

The Study of Health Knowledge and Communication Needs to Develop a Communication Model to Enhance Self-Care Promotion for Young Men Who Have Sex with Men Living with HIV

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Abstract:

Objective: The present study explored health knowledge and communication needs to develop a communication model to enhance health literacy for self-care promotion among young men who have sex with men (YMSM) living with HIV.

Material and Methods: The research was conducted in two phases: Phase 1 examined health and communication needs through in-depth interviews with YMSM living with HIV and focus group discussions with public health practitioners, community-based organizations, academics, and media representatives. Phase 2 involved developing a communication model and refining it through stakeholder feedback.

Results: Findings revealed four domains of health knowledge needs: physical, mental, sexual, and social health. Communication needs emphasized safe community spaces, use of social media, interactive engagement, and integrated communication, with content requiring credibility, clarity, relevance, and positivity. The proposed strategy highlights Line Open Chat and Line Official Account as key platforms, supported by short videos, infographics, and a health literacy handbook for both online and on-ground implementation.

Conclusion: This study highlights the diverse health knowledge needs of youth and emphasizes clear and positive communication through safe, interactive, and integrated channels. Line platforms, supported by multimedia tools and a health literacy handbook, offer a practical strategy to enhance engagement and promote self-care.

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Keywords: health literacy, HIV self-care, communication model, young men who have sex with men

Introduction

Human Immunodeficiency Virus (HIV) infection remains a major global public health concern. According to the World Health Organization¹, approximately 39.9 million people are living with HIV worldwide, of whom 1.4 million are children aged 0–14 years, and 38.6 million are adults aged 15 years and older, highlighting the persistent global burden of the disease. In Thailand, estimates of the HIV epidemic using the Spectrum–AEM mathematical model (as of April 22, 2022) indicated that in 2021, approximately 520,345 individuals were living with HIV. Among adults aged 15 years and older, the primary mode of new infections was male-to-male sexual contact, accounting for 61.8% of cases². These data underscore the evolving nature of the epidemic and identify high-priority populations that require targeted surveillance and preventive interventions. According to the Department of Disease Control, Ministry of Public Health (2022), Thailand reported 9,322 new HIV infections in 2021, with over half occurring among youth aged 15–24 years ($n=4,379$), and 96% of these cases in young people resulting from unprotected sexual activity. These statistics illustrate the behavioral vulnerability of youth and the persistent public health challenge they pose. Udon Thani, one of the northeastern provinces under the jurisdiction of the Regional Disease Control Office 8 (covering Bueng Kan, Nong Bua Lam Phu, Loei, Nong Khai, Sakon Nakhon, and Nakhon Phanom), is a high-prevalence area. Data from the National Health Security Office³ indicated that approximately 11,152 individuals were living with HIV in Udon Thani, of whom 8,450 were aware of their infection status, making it the province with the highest prevalence within the region, including among youth and other key populations. This high prevalence has prompted the provincial health authorities, particularly the Acquired Immunodeficiency Syndrome

(AIDS) and Sexually Transmitted Infection (STI) Control Program, to accelerate efforts toward achieving Thailand's "Ending AIDS by 2020–2030" goals, which include (1) reducing new HIV infections, (2) decreasing AIDS-related mortality, and (3) eliminating HIV-related discrimination⁴.

The implementation of these strategic goals relies on multi-sectoral collaboration, including government agencies, academic institutions, and civil society organizations, to ensure alignment with national and international objectives. A key initiative is the development of the Reach–Recruit–Test–Treat–Prevent–Retain (RRTTPR) service package, an integrated approach designed to reach key populations, including men who have sex with men (MSM), female and male sex workers (FSW and MSW), transgender women (TGW), and people who inject drugs (PWID)⁵. Services provided under the RRTTPR framework are supported by both domestic and international funding, as well as the National Health Security Office (NHSO), aiming to enhance service accessibility, expand proactive outreach, ensure continuity of care for individuals living with HIV, and prevent new infections among uninfected populations. This approach is particularly critical for young men who have sex with men (YMSM), as evidence indicates rising HIV infection rates globally and in Thailand within this group⁵. However, research examining the lived experiences of YMSM living with HIV demonstrates that they continue to face significant challenges in maintaining their health. Despite efforts to live normative lives, such as seeking health information from professionals, high-risk behaviors persist, contributing to ongoing transmission⁶. Therefore, integrating Dorothea Orem's self-care theory, which emphasizes the individual's health care needs and self-management capabilities, provides a suitable conceptual framework for investigating the health and communication needs of YMSM⁷ (Figure 1).

