

## Acceptability and feasibility of intra-peer and social media approach for HIV self-testing among men who have sex with men in Karachi: lessons from a pilot study

Arshad Altaf,<sup>1</sup> Muhammad Safdar Kamal Pasha,<sup>2</sup> Muhammad Siddiqui Wali,<sup>3</sup> Ayesha Majeed<sup>4</sup>

### Abstract

**Objective:** To use a peer-to-peer and social media approach to reach out to men who have sex with men (MSM) and to distribute human immunodeficiency virus self-testing kits among them in an urban setting.

**Method:** The cross-sectional, pilot study was conducted by a community-based organisation in Karachi from November 2020 to February 2021, and comprised men aged 18 years or above who have sex with men. The subjects were provided one human immunodeficiency virus self-testing kit (HIVST) per person by trained outreach workers. It was an oral fluid-based kit. Data related to demographics, behavioural patterns and human immunodeficiency virus testing detail was collected on a structured questionnaire with some open-ended questions. The analysis of qualitative data was done manually, using content analysis technique in which all common responses were grouped that led to the generation of themes.

**Results:** There were 150 male subjects with mean age 31.5+/-8.7 years. Overall, 62(41.3%) subjects had received up to 15 years of formal education, 94(62.6%) were first-time testers; 139(92.7%) performed the test at home; 11(7.3%) used the kit at the community-based organisation's office. In terms of results, 1(0.7%) participant had a reactive result which was later confirmed as positive for human immunodeficiency virus. Of the total, 145(96.6%) participants found the instructions and the kit easy to use on their own, 83(55.3%) preferred a social media-based approach, and 68(45.3%) preferred the peer-to-peer approach.

**Conclusion:** The HIVST was found to be acceptable among men who have sex with men, while peer-led and social media approaches seemed to be an effective method of information dissemination.

**Key Words:** HIV testing, HIV self-testing, Pilot study, HIV Pakistan, Men who have sex with men, Peer to peer, Social media. (JPMA 73: 562; 2023) **DOI: 10.47391/JPMA.6846**

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### Introduction

The National Acquired Immunodeficiency Syndrome (AIDS) Control Programme defined men who have sex with men (MSM) as all men who have sex with other men as a matter of preference or practice regardless of their sexual identity or sexual orientation. The case definition also included men who regularly frequent locations/sites (either geographical or virtual) to find other male partners.<sup>1</sup> Male sex workers sell or exchange sex for money mostly to men.<sup>2</sup> MSMs and transgender persons make up an alarming proportion of HIV cases in Pakistan.<sup>3</sup> MSMs in many countries are excessively affected by HIV compared to the general population.<sup>4</sup> In the Asia-Pacific region, of all the new HIV infections, 30% occurred among MSMs.<sup>5</sup> MSMs are being infected at a younger age, with

the highest rates reported in men aged 15-24 years.<sup>5</sup>

It is estimated that there are 832,214 MSMs, including male sex workers, in Pakistan.<sup>6</sup> HIV infection among MSMs has remained consistently high. In 2011 and 2016 it was 5.4%.<sup>1</sup> The average age of MSMs in the last Integrated Behavioural and Biological Surveillance (IBBS) in 2016-17 was 23.9 years, while 90% were aged <30 years. Only 26.7% MSMs reported ever testing for HIV.<sup>1</sup> In neighbouring India, HIV prevalence among MSMs was documented at 2.7% while 65% were aware of their HIV status.<sup>7</sup> MSMs in India<sup>8</sup> as well as in Pakistan<sup>9</sup> face widespread stigma and social marginalisation as a result of which majority of them avoid seeking healthcare services as well as HIV testing.

HIV self-testing (HIVST) is recommended by the World Health Organisation (WHO) as an approach to HIV testing services.<sup>10</sup> In HIVST, a person collects her/his own sample, which could be oral fluid or blood, and performs the test at a time and place of her/his choosing. The kit is like a rapid HIV test kit and the user interprets the easy-to-read

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<sup>1</sup>Independent Consultant, Karachi, <sup>2</sup>World Health Organization, Islamabad, <sup>3</sup>Humraz Male Health Society, Karachi, <sup>4</sup>National AIDS Control Programme, Islamabad, Pakistan.

**Correspondence:** Arshad Altaf. Email: arshad.altaf@gmail.com

**ORCID ID.** 0000-0001-6536-7231

results.<sup>10</sup>

The coronavirus disease-2019 (COVID-19) pandemic negatively impacted healthcare services, including HIV testing. In the WHO Eastern Mediterranean Region (EMR), COVID-19 interruptions resulted in decreasing the number of HIV testing in 2020 to 3 million from 6.5 million in 2019.<sup>11</sup> UNITAID<sup>12</sup> (Unitaid is a global health initiative that works with partners to bring about innovations to prevent, diagnose and treat major diseases in low- and middle-income countries, with an emphasis on tuberculosis, malaria, and HIV/AIDS and its deadly co-infections) issued an operational update for countries on HIVST during the COVID-19 pandemic. It mentioned HIVST as a critical tool for maintaining HIV testing services. It can decrease the flow of patients and clients who want to seek HIV testing services at health facilities, thereby reducing the exposure to severe acute respiratory syndrome coronavirus 2 (SARS-COV-2).<sup>13</sup>

HIVST has not been extensively studied among MSMs in Pakistan. The current study was planned to use peer-to-peer and social media approaches to inform and distribute HIVST kits among MSMs in an urban setting.

