

# HOME-BASED HIV SELF-TESTING WITH ONLINE INSTRUCTION AND COUNSELING (HIVST-OIC)

## Evidence-Based Structural Intervention

### INTERVENTION DESCRIPTION

#### Goal of Intervention

- Increase HIV testing

#### Target Population

- HIV-negative men who have sex with men (MSM)

#### Brief Description

The *Home-Based HIV Self-Testing with Online Instruction and Counseling (HIVST-OIC)* intervention is designed to increase HIV testing among men who have sex with men (MSM) in Hong Kong, China. The intervention consists of a home-based HIV self-testing (HIVST) service that includes a free HIVST kit mailed to participants, as well as online real-time instructions and pre-test/post-test counseling (HIVST-OIC) via online live-chat applications (e.g., Line, WhatsApp, Skype). The HIVST-OIC intervention also includes an online video featuring a local MSM who discusses HIVST-OIC and the availability of immediate online psychological support. The intervention also includes a 15-minute phone call from fieldworkers who conduct motivational interviewing. Participants also watch another three-minute online video promoting general HIV testing. This video is watched by participants in the control arm as well (See Comparison section below). Following the videos and motivational interviewing, participants are mailed one free HIV self-testing kit, and make an appointment with the fieldworkers to perform HIV testing on the live-chat application. An HIV test administrator, who is an experienced nurse familiar with the subculture of local MSM, provides verbal testing instructions via live chat. Participants perform the HIVST during the live chat, learn their results after 20 minutes, and visually show the results to the administrator. Following the test, the HIV test administrator conducts post-test counseling that includes developing consistent condom use goals and providing psychological support for participants who tested HIV positive, as well as a reminder to obtain free confirmatory HIV testing provided by the Department of Health. To ensure linkage to HIV care, research staff accompany participants who tested HIV positive to appointments with collaborating non-governmental organizations (NGOs) and/or the Department of Health.

#### Theoretical Basis

- Health Belief Model
- Motivational Interviewing

### Intervention Duration

- One 3-minute online video that promoted HIV testing in general
- One 4-minute online video that focused on HIVST-OIC
- One 15-minute phone session
- An online live chat in real time that included:
  - 10-15-minute pre-test counseling
  - 15-25-minute posttest counseling

### Intervention Setting

- Locations where participants had access to their personal phone
- Online live-chat applications (e.g., Line, WhatsApp, Skype)
- Online video

### Deliverer

- HIV test administrator, a registered nurse
- Fieldworkers
- Research staff

### Delivery Methods

- Counseling
- Demonstration
- Goal setting
- Lecture/teach
- Live chat
- Online video

### Structural Component

- Access
  - Increased access to HIV testing through mailing of HIV self-tests to residence
  - Increased linkage to HIV care by accompanying participants who received a positive test result to collaborating non-governmental organizations (NGOs) and/or Department of Health
- Physical Structure – Services provided in a non-traditional setting
  - Services (HIV test kits and live-chat counseling) and information provided to residents in their homes or via the web

## INTERVENTION PACKAGE INFORMATION

**An intervention package is not available at this time.** Please contact **Joseph T. F. Lau**, Centre for Health Behaviours Research, JC School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong, China.

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## EVALUATION STUDY AND RESULTS

### Study Location Information

The original evaluation study was conducted in Hong Kong, China between January 2015 to April 2016.

### Key Intervention Effects

- Increased HIV testing
- Decreased multiple male sex partnerships

### Recruitment Settings

Gay-friendly venues (e.g., bars, clubs, and saunas), advertisements displayed on websites frequently visited by MSM, and referrals made by participants.

### Eligibility Criteria

Participants were eligible if they were Hong Kong Chinese speaking males aged  $\geq 18$  years, had anal intercourse with  $\geq 1$  man in the last six months, were willing to provide contact information (mobile and/or electronic) and to be followed up at 6 months, had access to online live-chat applications (e.g., Line, WhatsApp, and Skype), and had no intention to leave Hong Kong for one month consecutively within the next 6 months. Participants who were diagnosed as HIV positive or who had an HIV test in the last 6 months were excluded.

### Study Sample

The baseline study sample of 430 males is characterized by the following:

- 35% 18-25 years old; 28% 26-30 years old; 17% 31-35 years old; 10% 36-40 years old; 10% >40 years old
- 89% gay, 11% bisexual
- 81% single, 18% cohabitated/married with a man, 1% cohabitated/married with a woman
- 78% employed full-time, 6% employed part-time, 4% unemployed/retired, 12% students
- 53% had not received an HIV test in last year
- 39% had not received an HIV test in the last 2 years
- 38% reported CAI with men
- 44% reported multiple male partnerships

### Assignment Method

Participants (N = 430) were randomized 1:1 to either the HIVST-OIC intervention arm (n = 215) or the control arm (n = 215).

