advancements in preventive and treatment programmes.¹ This alarming trend is particularly pronounced within high-risk populations, especially among young men who have sex with men (YMSM). Given these rising infection rates, studies such as the iPARTY study are highly pertinent and essential. The study provides valuable insights into the implementation of pre-exposure prophylaxis (PrEP) among YMSM in Singapore, shedding light on critical factors that influence adherence, such as sexual practices and mental health.² Despite the well-documented efficacy of PrEP in significantly reducing the risk of HIV transmission, its uptake remains suboptimal. This is especially true for younger individuals who may encounter barriers such as financial difficulties, lack of awareness and social constraints.

One of the key strengths of the iPARTY study is its focus on teleconsultations for PrEP implementation. The study found that telehealth services were well-received by participants, indicating a promising avenue for increasing PrEP accessibility. Telehealth has emerged as a crucial tool in ensuring that high-risk individuals can access preventive healthcare without fear of stigma or logistical challenges.³ This is particularly relevant in regions where YMSM and other at-risk groups face societal stigma, which may discourage them from seeking in-person services. Teleconsultations also provide convenience and cost savings, especially for individuals who do not reside near healthcare facilities that offer PrEP services.

Another significant finding of the study is the decline in adherence to daily PrEP over the study period. While adherence rates were initially high, they declined significantly towards the study's conclusion. This trend aligns with findings from other PrEP-related studies, underscoring the challenge of not only initiating PrEP but also ensuring long-term adherence. Several factors contribute to this decline, including medication fatigue, the perception of reduced risk and

concerns about the long-term impact of PrEP use. Addressing these issues requires the implementation of adherence strategies such as regular counselling, peer support, and reminder systems. These interventions could help mitigate the decline in adherence and improve overall PrEP outcomes.⁴

The study also reported a reduction in condom use among participants and a concurrent rise in sexually transmitted infections (STIs). This phenomenon, known as risk compensation, is commonly observed in PrEP-related research.⁵ It suggests that some individuals develop a false sense of security when using PrEP, leading them to engage in higher-risk sexual behaviours, including reduced condom use. While PrEP is highly effective at preventing HIV transmission, it does not protect against other STIs, making the integration of behavioural counselling into PrEP programmes essential. Addressing risk compensation through education and counselling can help ensure that PrEP users maintain comprehensive sexual health practices.

Interestingly, the study also observed a reduction in the number of sexual partners over time among participants. This suggests that while some aspects of risk behaviour may increase (such as reduced condom use), others may simultaneously decrease. This complex dynamic highlights the need for tailored interventions that address both biomedical and behavioural aspects of HIV prevention. By incorporating behavioural counselling, healthcare providers can reinforce safe sex practices, promote condom use, and help PrEP users make informed decisions about their sexual health.

A particularly noteworthy finding of the study is the statistically significant reduction in participants' PHQ-9 scores, indicating improvements in mood and mental health. Given the well-established intersection between mental health and HIV risk, incorporating psychological support into PrEP programmes is crucial. Many individuals in high-risk populations experience mental health challenges, including depression and anxiety, which can impact

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their ability to adhere to PrEP and engage in safe sex practices.⁶ The study highlights the potential of telehealth services not only in delivering PrEP but also in providing mental health support. By leveraging telehealth, healthcare providers can offer integrated care that addresses both the physical and psychological well-being of individuals at risk for HIV.

Telehealth initiatives have already been successfully implemented in other Southeast Asian countries, such as Vietnam and Thailand, to enhance PrEP accessibility.⁷ These programmes demonstrate the feasibility of using technology to overcome barriers to healthcare access. By expanding telehealth services, Singapore and other countries in the region can improve PrEP uptake and adherence while simultaneously addressing the mental health needs of at-risk populations. Telehealth platforms also allow for more discreet and confidential healthcare interactions, which can be particularly beneficial for individuals who may fear discrimination or stigma when seeking in-person PrEP services.

Despite its valuable contributions, the iPARTY study has certain limitations that should be acknowledged. One major limitation is the high dropout rate, which may introduce bias and affect the generalisability of the findings. Additionally, the study relied on self-reported data, which can be subject to recall bias and social desirability bias. Participants may have over- or under-reported certain behaviours, leading to potential inaccuracies in the data. Furthermore, while the study was conducted in Singapore, its findings may not be entirely applicable to other settings with different healthcare infrastructures and cultural attitudes toward PrEP and sexual health. Future research should explore strategies to improve retention and adherence in PrEP programmes, particularly among younger populations and in Southeast Asian contexts where accessibility and stigma remain significant concerns.

Another potential area for future research is the role of long-acting injectable PrEP in addressing adherence challenges. While daily oral PrEP is effective, some individuals struggle with the commitment to taking a pill every day. Long-acting PrEP formulations, which require less frequent dosing, may help improve adherence and overall effectiveness.⁸ Studies exploring the feasibility and acceptability of long-acting PrEP among YMSM could provide valuable insights into how to optimise HIV prevention strategies.

The study also underscores the importance of community engagement and peer support in PrEP implementation. Community-based approaches, including peer-led education and support groups, can enhance PrEP uptake and adherence.⁹ By involving community members in the design and delivery of PrEP programmes, healthcare providers can create more culturally competent and accessible services that meet the unique needs of YMSM and other high-risk populations.

Overall, the iPARTY study adds to the growing body of evidence supporting the use of PrEP and telehealth in HIV prevention. Its findings reinforce the need for integrated, patient-centred approaches that address both biomedical and behavioural aspects of HIV risk. Expanding PrEP access, improving adherence strategies and leveraging telehealth innovations will be critical in achieving more widespread and effective HIV prevention in Singapore and the broader Southeast Asian region. By addressing the challenges identified in this study—such as adherence decline, risk compensation and mental health support—healthcare providers and policymakers can develop more comprehensive strategies to combat the ongoing HIV epidemic.

In conclusion, while PrEP represents a significant advancement in HIV prevention, its full potential can only be realised through strategic implementation that considers behavioural, psychological and logistical factors. The insights gained from the iPARTY study highlight the importance of continued research, innovation and collaboration in the fight against HIV. By integrating PrEP into broader sexual health initiatives, leveraging technology to enhance access and addressing the complex factors that influence adherence, we can move closer to reducing HIV transmission rates and improving the overall health and well-being of high-risk populations. Future studies should build upon these findings to refine and optimise PrEP delivery models, ensuring that all individuals who can benefit from PrEP have the support and resources they need to stay protected against HIV.

Declaration

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