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Feasibility and Acceptability of an HIV/AIDS Self-Management Education Program for HIV-positive Men who have Sex with Men in Thailand

Natawan Khumsaen, Ph.D., RN.^{C,D}, Rob Stephenson, Ph.D.^{A,B} [Professor]

^ADepartment of Health Behavior and Biological Sciences, School of Nursing, University of Michigan, 400 North Ingalls, Ann Arbor, MI 48104, USA. ^BThe Center for Sexuality and Health Disparities, University of Michigan, Ann Arbor, MI 48104, USA. ^CBoromarajonani College of Nursing, Suphanburi, Praboromarajchanok Institute of Health Workforce Development, Thailand

Abstract

This pilot study examined the feasibility and acceptability of the HIV/AIDS self-management education program-Thai (HASMEP-T) for HIV-positive Thai men who have sex with men (MSM). The intervention HASMEP-T is a group-based adaptation of the evidence-based intervention, HASMEP. Participants were 40 Thai MSM living with HIV aged 18 years or older, recruited from an HIV clinic housed in a hospital in Thailand. Results support the feasibility of recruitment, screening, eligibility, and retention methods. The majority of the participants reported that the intervention was acceptable, and it met their initial expectations. Furthermore, all recruited participants in the intervention group ($n=20$) completed the intervention HASMEP-T. Overall, intervention group participants demonstrated significant increases in all aspects of HIV self-management ($p<0.05$), as well as improvement on quality of life psychological domain ($p<0.05$). Our findings provide preliminary support for the large-scale, randomized-controlled trial of the efficacy of HASMEP-T to promote self-management behaviors among HIV-positive Thai MSM.

Keywords

HIV; MSM; Acceptability; Feasibility; Self-management program

INTRODUCTION

Since the onset of the HIV/AIDS epidemic in Thailand began in the late 1980s, men who have sex with men (MSM) have been the group most heavily affected (Beyrer et al., 2011). Recent data highlight an explosive epidemic among MSM and the overall epidemic trajectory in Thailand appears to be increasing, especially among MSM aged 18-24 (van Griensven et al., 2013). Transmission by condomless anal intercourse in MSM accounts for about 60% of 43,040 new HIV infections in Thailand from 2012 to 2015 according to the Asian Epidemic Model (Thai Working Group on HIV/AIDS Projection, 2012). Data

^DCorresponding author's drnatawan@gmail.com.

reported in 2013 documented the high prevalence of HIV infections among Thai MSM living in Bangkok, 17.3% in 2003, 28.7% in 2005, 32.7% in 2007, 28.3% in 2009, and 21.3% in 2011 (van Griensven et al., 2013). Given the high burden of HIV and high rates of acquisition, Thai MSM may be the most vulnerable members of Thai society today (Johnston et al., 2016).

Antiretroviral therapy (ART) has transformed HIV infection from acutely terminal to a chronic disease (Bassett et al., 2019). Although people living with HIV (PLWH) are living longer and respond to new therapies, many do not respond optimally to therapies because of poor self-management behaviors (Gifford & Groessl, 2002; Webel, 2010; Millard et al., 2015). HIV self-management is particularly critical because it is central to the health of PLWH and is consisted of the daily tasks that individuals employ to manage HIV signs and symptoms. PLWH are always confronted with social context vulnerabilities that delay their HIV self-management behaviors such as accessing appropriate medical services, engaging in physical activity, and medication adherence (Cuca et al., 2017). Millard and colleagues (2015) found empirical support for the benefit of a self-management program for HIV-related quality of life. Thus, to live well with HIV disease, PLWH must learn how to self-manage their chronic illness. However, in Thailand, the majority of self-management interventions for PLWH have focused on heterosexuals. Hence, there is a significant paucity of programmatic intervention research to address self-management among HIV-positive Thai MSM.