## Subjects and Methods

The cross-sectional, pilot study was conducted by Humraz Male Health Society (HMHS)<sup>14</sup> a community-based organisation (CBO), in Karachi from November 2020 to February 2021. Karachi is the largest city of Pakistan which has the country's chief port and is an industrial and trading hub.<sup>15</sup> According to the 2017 census<sup>16</sup>, the population of the city was around 17 million and may have grown to an estimated 20 million since then. According to the official web portal of Karachi Municipal Corporation (KMC)<sup>17</sup> there are seven districts and 178 union councils (UCs). There are also six military cantonments in the city administered by Pakistan Army. The KMC website also mentions that Karachi contributes significantly to the country's revenue. The city has also been included as a fast-track city for HIV response as part of the Global Fund (GF) support.<sup>9</sup>

HMHS has been working with MSMs and transgenders (TGs) for years and has also been implementing a GF-supported service delivery and outreach project among the MSMs in selected areas of Karachi since 2016.

After approval from an ethics review committee (ERC) of Bridge Consultants Foundation, the sample was raised using convenience sampling technique according to sample size requirements which were dictated by the available resources and the number of HIVST kits (OraQuick HIV Self-Test [OraSure Technologies Inc.,

Pennsylvania, United States]).

Those included were self-identifying MSMs aged 18 years or above who volunteered to participate. While the study's target population was MSMs, some male sex workers may also have participated because the question 'are you a male sex worker?' was not asked by the outreach workers at the time of recruitment. The inclusion criteria also entailed being HIV-negative (self-reported) and individuals who had not been tested in the preceding six months. Those who were HIV-positive, not willing to participate, receiving antiretroviral treatment (ART), could not read instructions or have had used an HIVST in the recent past were excluded.

Two approaches were used; peer-to-peer, and social media in which Facebook Messenger and WhatsApp were employed. In their daily outreach activities, the outreach workers informed and educated the MSMs about HIVST and also circulated information about HIVST using WhatsApp and Facebook Messenger groups.

The outreach team was provided training on the study procedures for two days, covering HIVST distribution, communication skills, ethical issues, including informed consent, data collection, follow-up of participants, and steps to take after receiving the results. A good part of day 2 was spent on using the HIVST kits.

MSMs who showed interest in the use were also provided information about HIV prevention services, HIV testing, including self-testing, and the benefits of early HIV treatment. The participants who fulfilled the inclusion criteria and furnished written informed consent were handed over a package that included an HIVST kit, and a leaflet with illustrations in Urdu, the local language, providing step-by-step information on how to perform the self-test, read and interpret the result, and what steps to take in case of a negative, reactive or inconclusive result. The manufacturer had provided a draft leaflet in the Urdu language which was carefully reviewed and improved for better flow of language and contextualisation. Every participant was sent a short instructional video via WhatsApp on how to perform the self-test. Information about HIV prevention services was also provided in the leaflet.

Each participant had the option of taking the HIVST kit with him to be used at a time of his convenience. The subjects were also given the option to use the kit at the CBO office in a private room. The outreach worker also offered to demonstrate live use of HIVST in an in-person meeting or via a video call from the CBO office using the WhatsApp or Facebook Messenger video call option.

The study participants were asked to contact the outreach worker after using the self-test kit and report their results and the overall experience of the usage. In case the kit recipient did not report back after two days, the workers contacted them through a phone call during which the self-test result was asked and linkage to post-test services was also offered. In case of a reactive result, the outreach workers offered to accompany the tester, including providing transportation to the ART centre for confirmation and linkage to treatment.

The follow-up phone call also included three open-ended questions regarding the acceptability of HIVST, the ease of use of the HIVST kit, including reading and interpreting the result, and feedback on future approaches and models of HIVST distribution among MSMs and other key population groups.

The data was collected using a structured questionnaire comprising demographics, sexual behaviour in the preceding three months, and HIV testing.

The questionnaire was pretested before its final implementation to assess the flow of questions and acceptability. The trained outreach worker administered the questions related to sexual practices on a one-to-one basis in privacy.

Hard copies of all questionnaires were stored safely at the CBO office. All the filled-in questionnaires were reviewed the same day and corrected for missing information or overwriting.

All quantitative data were manually entered in Microsoft (MS) Excel. Descriptive analysis was done for quantitative variables, while qualitative data was analysed manually using the content analysis technique in which all common responses were grouped which led to the generation of themes.

Each study participant was provided mobile credit worth Pakistani rupees (PKR) 300 (US\$ 1.78) for their time and willingness to participating in the study. All personal information of the participants was safe and secure in the CBO office and was kept in a locked drawer at the end of each workday. As soon as the study data collection process concluded, the personal information of all the participants was safely destroyed.