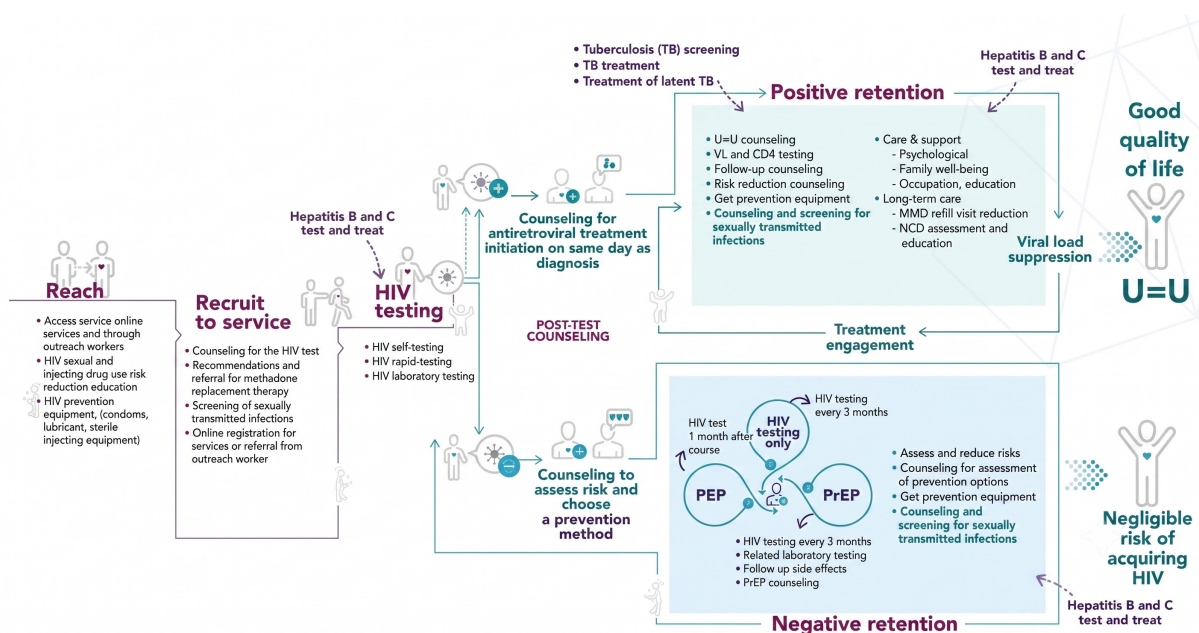


Figure 1 Reach–recruit–test–treat–prevent–retain (RRTTPR) service package

Although Thailand and international organizations have implemented HIV prevention and control measures through the RRTTPR framework and the “Ending AIDS 2020–2030” strategy⁵, HIV incidence continues to rise among youth, particularly young men who have sex with men⁵. This trend indicates that health communication and health literacy interventions targeting this population remain insufficient. YMSN living with HIV face a complex social context due to stigma and discrimination at the individual, family, and societal levels, affecting disclosure of health status, access to healthcare services, and quality of life. Additionally, gender norms and social attitudes that do not accept sexual diversity further increase the mental and social health vulnerability of this group, making it necessary for care and support design to take into account the social and cultural context comprehensively. While international research underscores the importance of health communication tailored to the specific needs of YMSM¹, there is a lack of in–depth studies in Thailand, especially

in high–prevalence areas such as Udon Thani, regarding their health knowledge needs, an effective and accessible communication model, and the behavioral and social factors influencing self–care among YMSM living with HIV. Moreover, although Orem’s self–care theory⁷ provides a conceptual framework for understanding self–management, it has not been systematically applied to develop health communication strategies for YMSM in Thailand. Therefore, this study investigated the health literacy and communication needs of young men who have sex with men living with HIV, with the ultimate goal of informing a targeted and context–specific health communication model.

Material and Methods

The study on health knowledge and communication needs among young men who have sex with men living with HIV was conducted in two distinct phases as follows:

Phase 1: Investigation of Health Knowledge and Communication Needs

Participants

Phase 1: The study focused on exploring the health knowledge and communication needs of young men who have sex with men living with HIV. The participants were selected using purposive sampling⁸ and comprised three distinct groups, as follows:

1. Five YMSM living with HIV. The participants consisted of five YMSM living with HIV. Inclusion criteria were as follows: (1) self-identification as a man who has sex with men; (2) age between 20 and 24 years; and (3) a physician-confirmed diagnosis of HIV without the presence of AIDS-defining symptoms. Educational level and socioeconomic indicators were reported due to their relevance to media literacy, access to health information, and self-care practices. These characteristics enhance transparency and support a more accurate interpretation of the study findings.