The HIV/AIDS Self-Management Education Program (HASMEP) was originally designed by Omisakin (2011) in South Africa. The original HASMEP intervention was developed using Empowerment theory and Social Cognitive theory as its guiding frameworks and was designed to embrace both individual and group engagements working towards the empowerment of PLWH (Omisakin, 2011). HASMEP aims to enable PLWH to use self-management strategies such as medication and symptom self-management; and sourcing for help, and dealing with the emotional elements of living with HIV to encourage ART adherence (Omisakin, 2011). In 2016, we adapted the HASMEP for use with HIV-positive MSM in Thailand by employing the ADAPT-ITT model (Wingood & DiClemente, 2008). We conducted a qualitative study using theater-test focus group discussions with 40 HIV-positive Thai MSM and 8 healthcare providers at an HIV clinic. The preliminary findings showed that it is feasible and acceptable to use this self-management intervention with HIV-positive Thai MSM (Khumsaen & Stephenson, 2017).

HASMEP is a health promotion program consisting of three central components including (a) information exchange, (b) skills development, and (c) social support enlistment, related to the physical, and psychosocial well-being of PLWHA. The first component, information exchange, aims to increase participants' level of knowledge about HIV/AIDS and HIV/AIDS-related health problems. The second component is skills development. PLWHA usually need guidance on how to cultivate self-regulatory and coping skills to translate information into action. So, skills training component aims to equip PLWHA with successful strategies for self-management. The last component is social support enlistment. At the initial counseling session, participants were asked to name a supportive partner or friend. During follow-up visits, the researcher encouraged the participant to name person

who provide assistance. The ultimate goals of our program are to improve the quality of care, eventually, the quality of life for PLWHA. The integration of the program into healthcare could empower PLWHA to take a more proactive role in managing their sign and symptoms and improving their quality of life (Omisakin, 2011). The elements of HASMEP curriculum include: (a) health literacy and HIV/AIDS-related knowledge; (b) goal setting and problem-solving strategies; (c) understanding the relationship between laboratory results and physical health; (d) strategies for symptom management; (e) communicating effectively with one's health care provider; (f) seeking and utilizing health services; (g) managing psychosocial problems and building networks of social support; (h) nutrition, exercise and relaxation techniques; and (i) strategies to increase medication adherence and militate against side effects of medications (Omisakin, 2011). The program logic is internal logic (the relations between the original components and main outcomes of the original HASMEP). The logic model is shown in Figure 2. The internal logic helps evaluate whether the relations are still logical and robust once the original HASMEP has been adapted for a new context including the HIV clinic in Thailand. The behavioral constructs are observational learning, reinforcement, self-control, and self-efficacy. As stated earlier, our program was based in Empowerment theory and SCT. So, the Empowerment theory was used to guide the design and development of the self-management education conceptual model. In our study, the participants were strongly encouraged to become autonomous. Our group meetings were interactive and focused on building skills, sharing experiences, and providing mutual support. Moreover, social support was the main construct in our program. However, in the current feasibility study, we did not examine whether social support was mediator to the change of outcome. This pilot study is a continuation of our work. Thus, the primary objective of this study was to pilot test the HASMEP-T (the renamed Thai version) for feasibility and acceptability among HIV-positive Thai MSM. Secondary objective included assessing changes in HIV-specific quality of life (QOL) and HIV self-management resulting from participating in the intervention compared to control.

METHODS

Study design

The study employed a quasi-experimental design; HIV-positive Thai MSM were randomized into an intervention and control group. Participants in the experimental group received the HASMEP-T intervention, meanwhile participants in the control group received a routine care. Forty HIV-positive Thai MSM were enrolled. This sample size allowed for assessment of the methodology, feasibility and acceptability of the intervention, and identifying problems of implementing the intervention (Hertzog, 2008). We also included a qualitative process assessment and a quantitative assessment of preliminary efficacy.

