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Original Research

Preferences for oral fluid rapid HIV self-testing among social media-using young black, Hispanic, and white men-who-have-sex-with-men (YMSM): implications for future interventions

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ABSTRACT

Objectives: We assessed preferences of social media-using young black, Hispanic and white men-who-have-sex-with-men (YMSM) for oral fluid rapid HIV self-testing, as compared to other currently available HIV testing options. We also identified aspects of the oral fluid rapid HIV self-test that might influence preferences for using this test instead of other HIV testing options and determined if consideration of HIV testing costs and the potential future availability of fingerstick rapid HIV self-testing change HIV testing preferences.

Study design: Anonymous online survey.

Methods: HIV-uninfected YMSM across the United States recruited from multiple social media platforms completed an online survey about willingness to use, opinions about and their preferences for using oral fluid rapid HIV self-testing and five other currently available HIV testing options. In a pre/post questionnaire format design, participants first indicated their preferences for using the six HIV testing options (pre) before answering questions that asked their experience with and opinions about HIV testing. Although not revealed to participants and not apparent in the phrasing of the questions or responses, the opinion questions concerned aspects of oral fluid rapid HIV self-testing (e.g. its possible advantages/disadvantages, merits/demerits, and barriers/facilitators). Afterward, participants were queried again about their HIV testing preferences (post). After completing these questions, participants were asked to re-indicate their HIV testing preferences when

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considering they had to pay for HIV testing and if fingerstick blood sample rapid HIV self-testing were an additional testing option. Aspects about the oral fluid rapid HIV self-test associated with increased preference for using the test (post-assessment vs pre-assessment of opinion topics) were identified through multivariable regression models that adjusted for participant characteristics.

Results: Of the 1975 YMSM participants, the median age was 22 years (IQR 20–23); 19% were black, 36% Hispanic, and 45% white; and 18% previously used an oral fluid rapid HIV self-test. Although views about oral fluid rapid HIV self-testing test were favorable, few intended to use the test. Aspects about the oral fluid rapid HIV self-test associated with an increased preference for using the test were its privacy features, that it motivated getting tested more often or as soon as possible, and that it conferred feelings of more control over one's sexual health. Preferences for the oral fluid rapid HIV self-test were lower when costs were considered, yet these YMSM were much more interested in fingerstick blood sampling than oral fluid sampling rapid HIV self-testing.

Conclusions: Despite the perceived advantages of the oral fluid rapid HIV self-test and favorable views about it by this population, prior use as well as future intention in using the test were low. Aspects about oral fluid rapid HIV self-testing identified as influential in this study might assist in interventions aimed to increase its use among this high HIV risk population as a means of encouraging regular HIV testing, identifying HIV-infected persons, and linking them to care. Although not yet commercially available in the United States, fingerstick rapid HIV self-testing might help motivate YMSM to be tested more than oral fluid rapid HIV self-testing.

Introduction

In the United States (US), black, Hispanic, and white young (18–24 year-old) men-who-have-sex-with-men (YMSM) are disproportionately affected by the HIV epidemic,[1–6] as exhibited by increasing HIV incidence rates,[1,5,7,8] high HIV prevalence, and high levels of undiagnosed HIV infections[2,8–10] among this population. Although HIV testing rates appear to be improving among YMSM, they are relatively lower than for other MSM, which limits their chances of receiving appropriate treatment and impedes efforts to reduce the occurrence of new infections among their sexual or injection drug-using contacts.[2,8,11,12] Barriers such as lack of access to and availability of testing centers, healthcare insurance, medical providers, and transportation options, as well as concerns about confidentiality might prevent some YMSM from being tested at medical facilities and community organizations.[13]

Despite obviating some of the concerns and inconveniences of traditional venue-based HIV testing, the sole commercially available home-based conventional (i.e. non-rapid) mail-in blood sample collection HIV test (Home Access® HIV-1 Test System, Home Access Health, Hoffman Estates, IL) available in the US is used infrequently by MSM.[14] A major limitation of this test is that users must collect a blood sample on a gauze pad, mail it to the testing center, and then telephone the laboratory several days later before obtaining the results.[13,15,16] The cost of testing also might be a barrier to its use. Given the lower than critically needed testing rates observed among black, Hispanic and white YMSM in the US and the limits of current testing options, other means of increasing HIV testing appear to be necessary.

In 2012, the US Food and Drug Administration approved the OraQuick® In–home rapid HIV test (OraSure Technologies, Bethlehem, PA) for oral fluid self-testing as an over-the-counter test.[17] A prime motivation for the oral fluid HIV self-test has been to increase the availability and convenience of HIV testing. The test is provided in a kit with step-by-step instructions on how to obtain the oral fluid sample, conduct the test, and read the results. The company provides free telephone-based assistance to those with queries about conducting the test, interpreting the results, and how and where to seek help if concerns arise or the test result is positive. The OraQuick® In–home rapid HIV test is a re-packaging of the company's oral fluid rapid HIV test (current version is the OraQuick® ADVANCE rapid HIV-1/2 antibody test) which is performed by a clinician or other test provider. The company's original oral fluid rapid HIV test became commercially available in the US in 2004 and subsequent iterations of the test have been used in clinical, nonclinical, and community outreach testing. Per the manufacturer's package insert information, the OraQuick® In–home rapid HIV test sensitivity is 91.7% and specificity is 99.9%,[18] whereas the OraQuick® ADVANCE Rapid HIV-1/2 antibody test sensitivity is 99.3% and specificity is 99.8%[19] (although some post marketing studies have reported lower values).[20] In addition to this commercially available oral fluid rapid HIV self-test, over-the-counter fingerstick blood sample rapid HIV self-tests are under consideration for home-based use, although they are not yet offered in the US.[21]

Because the oral fluid rapid HIV self-test is widely accessible for purchase in stores or via the internet in the US, is considered easy to use, involves an oral swab instead of a