2. Five health professionals engaged in HIV prevention and care services. The participants consisted of five health professionals engaged in HIV prevention and care services. Inclusion criteria were as follows: (1) serving in an executive-level role with responsibility for policy formulation, strategic planning, and the development of health communication approaches; (2) serving in an operational-level role responsible for implementing health promotion activities; and (3) having at least five years of professional experience in health promotion. These qualifications ensured that participants possessed specialized expertise directly aligned with the study objectives and were able to provide informed input on self-care support and health communication strategies.

3. Five academics, health communication specialists, media representatives, and relevant non-governmental organizations (NGOs). The participants comprised five academics, health communication specialists, media representatives, and members of relevant non-governmental organizations (NGOs). Inclusion criteria

included: (1) scholars or experts in health communication; (2) practitioners from civil society actively engaged in HIV-related initiatives; and (3) individuals with a minimum of five years of experience in health communication or in advancing HIV-related efforts within civil society. Participants possessed specialized professional or academic expertise relevant to health communication, self-care promotion, youth health, and HIV-related services, as well as experience in program development, counseling, or community-based interventions. This expertise enabled them to provide informed and contextually appropriate insights that contributed to the development and refinement of the health communication model.

Research procedures

The research process included a comprehensive document and literature review to examine existing studies, guidelines, and theoretical frameworks related to health literacy and communication prototypes for YMSM living with HIV. Data collection was conducted through:

In-depth interviews with YMSM living with HIV to explore their personal experiences, health knowledge needs, and preferred communication methods. The research instrument was systematically developed as an in-depth interview guide grounded in Orem's Self-Care Theory, encompassing universal, developmental, and health-deviation self-care requisites, along with communication needs. By integrating both theoretical rigor and the context-specific concerns of YMSM living with HIV, the instrument provided a reliable and valid basis for eliciting rich qualitative data to inform the development of evidence-based health communication prototypes. This structured framework ensured that the instrument comprehensively captured participants' perspectives on health status, self-care practices, challenges, and communication preferences, and consists of the following questions:

Section 1: universal self-care requisites

1.1) How would you describe your current health status?

1.2) How would you describe your daily self-care practices?

1.3) Do you think people living with HIV experience physical, psychological, and social impacts? If so, how?

Section 2: developmental self-care requisites

2.1) After learning about your health status, how do you take care of yourself?

2.2) What types of health-related knowledge do you feel you need in order to enhance your self-care?

2.3) Do you think health knowledge for promoting self-care is important or necessary? Why or why not?

2.4) In your opinion, what factors are necessary to support good physical health and effective self-care?

2.5) What barriers do you encounter in practicing self-care, and in what ways?

Section 3: health deviation self-care requisites

3.1) Have you ever experienced health problems or complications related to HIV? If so, how did you manage them?

3.2) Do you think the current level of self-care knowledge among male youth who have sex with men and are living with HIV is sufficient?

3.3) What problems or barriers do you think should be addressed through services for male youth who have sex with men and are living with HIV?

Section 4: communication needs

4.1) When you have health-related problems, how do you check or seek health information?

4.2) Which methods or channels do you use to search for health information?

4.3) In your opinion, which media formats or communication channels should be used to enhance health knowledge among male youth who have sex with men and are living with HIV?

4.4) Do you think developing a communication model to promote self-care is important?

4.5) What factors or supports would help you improve your ability to practice self-care?

Section 5: additional suggestions

5.1) Do you have any additional suggestions or further points regarding the development of a communication model to enhance health literacy and support self-care among male youth who have sex with men and are living with HIV?

The instrument yielded a reliability coefficient of 0.79, indicating an acceptable level of reliability for research application.

Focus group discussions (FGDs) with health professionals, academics, media representatives, and NGOs to gain insights on effective communication strategies, challenges, and gaps in current interventions. The purpose of the focus group discussion is to explore the health-related knowledge needs and communication needs of male youth who have sex with men and are living with HIV, with the aim of using the findings to develop a communication model that enhances health literacy and promotes effective self-care among this population. All information obtained during the discussion will be treated as personal and confidential, and will not be disclosed or used for any purposes unrelated to this research. Additionally, the researcher and participants may introduce further questions or discussion topics as appropriate if relevant or noteworthy information emerges that aligns with the context and objectives of the study. The research employed rigorously developed instruments to capture comprehensive insights into the self-care and communication needs of YMSM living with HIV. The Focus group discussions guide, grounded in Orem's Self-Care Theory, explored universal, developmental, and health-deviation self-care requisites, alongside communication dimensions, ensuring theoretical robustness and contextual relevance. Complementing this, the focus group discussion guideline was designed to elicit collective perspectives