Participants and Setting

This study primarily aimed to establish feasibility and acceptability, to inform a larger efficacy trial for clinical outcomes. We thus prioritized our sample size around issues of practicality, budget, and feasibility and acceptability, based on lessons learned in our formative work (Khumsaen and Stephenson, 2017) in the same context. Therefore, a purposive sampling method was used to recruit of 40 HIV-positive Thai MSM from an HIV

clinic in Sappasithiprasong (SPS) hospital, Ubonratchathanie (UBN) province, Thailand. This clinic is housed in SPS hospital and offers HIV patients non-emergent medical care two days per week, from 8AM to 4PM. This clinic was selected because the number of Thai MSM diagnosed with HIV receiving care from this clinic has increased in recent years (Annual report of SPS hospital, 2015). To be eligible for this study, the participant had to meet the following criteria: (1) 18 years of age or older; (2) have a diagnosis of HIV-positive; (3) be fluent in Thai; (4) on antiretroviral medications for at least 6 months prior to the study; (5) not participant in any other similar program for the prior 6 months; and (6) consent to participate. The intervention is for MSM who have been diagnosed with HIV during the past 2 years. We did not recruit those who have been diagnosed for a long time ago because they could have learned to cope with and learned to self-manage on their own. The resiliency among MSM have been noted in the literature (Emlet et al., 2017). Moreover, we recruited the participants who are on antiretroviral therapy (ART) for at least 6 months prior to study entry. The rationale was that people with HIV who have their viral load and CD4 cell count monitored every six months were no more likely to experience virological failure or to change their antiretroviral regimens than those monitored every four months (Sanasi, 2013).

Intervention

The main goal of the HASMEP-T was for HIV-positive Thai MSM to gain knowledge and skills to self-manage and improve their health and social well-being. Acquisition of knowledge and skills was to be driven by behavior change goals, not by a fixed curriculum. The program encompassed both individual and group engagements working towards the empowerment of HIV-positive Thai MSM. The program consists of fourteen weekly sessions (120 to 150 minutes) and emphasizes participants' central role and responsibility in managing their illness. The sessions consisted of a series of supervised dialogue, physical activity, and education. Developed by the PI, supervised dialogue was a plan for the supervision and follow-up of peer group leaders. Physical activity is important for maintaining the health of PLWH. It may involve everyday light activities including cleaning, working in the field, and collecting firewood and water. Exercise can also be part of daily life and should not be tiring or stressful. Thus, gentle muscle-building exercise is recommended. Brisk walking, biking, and dancing are all suitable. Moreover, education includes learning the following topics: goal setting, increasing emotional capacity, increasing knowledge of HIV/AIDS, positive living and self-management, active antiretroviral therapy, nutrition, water, control of infection, hygiene, physical exercise, self-management strategies, networking and communication. Self-management educational material used as homework was included. Our program was a peer-led. Two trained-peer leaders who were fluent in Thai were invited to facilitate sessions of the program. They were non-professionals living with HIV. They were volunteers and supervised the dialogue of the program. In addition, it was a didactic program; so, modes of teaching include discussion, presentation, role play, group work, group visualization, stretching exercise, and energizers.

Regarding intervention activities, we developed an intervention manual with detailed instructions on how to move through the workshop. We began the workshops by discussing group expectations and establishing ground rules and then asked the participants to discuss

topics set for each session. The main portion of the workshop focused on discussions and exercises to help participants acquire new knowledge, new skills, and be able to self-manage their HIV sign and symptoms. Examples of activities include practicing relaxation and self-care; sharing coping strategies from other group members; viewing trigger videos; discussing how to handle difficult situations; and role-playing ways to navigate the difficult situations. We sometimes convened a small group with 5-6 participants per group to facilitate in-depth focus group discussion of topics and encouraged participation from quieter participants of the group. While conducted as a large group, videos were used in some sessions. The participants viewed the videos, and their verbal reactions to the videos were encouraged. Moreover, a structured, in-depth discussion of main concepts followed. In one session that did not use video, we invited a nutritionist to our session to show a “how to cook for yourself,” in which participants were asked to list locally available and affordable foods in their community. Next, they got a chance to prepare their favorite local food for themselves. We then asked the participants to generate names for their foods that had been prepared. Some participants named their foods as “Healthy-Esan Thai Food,” “Food for Life,” and “Nothing but Thai Food.” Subsequently, the participants discussed and shared their foods with others in a group. The full intervention description has been published previously (Khumsaen & Stephenson, 2017).