## Results

There were 150 male subjects with mean age 31.5+/-8.7 years. In terms of approach, social media was successful in recruiting 41(27.3%) subjects, while peer-to-peer approach was instrumental in recruiting 109(72.6%). Overall, 62(41.3%) subjects had received up to 15 years of

**Table-1:** Demographic, sexual practices and testing details of MSMs in Karachi.

Variable	Result (%) N=150
Mean age	31.5+/-8.7 years
Age range	18-50 years
<b>Mother tongue</b>	
Urdu	59 (39.3%)
Sindhi	13 (8.7%)
Punjabi	13 (8.7%)
Balochi	20 (13.3%)
Pushto	9 (6.0%)
Saraiki	10 (6.7%)
Others	26 (17.3%)
<b>Education</b>	
No formal education	15 (10.0%)
Up to 9 years of schooling	54 (36%)
Up to 15 years of schooling	62 (41.3%)
Up to 16 years of schooling	19 (12.7%)
<b>Sexual partners in the last three months and other sexual behaviours</b>	
1-5	86 (57.3%)
6-10	33 (22.0%)
11-20	22 (14.7%)
More than 20	9 (6.0%)
Condom and lubricant use in last sexual act	76 (50.7%)
Approximate number of anal receptive sex in the past three months when you were at the bottom	7.2
Approximate number of anal receptive sex in the past three months when you were at the top	12.2
<b>HIV risk perception</b>	
At risk	62 (41.3%)
Not at risk	17 (11.3%)
Don't know	71 (47.3%)
<b>HIV testing</b>	
First time testers	94 (62.6%)
Less than three months ago	6 (4.0%)
More than three months ago	50 (33.3%)
<b>Place of HIV test</b>	
Private lab	14 (9.3%)
CBO office	14 (9.3%)
Community outreach	28 (18.6%)
Did not respond	94 (62.6%)

MSM: Men who have sex with men, HIV: Human immunodeficiency virus, CBO: Community-based organisation.

formal education, 94(62.6%) were first-time testers; 139(92.7%) performed the test at home; 11(7.3%) used the kit at the CBO's office. In terms of results, 1(0.7%) participant had a reactive result which was later confirmed as positive for HIV. He was enrolled for due treatment.

Of the total, 145(96.6%) participants found the instructions and the kit easy to use on their own, 83(55.3%) preferred a social media-based approach, and 68(45.3%) preferred the peer-to-peer approach (Table).

A majority of the study participants 86(57.3%) had 1-5

sexual partners in the preceding three months, followed by 6-10 by 33(22%).

## Discussion

To the best of our knowledge, the current study is the first HIVST implementation research conducted among MSM in Pakistan, and part of the sample were many first-time testers.

The findings can guide future rollouts of HIVST among MSMs and other key populations in Pakistan. Considering the size of metropolitan Karachi, a peer-to-peer approach may be more time-consuming and can pose some logistical issues, while the use of social media platforms can play a pivotal role in disseminating information. However, the engagement of CBOs working with MSMs and other key populations may be crucial for both outreach and with respect to counselling and treatment. Community-based efforts have been labelled as the “cornerstone” of the AIDS response and provide significant value.<sup>18</sup> It is worth noting that a review in 2017 found that free HIVST distribution along with comprehensive prevention intervention addressed multiple barriers, such as access to testing, correct use kits, and correct interpretation of the result than interventions that only distributed HIVST kits through technology-based platforms.<sup>19</sup>

WHO recommends adapting a suitable model of delivering and supporting HIVST, depending on key population and settings. The engagement of communities in developing and adapting HIVST models is important.<sup>20</sup>

HIVST has been welcomed by MSMs in countries like the Philippines and China.<sup>21,22</sup> A study emphasised the importance of strategic alliances among key stakeholders to increase coverage of HIV testing services for targeted populations.<sup>21</sup> The key alliances in Pakistani context would be the National and Provincial AIDS Control Programmes, United Nations Development Programme (UNDP), which is the primary recipient (PR) for GF grant for Pakistan, CBOs and non-governmental organisations (NGOs) working on HIV and AIDS, public health experts, and WHO and the Joint United Nations Programme on HIV and AIDS (UNAIDS).

The current study has its limitations. The sample size was small and the sample was recruited using convenience sampling technique. It is plausible that the findings may not be applicable to all settings. Convenience sampling can also lead to response and selection bias. However, it is believed that in a large urban centre, like Karachi, and keeping in mind the stigma associated with MSMs in

Pakistan, a close-knit community-based approach may be more practical to reach out to this key population group. In the current study, the participants were provided with free testing kits and a one-time mobile credit of PKR300. It needs to be seen how this will affect future such studies. More research is surely needed to develop credible inferences related to a real-world scenario.

## Conclusion

The pilot project provided a platform and local context for initiating HIVST among key populations in Pakistan. It is high time the availability of HIVST is ensured for such groups.

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**Conflict of Interest:** None.

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