from healthcare providers, civil society representatives, academics, and media professionals. Together, these instruments facilitated a multidimensional understanding of self-care practices, barriers, and communication preferences. The Focus Group Discussion Guide consists of the following questions: 1) In your view, how do governmental or civil society organizations currently promote health literacy among people living with HIV?, 2) What methods or communication channels do you currently use to communicate or disseminate self-care information to people living with HIV?, 3) Do you think promoting health literacy to support self-care is important? Why or why not?, 4) What barriers do you think exist in promoting health literacy for self-care among male youth who have sex with men and are living with HIV, and how do these barriers manifest?, 5) What are your thoughts on developing a communication model to enhance health literacy and support self-care among male youth who have sex with men and are living with HIV?, 6) What recommendations do you have for improving or developing such a communication model?, 7) In your opinion, what characteristics should health-related content or information include?, 8) What characteristics should the media or communication channels have in a health communication model?, 9) From your perspective, which media formats or communication channels should be used to enhance health knowledge among male youth who have sex with men and are living with HIV?, 10) Do you have any additional suggestions or further points regarding the development of a communication model to promote health literacy and support self-care among male youth who have sex with men and are living with HIV?. The tools demonstrated acceptable reliability (coefficient = 0.77), supporting their credibility for research use. Collectively, they provided a solid foundation for generating rich qualitative data to inform the development of evidence-based health communication prototypes tailored to the needs of YMSM living with HIV.

This multi-method approach enabled triangulation of perspectives from both the target population and key stakeholders, providing a robust understanding of health knowledge and communication needs among YMSM living with HIV.

Phase 2: Development of a communication model to enhance health literacy and self-care promotion among Young Men Who Have Sex with Men Living with HIV

In the second phase, the researcher utilized the findings from Phase 1 to design and refine communication prototypes aimed at strengthening health literacy and fostering self-care practices among YMSM living with HIV. The process consisted of the following steps:

Data analysis

The researcher analyzed the results obtained in Phase 1 concerning the health knowledge needs and communication requirements of YMSM living with HIV. This analysis served as the foundation for the framework design.

Communication model development

Based on the identified needs, the researcher designed a communication model. This prototype was intended to provide a structured approach for enhancing health literacy and promoting self-care among the target population.

Stakeholder consultation and refinement

The prototype communication framework was then presented to key stakeholders for feedback and evaluation. Stakeholders' insights and recommendations were systematically reviewed, and necessary revisions were made. The refined version was finalized as a Communication Framework to Enhance Health Literacy and Promote Self-Care among YMSM living with HIV.

Table 1 Health knowledge needs of young men who have sex with men living with HIV

Health knowledge needs of young men who have sex with men living with HIV	YMSM living with HIV	Public health professionals	Academics, media professionals, and civil society practitioners
Physical health			
Antiretroviral therapy (ART) adherence			√
Undetectable=untransmittable (U=U)	√	√	
Health conditions and risk factors	√	√	√
Knowledge of HIV and AIDS			√
Mental health			
Mental health care and well-being	√	√	√
Promotion of self-esteem and self-worth	√		√
Sexual health			
Safe sexual health care and practices	√	√	
Substance use in sexual contexts (chem sex)	√		
Social health			
Health benefits and welfare services		√	√

HIV=human immunodeficiency virus, YMSM=young men who have sex with men, AIDS=acquired immunodeficiency syndrome

Results

Chapter 1: health knowledge needs and communication needs of young men who have sex with men living with HIV

Health knowledge needs

The findings of this study reveal that the health knowledge needs of young men who have sex with men living with HIV are uniquely shaped by both their sexual identity and health status. Consequently, their requirements for self-care knowledge differ substantially from those of the general youth population. These needs extend beyond physical health information to encompass psychological and social dimensions, as well as communication strategies that are developmentally appropriate and responsive to their specific health conditions and sociocultural contexts (Table 1). The details are as follows:

1.1 Essential self-care requisites (universal self-care requisites)

The findings indicate that young men who have sex with men living with HIV place significant importance on essential self-care practices aimed at reducing the likelihood

and risks of developing additional health problems. The study further reveals that YMSM living with HIV express substantial needs for health-related knowledge, particularly in relation to physical health and social health, as outlined below.

1.1.1 Knowledge of antiretroviral therapy (ART) adherence

The study highlights that young men who have sex with men living with HIV place considerable importance on adhering to antiretroviral (ARV) therapy as prescribed, particularly ensuring timely medication intake. In addition, they emphasize compliance with medical guidance, such as reducing risk behaviors that may compromise health and making necessary lifestyle adjustments. Consistent adherence to ARV medication schedules is recognized as a critical factor in maintaining viral suppression to undetectable levels, which in turn has a direct and substantial impact on overall quality of life.