Control

Participants in the control group received their ‘usual care’ and HIV treatment literacy, which translates medical information to people, both individually and in communities to understand what anti-retroviral drugs are, why they are needed and what they can and cannot do (Healthlink Worldwide, 2006). The participants in the control group were also given literacy regarding opportunistic infections, HIV transmission prevention and transmission, access to health care services for PLWH, and living healthy with HIV without any other additional intervention.

Recruitment and data collection

Prior to recruitment, the Institutional Review Board (IRB) of SPS Hospital, Thailand approved the study. The research staff were well trained in keeping privacy and confidentiality of the participants. The facilitators in the group session were also well trained in the ethical consideration. A research nurse recruited participants from the HIV clinic, SPS hospital. The participants were screened for eligibility based on the inclusion criteria mentioned above. This screening process occurred at the HIV clinic. The outline of the study, the voluntary nature of participation and the preservation of anonymity were explained verbally and in writing to the study participants and group intervention participants. Any questions from participants were answered. Then, written consent to participate in the study was obtained from each of the participants. Recruitment materials and consent forms were in Thai.

After participants signed the consent form, they completed a baseline survey that included demographic, HIV-specific quality of life, and HIV self-management questions. Then, 20 participants were assigned to the intervention group and 20 to the control group. Participants disposition is outlined in Figure 1. Subsequently, the HASMEP-T orientation was conducted

with the purpose of familiarizing the participants with the program. Over the next three months, the participants received the HASMEP-T intervention. Immediately post-intervention, participants completed a set of questionnaires that consisted of the same assessments as the baseline.

In this study, contact information were needed to schedule visit/reminders. So, phone number/email were collected from each participant and we kept them as a confidential information in a safe place, a locked drawer in the PI office. We were also aware that if HIV status is leaked, it could result in social harm to participants; so, we kept their info in a locked drawer in the PI office as well. Only the PI and research staff could get access to participants' data.

At each visit, participants in the experimental group received 200 Thai baht (about US\$6). This covered travel expenses (transportation/parking) and meals (foods/drink). The rationale for this payment was that the minimum wage for Thai people was 300 Baht per day. And our participants travelled from home to attend group sessions; they were absent from work up to half a day. It could be time consuming. Thus, this payment is intended to be compensation for time and contributions, reimbursement for expenses and/or lost wages, and appreciation. In this study, the 2-month recruitment and enrollment period began in February 2018, with all other intervention processes occurring April-June 2018.

INSTRUMENTATION

The following measures were used in a set of questionnaires at baseline and follow-up: demographic characteristics (age, education level, employment status, years since testing HIV- positive, HIV status disclosure, rights of access to HIV treatment, monthly income, living situation, current regular male partner, and family support), feasibility, acceptability, HIV-specific quality of life, and HIV self-management.

Feasibility

In addition to survey data, we measured feasibility of the intervention by collection data on the logistics of implementing the HASMEP-T in this setting. Key outcomes included: (a) recruitment rate of participants, (b) percentages of interested participants who are i) eligible and ii) willing to provide consent, (c) time taken to recruit 40 HIV-positive Thai MSM, and (d) retention rate of participants, including the number of sessions attended by participants in each group.

Acceptability

This was measured using four open-ended questions. Each participant in the intervention group were asked about their attitudes towards the intervention. They completed a post-intervention survey and then answered four open-ended questions. These questions examined: (1) willingness to participate in the HASMEP-T over a sustained period of time, (2) willingness to refer others to the intervention, (3) perceived ability to participate in the intervention over a sustained period of time, and (4) their skill preference.

