

HIV self-testing usability study: Assessment of usability of emerging HIV self-test prototypes in lay users in sub-Saharan Africa

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INTRODUCTION

Approaches that have been used to scale up Human immunodeficiency virus (HIV) testing in Kenya include Provider Initiated Testing and Counselling (PITC) and Client Initiated approaches such as those accessed through VCT centres. Self-testing has potential to circumvent constraints associated with these approaches such as lack of confidentiality, stigma and discrimination, perceived low risk of infection, shortage of counsellors and long distances to testing sites. Kenya's HIV testing and counselling policy includes self-testing as one of the modes of providing HTC services in the country. This study was part of a multi-country research conducted in Kenya, Malawi and South Africa to determine the usability of specific prototypes among lay users and the readiness of each country to scale up HIV testing and counselling (HTC) through HIV self-testing. The Kenya study was collaboration between Program for Appropriate Technology in Health (PATH), Liverpool School of Tropical Medicine (LSTM) and Liverpool VCT Care and Treatment (LVCT). The objectives of this study were to identify the characteristics of the potential target population who would be targeted for HIV self-testing and the usability of the self-test prototypes, to explore constraints and opportunities for HIV self-testing in Kenya, to evaluate ease of use and acceptability of selected late-stage prototype HIV rapid tests in the hands of lay users and to explore constraints and opportunities for HIV self-testing by lay users.

Five different prototypes of self-test kits were tested among fifty lay users to determine their ease of use and preferred self-test kit characteristics. Their testing experience, opinions and recommendations on the design of the self-test kits were documented. This report represents the findings of the usability testing exit interviews of the 5 self-test prototypes among lay users.

STUDY METHODOLOGY

This was a qualitative exploratory study carried out in the month of September 2013. Fifty lay users were observed and video recorded while using five different HIVST prototypes and thereafter interviewed to find out their views on ease of using the test, opinions and recommendations on the design of the test. . An equal number of men and women took part in the study and each of the lay users only tried out one self-test prototype. Video recordings captured data on usability while in-depth interviews captured the respondents' views on the testing experience. All interviews were recorded, transcribed and data analyzed thematically using NVIVO 10 qualitative software.

FINDINGS

In general, majority of the study respondents were able to conduct the HIV self-test after reading through the instructions which were a part of each self-test package. Through each phase of the testing process, different recommendations were given on what should be done to improve the usability of each self-test prototype. In general the users of the oral self-test prototype reported an ease of conducting the self-test with only one respondent using the swab incorrectly by

swabbing using the wrong side. For the self-test prototypes that need a blood sample, most of the study participants reported a fear in pricking themselves. However, only one participant did not prick themselves citing challenges in using the lancets. Most of the lay users using the blood self-test prototypes reported challenges in using the lancets reporting that the device was new to them and the instructions were not very clear on how to exactly use them. One respondent resulted to using a safety pin and a razor blade while attempting to collect a blood sample. There were also concerns on determining whether the amount of blood collected was enough to conduct the test. There were mixed opinions on where to seek help if one experiences difficulties when conducting the test such as visiting a health facility, use of a phone line to seek assistance but most of the respondents reported that they would seek assistance from where they obtained or purchased the test kits. The major opinions that were captured was to either go back where one bought the self-test kit or have a phone line or a short message service (SMS) line from where one can seek help. On where to conduct the self-test, majority of the respondents would prefer to conduct the self-test in their homes, where they consider private and comfortable. Different options were given on how to dispose the used self-test kits; burning, throwing in a latrine and disposal in the rubbish bins. While some of the study respondents preferred that the self-test kits be made available free of charge, the preferred cost of the self-test kits ranges from Kenya shillings (KES) 50 to KES 500 with most of the respondents of the opinion that this will be affordable to most Kenyans. Majority of the study respondents believe that the self-test is accurate; therefore, most would visit a health facility for a confirmatory test especially if the self-test results are HIV positive.

1. CONCLUSIONS AND RECOMMENDATIONS

There is general acceptance of the HIV self-test kit among lay users in the country and most of the respondents were able to conduct HIV self-testing with minimal assistance. The major challenges identified with the blood prototypes were the lancets which most respondents could not identify the needle. Minimal challenges were observed with the oral self-test prototype giving an indication that it would be more usable as a standard oral self-test kit. Most of the lay users reported that they would conduct the self-test in their homes and dispose the self-test kits in either the latrines or the rubbish bins. The recommended cost of the kits should be between KES 50 and KES 500 which was quoted to be more affordable in the general population. Pharmacies were identified to be the places most suitable to purchase the self-test kits with health facilities being noted as most preferable to obtain the kits if they were made available for free. The major challenges for HIV self-testing reported were linkage to care after self-testing, potential for abuse of the kits and social harm in the family set up. From this study, we recommend that each test kit package should have clear and detailed instructions in both written and pictorial form. They should also contain an information package which will provide linkages to care after self testing and also include HIV prevention information. We also recommend that more education and sensitization should be made available for use of the self test kits especially for use of the lancets. This study demonstrates that self-testing is acceptable among lay users, it is therefore recommended that the government should promote HIV self-testing by providing comprehensive policy guidelines on self-testing and also approve a standard self-test kit to be used in the country which should be affordable to the general population and made affordable.