1.1.2 Knowledge of undetectable=untransmittable (U=U) status

The findings indicate that young men who have sex with men living with HIV place strong emphasis on attending scheduled medical appointments, which are essential for monitoring treatment outcomes and preventing complications. This includes regular assessments of immune function through CD4 count testing, monitoring of viral load levels, and routine screening for sexually transmitted infections (STIs) as well as other opportunistic diseases. Such practices are considered vital to sustaining an undetectable viral load, thereby reinforcing the U=U principle and safeguarding long-term health.

1.1.3 Knowledge of health conditions and risk factors

The study found that young men who have sex with men living with HIV place considerable importance on understanding health conditions associated with living with HIV. This includes adherence to antiretroviral therapy, as well as avoiding foods or beverages that may interfere with the efficacy of the medication. Comprehensive knowledge of these health conditions is essential for minimizing long-term health risks and preventing potential complications, thereby supporting sustained overall well-being.

1.1.4 Knowledge of HIV and AIDS

Accurate knowledge of HIV and AIDS constitutes a fundamental component of self-care among young men who have sex with men living with HIV. Proper understanding not only helps reduce fear and stigma but also enhances the capacity for informed and appropriate health-related decision-making. Furthermore, the provision of accurate information plays a critical role in dispelling misconceptions, fostering empathy, and effectively empowering YMSM to engage in proactive self-care practices.

1.1.5 Knowledge of health benefits and welfare services

Health welfare constitutes a critical component in promoting the foundational quality of life, particularly for young men who have sex with men living with HIV. Continuous access to healthcare is essential for maintaining

viral suppression, reducing the risk of transmission, and enabling YMSM to participate fully in social life. Therefore, enhancing knowledge of health welfare is vital for increasing awareness of available services, facilitating access to healthcare, and supporting adherence to ongoing treatment processes.

1.2 Developmental self-care requisites

Young men who have sex with men living with HIV place significant emphasis on self-care that extends beyond physical health, encompassing emotional and psychological well-being. This includes managing stress and coping with challenging life circumstances, representing self-care practices tailored to support healthy developmental trajectories within the context of sexual identity. These practices are closely linked to mental health, as detailed below.

1.2.1 knowledge of mental health care and well-being

The findings indicate that young men who have sex with men living with HIV actively seek to prevent psychological challenges that may negatively impact their well-being, such as self-stigmatization and external stigma. Efforts to avoid or manage such mental health stressors involve cultivating positive mindsets and attitudes, enabling them to lead fulfilling lives. YMSM living with HIV emphasize the importance of acquiring knowledge on effective mental health care as a means to enhance resilience, promote self-acceptance, and facilitate a normal, meaningful life while maintaining self-worth in the context of their health conditions.

1.2.2 Knowledge of promotion of self-esteem and self-worth

Promotion of self-esteem constitutes a critical component of mental health and overall quality of life. Young men who have sex with men living with HIV may experience stigma, discrimination, and social exclusion in daily life. Therefore, enhancing knowledge related to self-

esteem helps foster self-acceptance, emotional stability, and the development of effective self-care skills. This, in turn, empowers YMSM to strengthen their psychological resilience, restore well-being, and cultivate a life imbued with hope and meaning.

Self-care requisites for health deviations

The findings indicate that many young men who have sex with men living with HIV have previously experienced health deviations, including sexually transmitted infections (STIs) and opportunistic diseases. Consequently, YMSM living with HIV place significant emphasis on self-care practices when confronting health deviations, particularly those related to sexual health, as detailed below.

Knowledge of safe sexual health care and practices

Young men who have sex with men living with HIV place considerable importance on modifying sexual behaviors that may lead to adverse health outcomes. Self-care practices targeting the prevention and management of STIs and opportunistic diseases are recognized as directly influencing overall quality of life. Many YMSM living with HIV have a history of STIs, including syphilis, gonorrhea, and hepatitis B and C, highlighting the critical need to reduce

high-risk sexual behaviors and adopt safe sexual health practices.

Knowledge of substance use in sexual contexts (chem sex)

Many young men who have sex with men living with HIV report experiences of engaging in sexual activity concomitant with substance use, commonly referred to as chem sex. This phenomenon is increasingly recognized as a significant social and public health issue, as such behaviors can adversely affect both physical and mental health. Additionally, chem sex practices elevate the risk of HIV transmission and acquisition, as well as the spread of other STIs, underscoring the need for targeted health education and risk-reduction strategies within this population.