Quality of life

Quality of life was measured by World Health Organization Quality of Life (WHOQOL-BREF-THAI) in HIV/AIDS patients (Sakthong et al., 2007). The WHOQOL-BREF consists of 26 items, including 24 items for four domains (physical, psychological, social, and environmental), one item for general quality of life, and one item for health-related quality of life (HRQOL). There are seven items in the physical domain, six items in the psychological domain, three items in the social domain, and eight items in the environmental domain. The Thai version of the WHOQOL-BREF contains the 26 original items. The patients were required to rate their HRQOL in the past two weeks. The item scores ranged from 1 to 5, with a higher score indicating a better HRQOL. Cronbach's alpha of the scale was 0.84 (Sakthong et al., 2009).

HIV Self-management

HIV self-management was assessed with the HIV self-management scale (Webel et al., 2012). This scale contains 20 items in three domains: daily self-management health practices (12 items), social support of HIV self-management (3 items), and chronic nature of HIV self-management (5 items). Items are rated on 4-point scale: 0=not applicable, 1=none of the time, 2=some of the time, and 3=all of the time. The HIV Self-Management Scale is a self-report questionnaire reflecting the day-to-day decisions that individuals make to manage their disease. Total scores are calculated by adding the scores across all items, with higher scores indicating a greater level of self-management. The internal consistency of subscales was reported from 0.72 - 0.86 (Webel et al., 2012).

DATA ANALYSIS

The analysis focused on three domains: feasibility of the intervention, acceptability, and preliminary impact of the intervention.

Feasibility.

This was measured by metrics of study logistics (i.e. retention rates, rates of recruitment). Descriptive statistics of rates of recruitment, screening, eligibility and retention were summarized. For feasibility analysis, descriptive statistics were compared by demographic characteristics (i.e. age, education).

Acceptability.

This was measured using four open-ended questions with participants in the intervention condition. Post-intervention qualitative responses were summarized verbatim. Then, we coded and analyzed the responses to the open-ended questions using thematic content analysis with a conventional approach (Miles, Huberman, & Saldana, 2013). After completing the coding process, a list of themes was compiled to obtain salient themes. Themes considered most salient were those that emerged most frequently within and across participants' response in four open-ended questions. Four open-ended questions were: (a) how likely you would have willingness to participate in the HASMEP-T over a sustained period of time?; (b) how likely you would have willingness to refer other the HASMEP-T intervention?; (c) how likely you perceive ability to participate in the intervention over a

sustained period of time?; and (d) what were your top three favorite skills in the HASMEP-T?. Then, the salient themes emerged from the participants' response were identified.

Preliminary impact of the intervention.

To evaluate preliminary efficacy of the HASMEP-T program, data were tested for normal distribution using One-Sample Kolmogorov-Smirnov Test. We found that our data were normal distribution. Hence, *t*-tests were conducted on pre-test and post-test of quality of life and HIV self-management data. Within-group comparisons were made using paired *t*-tests and between-group comparisons were made using independent samples *t*-tests. Significant level was determined to be a *p* value less than .05 ($p < 0.05$) (2-tailed test). This pilot study was not powered to detect statistically significant differences. Nonetheless, conducting data analyses was essential for understanding that the HASMEP-T intervention was not causing harm to participants, and also help to inform hypotheses for further studies with a greater number of participants. Data were analyzed using the Statistical Package for the Social Science (SPSS) version 22.0 for Windows (IBM Corporation, New York, USA).

RESULTS

Demographics

Participants enrolled in the study included 40 HIV-positive Thai MSM (20 for each group). Less than half of the participants reported high school and vocational school education (45%, $n=18$), while three-quarters (75%, $n=30$) reported employed status. Only a couple of participants (5%, $n=2$), disclosed their HIV status. More than half of them reported using universal coverage scheme (65%, $n=26$) to get access to HIV treatment. Meanwhile, a quarter (25%, $n=10$) reported monthly income below < 5,000 Thai Baht. Moreover, less than half of them reported living with partner (37.5%, $n=15$). Slightly more than half of the participants (52.5%, $n=21$) reported having a current regular male partner. Most of them reported having family support (72.5%, $n=29$). The mean age was 29.30 years old ($SD=7.06$) and the range of time since testing HIV-positive was 1 to 5 years ($M=2$, $SD=1.04$). Both groups were well balanced regarding baseline characteristics (Table 1).