### Comparison

Comparison participants watched a 3-minute online video that promoted HIV testing, and included the following content: a MSM peer introducing potential benefits of HIV testing (e.g., it would help to detect HIV infection earlier, increase trust between sex partners, and reduce psychological burden); the WHO recommendation for MSM with risk behaviors to get an HIV test every six months; a MSM peer demonstrating the procedures for HIV testing provided by NGOs which portrayed caring, supportive, and non-judgmental administrators, regardless of the users' test results; and a list of NGOs.

### Relevant Outcomes Measured

- HIV testing was measured from baseline to 6 months and defined as having one of the following types of tests:
  - HIVST-OIC
  - Self-purchased HIVST, not offered by the study
  - HIV antibody testing at NGOs
  - HIV antibody testing offered by government clinics
  - HIV testing performed at private clinics or private laboratories

- Sex risk behaviors were measured among those who had taken any HIV test from baseline to 6 months and defined as:
  - Multiple male sex partnerships in the last 3 months
  - Condomless anal intercourse (CAI) with men in the last 3 months

### Participant Retention

Because participant retention is not a criterion for the Structural Interventions chapter, the Prevention Research Synthesis project does not evaluate that information.

### Significant Findings on Relevant Outcomes

- A significantly greater percentage of intervention participants reported any type of HIV testing from baseline to 6 months than control participants (89.8% vs. 50.7%, Relative Risk (RR) = 1.77, 95% CI: 1.54 - 2.03,  $p < 0.001$ ). Additionally, a significantly greater percentage of intervention participants than control participants reported any type of HIV testing for the following subgroups:
  - Participants who reported multiple male sex partnerships in the last 3 months (92.1% vs. 58.0%, RR = 1.59, 95% CI: 1.45 - 2.16,  $p < 0.001$ ).
  - Participants who reported CAI with men in the last 3 months (93.7% vs. 54.1%, RR = 1.73, 95% CI: 1.41 - 2.12,  $p < 0.001$ ).
  - Number of HIV tests taken in the last three years:
    - 0 HIV tests (81.4% vs. 36.6%, RR = 2.22, 95% CI: 1.61 - 3.08,  $p < 0.001$ ).
    - 1-3 HIV tests (93.4% vs. 53.5%, RR = 1.75, 95% CI: 1.46 - 2.08,  $p < 0.001$ ).
    - 4 or more HIV tests (95.8% vs. 73.3%, RR = 1.31, 95% CI: 1.04 - 1.65,  $p = 0.027$ ).
- Among those who had reported any type of HIV testing in the last 6 months, a significantly fewer percentage of intervention participants compared to control participants reported multiple male sex partnerships (34.2% vs. 47.7%, RR = 0.72, 95% CI: 0.54 - 0.95,  $p = 0.021$ ).

### Strengths

- None identified

### Considerations

*Additional significant positive findings on non-relevant outcomes*

- None reported

*Non-significant findings on relevant outcomes*

- There were no significant intervention effects from baseline to 6 months on CAI with men (27.5% vs. 33.9%, RR = 0.81, 95% CI: 0.57 - 1.15,  $p = 0.237$ ).

*Negative findings*

- None reported

*Other study-related findings*

- Only 1 HIV positive result was detected among the HIVST-OIC users. The person was immediately counseled by the HIV testing administrator, confirmed positive at the Department of Health, and received proper services.

*Implementation research-related findings*

- None reported

*Process/study execution-related findings*

- To assess fidelity, fieldworkers waited on the phone while participants watched the video (or called back), asked them three simple questions about the video, and recorded the starting/ending time of the motivational interviewing as verification. All participants were able to answer questions about the video correctly.
- Among the intervention group (n=200) and the control group (n=198) that participated in the process evaluation, 94% and 81.3% believed that the content of the health promotion was clear, respectively.
- The intervention group was more likely than the control group to find the materials attractive (51.5 vs. 33.4%,  $p < 0.001$ ), and believed that the health promotion had increased their understanding on the importance of regular HIV testing and counseling (81.0 vs. 69.2%,  $p = 0.032$ ) and willingness to take up HIV testing (69.0 vs. 43.9%,  $p < 0.001$ ).
- In the intervention group, 85% were satisfied with the motivational interviewing session.
- More than 80% of the intervention participants were satisfied with the logistics of implementation (89.5%), performance of the HIV testing administrator (96.5%), and usefulness of the HIVST-OIC in helping them understand HIV testing (86.7%) and preparing them to take up such testing (80.3%); 71.4% believed the service was effective in reducing their risk behaviors.
- About 78.5% of intervention participants expressed a desire to use this service again and 75% would recommend it to their peers in the next year; 47.8% would pay for HIVST-OIC at the cost of HK \$100 (or ~ \$13 US)/episode in the next six months.

*Adverse events*

None reported

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**REFERENCES AND CONTACT INFORMATION**

Wang, Z., Lau, J. T. F., Ip, M., Ho, S. P. Y., Mo, P. K. H., Latkin, C., Ma, Y. L., & Kim, Y. (2018). [A randomized controlled trial evaluating efficacy of promoting a home-based HIV self-testing with online counseling on increasing HIV testing among men who have sex with men](#). *AIDS and Behavior*, 22(1), 190-201.

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