Communication needs

The study on communication needs among young men who have sex with men living with HIV revealed a clear demand for strategies that enhance health literacy and promote effective self-care. These communication needs are essential for developing targeted interventions aimed at empowering YMSM living with HIV to make informed health decisions (Table 2). The detailed findings are as follows:

Table 2 Communication needs of young men who have sex with men living with HIV

Communication needs of young men who have sex with men living with HIV	YMSM living with HIV	Public health professionals	Academics, media professionals, and civil society practitioners
Media requirements			
Safe spaces/community engagement	√	√	√
Social media platforms	√	√	√
Interactive engagement	√	√	√
Integrated communication			√
Content requirements			
Credibility of information	√	√	
Clear communication	√	√	
Relevance to needs			√
Positive and non-stigmatizing content			√

HIV=human immunodeficiency virus, YMSM=young men who have sex with men

Media requirements

Safe space/community

Safe media spaces are essential for promoting the overall well-being of young men who have sex with men living with HIV, encompassing physical, mental, and social health. A safe space is not only a physical environment but also a psychological one, where individuals can freely express their identity, feelings, and experiences without fear, judgment, or stigma. The sense of community within such spaces plays a critical role in fostering understanding and acceptance. Supportive peers and community networks empower YMSM living with HIV to express themselves, receive emotional support, and feel a sense of belonging, which in turn facilitates sustained and effective self-care practices.

Online media

The use of online media to deliver self-care and health-related content requires careful consideration of content accuracy, user privacy, and the avoidance of misinformation. In developing communication strategies to enhance health literacy and promote self-care among young men who have sex with men living with HIV, it is essential to ensure high-quality content, expert review, and presentation formats that are engaging and responsive to the interests and needs of the target audience.

Interactive engagement

The use of interactive media facilitates understanding, trust, and the psychological support necessary for sustained self-care. Engagement through interactive channels enables young men who have sex with men living with HIV not only to reduce feelings of isolation and stigma but also to access critical opportunities for information exchange, peer encouragement, and learning from the experiences of others.

Integrated communication

Integrated communication is a critical strategy for ensuring that health messaging is impactful, comprehensive, and capable of deeply reaching target audiences. In promoting health literacy and self-care among young men who have sex with men living with HIV, communication must be carefully designed to build trust, enhance understanding, reduce bias, and facilitate appropriate access to information and services. Messages delivered across multiple channels should maintain consistency, accuracy, and a non-judgmental, inclusive perspective to establish credibility and ensure continuity in health communication efforts.

Content requirement

Credibility of information

The study revealed that young men who have sex with men living with HIV place high importance on the credibility of health information. Content designed to enhance health literacy and promote self-care must be accurate, evidence-based, and aligned with established medical standards. Equally important is the use of trustworthy and user-friendly communication channels, which facilitate appropriate self-care practices. Reliable sources not only ensure the accuracy of information but also support the application of knowledge to modify behaviors effectively within the context of self-care.

Clear communication

The findings indicate that young men who have sex with men living with HIV require communication that is clear and effective in conveying health information. Clear communication helps minimize misunderstandings and ensures that messages are easily comprehensible. This includes the use of simple, non-complex language tailored to the audience, thereby enhancing the accessibility and applicability of health information for promoting self-care.

Relevance to needs

Health content must be accurate, up-to-date, easily understandable, accessible, and free from stigma. This includes promoting understanding, acceptance, and the provision of safe spaces. Ensuring that content aligns with the specific needs of young men who have sex with men living with HIV is central to delivering holistic self-care and supporting comprehensive health management.

Positive and non-stigmatizing content

The presentation of positive and empowering content is a cornerstone of effective health communication. Beyond simply providing information or knowledge, such content fosters hope, motivation, and inspiration, enabling young men who have sex with men living with HIV to engage in self-care practices and lead meaningful, fulfilling lives.

Chapter 2: development of communication model to self-care promotion among young men who have sex with men living with hiv

Based on the study of health knowledge and communication needs among young men who have sex with men living with HIV, the researcher developed a communication model aimed at enhancing health literacy and promoting self-care within this population. Health knowledge requirements were categorized into four main domains:

2.1 Physical Health, which includes knowledge of ART adherence, maintaining an undetectable=untransmittable (U=U) status, health risk awareness, and a comprehensive understanding of HIV and AIDS.

2.2 Mental health, encompassing knowledge of effective mental health care and self-esteem promotion.

2.3 Sexual health, covering knowledge of safe sexual practices and awareness of substance use in sexual contexts (chem sex).

2.4 Social health, which includes knowledge of health welfare services and resources.

In parallel, the communication needs for developing a health literacy-enhancing model among YMSM living with HIV were organized into two primary dimensions:

1. Media, which involves safe spaces and community engagement, utilization of social media platforms, interactive engagement, and integrated communication.

2. Content, which includes credible information, clear communication, relevance to user needs, and positive, non-stigmatizing messaging.