Feasibility

After participants completed the sessions, their percentage of participation was estimated. The results are as follows: (a) 100% recruitment rate of HIV-positive Thai MSM participants, (b) 88.88% of interested HIV-positive Thai MSM participants who were eligible and willing to provide consent, (c) time taken to recruit 40 HIV-positive Thai MSM was about 2 months, and (d) 100% retention rate of participants attended all sessions in each group. All the participants enrolled in the study ($n=40$) completed the baseline questionnaire. At the end of the study, all 40 participants completed a set of questionnaires after they participated in the study.

Acceptability

Willingness to participate in the HASMEP-T—Participants in the intervention condition were firstly asked how likely they would have willingness to participate in the HASMEP-T over a sustained period of time. One of them stated that, “Ever since I was

diagnosed (HIV), I never joined this kind of program (self-management program); this program is so supportive. So, I would absolutely participate in any activities of this program in the future ... I have a willingness to do so." Another one supported this, "Certainly, I have a willing to join in this program because this program is so helpful to me, I can apply knowledge I learned, so, I can control the negative symptoms I have."

Willingness to refer other the HASMEP-T—Moreover, when participants were asked how likely they would have willingness to refer other the HASMEP-T, the participants reported that, "The program taught me how to manage symptoms, so, it would be beneficial for other as well...to gain knowledge and skills from the program, I would refer other this program." One comment that expressed this theme included, "I learned a lot from this program, and I wish my peers to gain benefit liked I did...So, I think I might refer other the program."

Perceived strong sense of ability to participate in the HASMEP-T—The participants perceived in their strong sense of ability to participate in the intervention over a sustained period of time, two of the comments that best exemplify this theme included, "I like this program because I have learned more ways how to control any negative symptoms I have...I am confident that I am capable to join in the program, so I can manage sign and symptoms of HIV." Another one reported that, "all PLWH, including HIV-positive Thai MSM need to be able to take care of themselves. Personally, I think I am able to participate in this program, it is very helpful for me."

Top three skills: medication administrative skill, skill to deal with stigma, and skill to manage gastrointestinal discomfort and anal health issues—When we asked participants what their top three favorite skills were, participants reported a wide range of responses. However, top three favorite skills were rated as follows: ART medication administrative skill, skill to deal with stigma (both internal and external stigma), and skill to manage gastrointestinal discomfort and anal health issues, respectively.

Preliminary efficacy

Significant improvements by intervention group participants between baseline and follow-up were found for HIV self-management subscales, including daily self-management health practices ($P<0.01$); social support ($P<0.01$); and chronic nature ($P<0.02$). Among the participants in the intervention group, QOL psychological domain and health-related quality of life domain were found to be significantly improved between baseline and follow-up ($P<0.01$, and $P<0.05$, respectively). At follow-up, between-group significant differences of HIV self-management subscales were found on daily self-management health practices ($P<0.01$); social support ($P<0.02$); and chronic nature ($P<0.01$). Also, between-group significant difference of HIV-specific quality of life was found on psychological domain ($P<0.02$; Table 2).

DISCUSSION

In preparation for a larger randomized controlled trial (RCT), this pilot study aimed to determine the feasibility of screening, recruitment, and retention rate, as well as the

acceptability of the HASMEP-T. Moreover, we assessed the preliminary efficacy of implementing the HASMEP-T among HIV-positive Thai MSM.

Our findings demonstrated that it is feasible to conduct the HASMEP-T with high participation and retention rate. Most of the participants in the intervention group reported that the intervention was acceptable and it met their initial expectations. These findings are very crucial because it supports the idea that HIV-positive Thai MSM were so comfortable with the HASMEP-T. Furthermore, all of participants' feedback regarding the intervention was very positive. Additionally, the participants expressed high acceptability of the HASMEP-T. Overall, the participants positively responded to all of four open-ended questions.

Although the primary objective of this pilot study was not to assess efficacy of the program and was not powered to detect statistically significant differences, the findings indicated that the intervention group participants showed significant improvements in all domains of HIV self-management scale, and in psychological domain of WHOQOL-BREF. Additionally, when we conducted between-group analyses with follow-up data, we found that there were statistically significant differences in all domains of HIV self-management, and one single domain of QOL psychological domain. To explain our findings, in the context of stigma of HIV and homosexuality among HIV-positive Thai MSM, group sessions that foster social support may alleviate the feelings of loneliness, and self-stigma. Hence, it could be the fact that the social support they received from the other HIV-positive MSM are the reason for improvement in QOL. Lan and colleagues (2015) found that subjective support and social support were positively related to QOL. Jiang et al.'s study from China (2019) showed that health-related QOL was positively associated with social support from family and friends. Social support helps MSM cope with stressful life events and adapt to life. Our findings imply that there should be a focus on improving the social support provided to HIV-positive Thai MSM because enhanced social support can help individuals more effectively cope with their difficult situations. Our findings also suggested potential efficacy, and thus support the conduct of a larger randomized study with sufficient power to assess program efficacy.

Limitations

Even though the findings of our pilot study are fascinating, this pilot study had some limitations that should be clearly noted. First, the small sample size of this pilot study limits the application of its results. A larger sample size would improve the evaluation of the HASMEP-T and its ability to produce changes in behavior. Second, data collected in the study were based on HIV-positive Thai MSM's self-report, which could influence the outcomes of the study. The third limitation is the lack of randomization. Using a non-randomized trial to examine the efficacy of a newly developed intervention to promote HIV self-management may suffer from extraneous variables (i.e. age, time since first diagnosis) and jeopardize the results of the study. Fourth, as we sought to collect qualitative data on acceptability of intervention using open-ended questions in questionnaire; so, we only got feedback from those who write or write well. A better way to collect qualitative data would have been by focus group discussion or interviews. There would be opportunity for clarification of answers during interviews or focus group discussion (Patton, 2014).

However, there was no negative comment regarding the study. Thus, we did not present negative findings in this research paper. Lastly, we caution the readers that this is a pilot study with a small sample size and our study was performed in only one city which limits generalizability. Findings are exploratory and may not generalize to a larger, randomized, representative sample of HIV-positive Thai MSM. Given the feasibility of this study, as well as the results of the preliminary outcomes, further study should aim to examine whether positive effect of the intervention can facilitate improved HIV self-management behaviors in HIV-positive Thai MSM, including medical adherence to reach the ultimate outcomes, a suppressed viral load, and HIV-specific quality of life.

Despite these limitations, this pilot study makes a valuable contribution to Thai public health policy. This study is the very first to examine the feasibility and acceptability of implementing the HIV self-management program in HIV-positive Thai MSM. Health policy makers can use our findings to guide the implementation of Thailand National Operational Plan Accelerating Ending AIDS (2015-2019) which focuses on tailored service packages for Thai MSM and launches a unique strategy, Reach-Recruit-Test-Treat-Retain, to lower the prevalence of HIV among Thai MSM (National AIDS Committee, 2015). Moreover, nurses and healthcare providers at HIV clinic can conduct further study to test the efficacy of HASMEP-T on different age group of HIV-positive MSM, including younger versus older MSM. This may produce unexpected and useful findings.

CONCLUSIONS

The main significance of our study was to provide preliminary evidence of the feasibility and acceptability of implementing the HASMEP-T and assess preliminary efficacy of the intervention to help HIV-positive Thai MSM develop skills, and enhance beliefs in their capabilities to successfully self-manage their HIV signs and symptoms. The findings of this study suggest that the HASMEP-T should be implemented as the means to facilitate behavior change among Thai MSM living with HIV. Offering the group-based HASMEP-T to HIV-positive MSM in an HIV-clinic is feasible in Thailand.