The researcher subsequently developed the communication needs and presented them to key stakeholders, including YMSM living with HIV, representatives of public health practitioners, and representatives from academia, media, and civil society. Feedback and recommendations were solicited to refine and enhance the effectiveness of the communication strategy, ensuring its practical applicability and impact (Figure 2). The detailed findings are as follows:

Based on the communication needs outlined above, stakeholders recommended the development of communication channels incorporating Line Open Chat alongside the Line Official Account, integrated with relevant agencies such as the Department of Disease Control, provincial public health offices, and civil society organizations. This integration aims to enhance access to essential services and resources for young men who have sex with men living with HIV, including educational materials, health services, and condom distribution channels. Stakeholders further emphasized that the development of communication channels should foster a community atmosphere within social media platforms and encourage the presence of community leaders. Efforts should focus on creating a sense of voluntary participation and belonging among community members. Beyond establishing physical and virtual spaces, it is equally important to cultivate a supportive environment that promotes health care, peer encouragement, and social support.

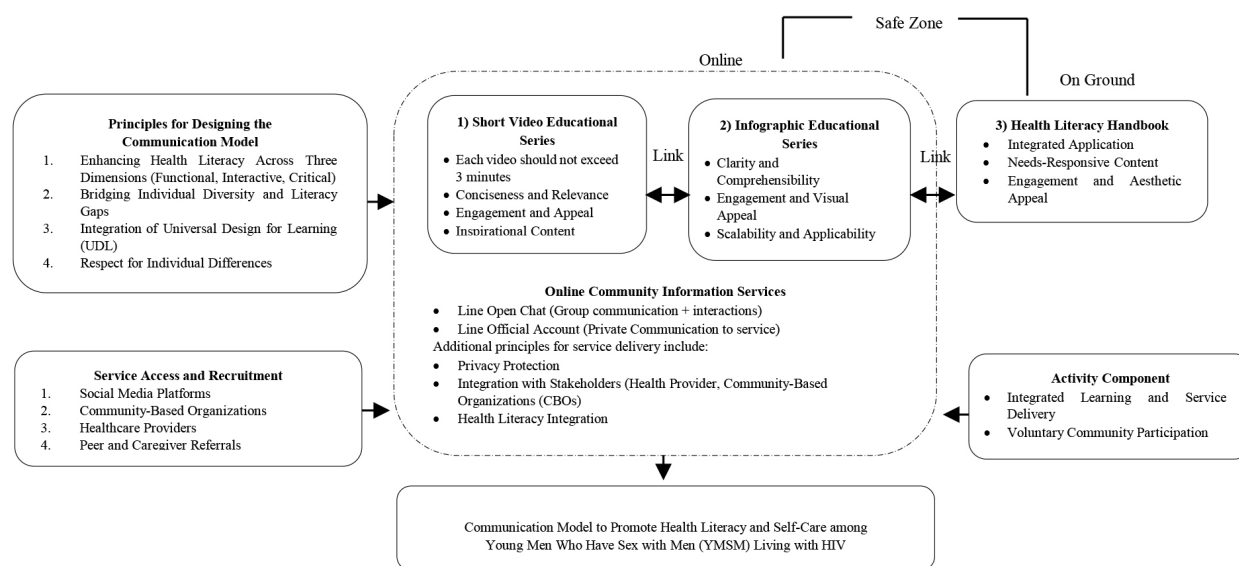


Figure 2 Communication model to promote health literacy and self-care among young men who have sex (YMSM) living with HIV

Media development

Stakeholders recommended the development of media to enhance health literacy and promote self-care among young men who have sex with men living with HIV. The proposed media formats include:

1. Short video series – integrating engaging design elements to capture attention and effectively convey key health messages.
2. Infographics – summarizing content in a visually accessible format that emphasizes empowering, non-stigmatizing communication.
3. Health literacy handbook – designed for dual use, both online and in community-based, on-ground initiatives, providing practical guidance for self-care and health promotion.

Discussion

Development of communication needs to self-care promotion among YMSM living with HIV

The findings of this study underscore the critical role of tailored communication strategies in enhancing health literacy and promoting self-care among young men who have sex with men living with HIV. The evidence suggests that health information needs in this population are multidimensional, encompassing physical, mental, sexual, and social health domains, and extending to communication requirements that are culturally and developmentally appropriate. These findings align with Orem's Self-Care Deficit Nursing Theory, which emphasizes the importance of supporting individuals in acquiring knowledge and skills to manage health deviations and developmental needs effectively⁷.