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Figure 1.
Participant disposition

Figure 2.
HASMEP-T (HIV/AIDS Self-Management Education Program-Thai) Logic Model.

Table 1.Baseline demographic characteristics of participants in the study ($n=40$)

Participants characteristics	Overall n (%)	Intervention group n (%)	Control group n (%)	P-value
Employment status				
Employed	30 (75)	15 (75)	15 (75)	
Unemployed	10 (25)	5 (25)	5 (25)	1.00
Education level				
Less than bachelor degree	24 (60)	14 (70)	10 (50)	
Bachelor degree and higher	16 (40)	6 (30)	10 (50)	0.19
HIV status disclosure				
Yes	2 (5)	1 (5)	1 (5)	
No	38 (95)	19 (95)	19 (95)	0.76
Rights of access to HIV treatment				
Government officer scheme	3 (7.5)	1 (5)	2 (10)	
Social security scheme	11 (27.5)	5 (25)	6 (30)	
Universal coverage scheme	26 (65.0)	14 (70)	12 (60)	0.75
Income (monthly)				
Less than 10,000 Thai Baht	22	12	10	
10,000 Thai Baht and higher	18	8	10	0.52
Living situation				
Alone	13 (32.5)	5 (25)	8 (40)	
With partner	15 (37.5)	7 (35)	8 (40)	
With parents and relatives	12 (30)	8 (40)	4 (20)	0.42
Current regular male partner				
Yes	21 (52.5)	13 (65)	8 (40)	
No	19 (47.5)	7 (35)	12 (60)	0.11
Family support				
Yes	29 (72.5)	16 (80)	13 (65)	
No	11 (27.5)	4 (20)	7 (35)	0.29
Mean years of age, (<i>SD</i>)	29.30 (7.06)	30.80 (8.24)	27.80 (5.45)	0.18
Range	19-48	19-48	20-38	

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Participants characteristics	Overall n (%)	Intervention group n (%)	Control group n (%)	P-value
Mean years since testing HIV+, (SD)	2 (1.04)	2.10 (1.07)	1.90 (1.02)	0.55
Range	1-5	1-5	1-5	

* Denotes significance at $P<0.05$

Table 2.

Preliminary efficacy ($n=40$)

Outcome	Intervention group mean (SD)		P-value (within)	Control group mean (SD)		P-value (within)	P-value (between follow-up of both groups)
	Baseline	Follow-up		Baseline	Follow-up		
QOL							
- Physical	24.95 (3.52)	23.95 (4.43)	0.41	24.80 (3.07)	23.10 (3.49)	0.04 *	0.50
- Psychological	19.55 (3.26)	22.00 (3.04)	0.01 *	21.15 (2.54)	19.90 (2.77)	0.17	0.02 *
- Social relationship	10.80 (1.85)	11.40 (2.41)	0.34	10.70 (2.47)	10.45 (1.88)	0.72	0.17
- Environmental	25.80 (4.84)	26.95 (3.71)	0.33	26.25 (4.34)	24.85 (3.69)	0.34	0.08
- General QOL	3.70 (0.57)	4.00 (0.65)	0.11	3.65 (0.67)	3.70 (0.66)	0.81	0.15
- Health-related QOL	3.15 (1.04)	3.80 (1.06)	0.05 *	3.35 (1.23)	3.25 (1.12)	0.79	0.12
HIV Self-management							
- Daily S-M health practices	26.20 (4.02)	35.35 (0.67)	0.01 *	25.60 (4.66)	27.45 (4.90)	0.22	0.01 *
- Social support	6.80 (2.12)	8.90 (0.30)	0.01 *	5.90 (2.65)	7.20 (1.51)	0.07	0.02 *
- Chronic nature	12.60 (2.56)	14.70 (0.73)	0.02 *	11.80 (1.54)	12.35 (1.93)	0.37	0.01 *

QOL, Quality of Life; S-M, Self-Management.

* Denotes significance at $P<0.05$