Media and channel considerations

Stakeholders highlighted the value of creating safe, community-oriented media spaces to support engagement and foster trust among YMSM living with HIV. Safe spaces, both physical and psychological, allow participants to express their identities, share experiences, and access peer support without fear of stigma or discrimination. Such environments have been demonstrated to facilitate sustained self-care behaviors and enhance overall well-being⁹. Online platforms, including Line Open Chat and Line Official Account, were recommended as primary communication channels, offering opportunities for group interactions, individualized support, and integration with public health services and civil society organizations. This integrated approach reflects the principles of participatory health communication, which advocate for leveraging multiple channels and stakeholder collaboration to increase reach and effectiveness¹⁰.

Media formats for health literacy promotion

Stakeholders emphasized three key media formats to enhance engagement and knowledge uptake: short video series, infographics, and a health literacy handbook. Short videos (≤ 3 minutes) are concise, engaging, and suitable for conveying targeted health messages, aligning with current evidence on the effectiveness of microlearning in digital health education¹¹. Infographics facilitate the summarization of complex information into accessible visual formats, which can improve comprehension, recall, and motivation to adopt recommended behaviors¹². The health literacy handbook offers a dual-mode resource for both online and on-ground application, supporting continuity of learning, practical guidance, and reinforcement of self-care practices. Together, these media approaches ensure content is credible, clear, relevant, and empowering, thereby addressing the four core content requirements identified in this study.

Interactive and integrated communication

Interactive communication plays a pivotal role in addressing the psychosocial needs of YMSM living with HIV. Active engagement through two-way dialogue helps reduce feelings of isolation and stigma while creating opportunities for reciprocal learning and peer-to-peer encouragement. Studies highlight that interactive approaches, such as peer discussion groups and participatory online platforms, foster trust, empower participants to share lived experiences, and enhance self-management of health¹³. By facilitating dialogue rather than one-way information transfer, communication becomes a dynamic process that nurtures social support and collective resilience. Furthermore, integrated communication across multiple channels—such as social media, community-based organizations, and health services—ensures message consistency and broad reach. This integrated approach mitigates the risk of misinformation, reinforces evidence-based practices, and enhances the credibility of health messages¹⁴. The model underscores the importance of delivering communication in a non-stigmatizing and positively framed manner. Positive framing not only conveys essential health knowledge but also reinforces self-efficacy, promotes dignity, and strengthens the sense of self-worth among YMSM living with HIV¹⁵.

Implications for practice

The communication model developed in this study provides a practical framework for public health professionals, civil society organizations, and media practitioners seeking to support YMSM living with HIV. By combining safe media spaces, engaging formats, interactive channels, and integrated messaging, the model addresses both information access and psychosocial support, fostering comprehensive self-care behaviors. The integration of stakeholder feedback ensures contextual relevance, community ownership, and alignment with evidence-based health promotion strategies.

The assessment of health-related knowledge needs and communication needs for promoting self-care among male youth who have sex with men and are living with HIV provides highly valuable information for advancing public health efforts at multiple levels. The findings can be utilized to develop health-promotion programs that respond specifically and appropriately to the actual needs of these youths. Health content aligned with their expressed learning needs—such as physical health care, mental health care, sexual health care, and social well-being—can support a deeper understanding and enhance the applicability of self-care practices in their daily lives. The study results can also inform the development of communication models that effectively reach male youth who have sex with men and are living with HIV, including non-stigmatizing communication approaches that promote self-care. Moreover, the insights gained can be used to strengthen the capacity of public health personnel by enhancing their understanding of gender and sexual diversity as well as equipping them with appropriate communication strategies for delivering health services. Overall, the findings of this study can be applied to improve the effectiveness of health services, communication strategies, media design, program development, and policy formulation aimed at supporting male youth who have sex with men and are living with HIV. The ultimate goal is to enhance their self-care abilities, reduce health-related risks, and sustainably improve their overall quality of life.

Conclusion

The development of tailored communication prototypes that combine credible, clear, and empowering content with safe, interactive, and integrated media channels represents a promising approach to enhancing health literacy and self-care among YMSM living with HIV. These prototypes highlight the interplay between individual knowledge needs, psychosocial support, and the strategic use of digital and community-based platforms, offering a scalable and sustainable framework for health promotion in

vulnerable populations. The channels used were password-protected and encrypted platforms with access control features to protect participant confidentiality. Responsibility for managing and monitoring these platforms was assigned to the principal investigator and trained research team members, with administrative access restricted to authorized personnel and documented in the approved research protocol. Ongoing oversight was conducted through regular review of communication activity, use of platform audit logs, and adherence to predefined guidelines for acceptable use, confidentiality, and response to potential breaches. These measures collectively ensure appropriate and verifiable management of safe communication channels.

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Conflict of interest

There are no potential conflicts of interest to declare.

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