

Assessing the Acceptability and Willingness to Use HIV Self-Testing among Student Nurses in a Private Nursing College, Gauteng Province, South Africa

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Abstract

Globally, there is increasing evidence that HIV self-testing (HIVST) is commonly practiced among health care workers (HCWs). Although HIVST kits are available in South Africa, their distribution and use remain unregulated and its acceptability, undocumented. The aim of the study was to explore the acceptability of HIV self-testing among student nurses, examine their willingness to use self-testing, and evaluate their views on the implementation of a regulated HIV self-testing programme. This was a qualitative explorative study, and six focus group discussions were conducted with 67 student nurses recruited from a private nursing college, in Pretoria, South Africa. Thematic analysis and NVivo10 qualitative software were used for data analysis. The nurses perceived HIVST as an acceptable option for HIV testing and most were willing to self-test. Self-testing will provide confidential and accessible HIV testing services, reduce the stigma associated with the condition, and increase partner testing and disclosure. HIVST is more likely to be practised if self-testing kits are easily accessible and affordable, and there are strategies to educate people before the adoption of HIVST. The lack of pre- and post-test counselling, the risk of inaccurate test results, and lack of strategies for the confirmation of self-testing results were the main arguments against HIVST. The high acceptance of HIVST among nurses suggests that HIVST is a feasible option to increase the uptake of HIV-testing among HCWs. However, pre- and post-test counselling should be considered important components in the implementation of self-testing services. Educational and awareness campaigns should precede the roll-out of the self-testing programs.

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Keywords

HIV Self-Testing, Nurses, Acceptability, South Africa, Health Care Workers

1. Introduction

South Africa adopted provider-initiated HIV testing and counselling (PITC) as a possible strategy for expanding HIV testing in health facilities. In PITC, health providers offer HIV testing to all patients or clients accessing health facilities irrespective of their presenting medical problems [1]. The PITC approach makes HIV testing and counselling (HCT) part of the routine services offered in a health facility, and in South Africa, PITC addresses some health system barriers to testing such as the availability of counsellors and counselling rooms [2]. An evaluation of the PITC approach showed an increased uptake of HIV testing among clients offered PITC compared with referrals to voluntary counselling and testing sites [3]. Although access to and uptake of HCT has increased significantly following the implementation of PICT, many people, including many of those at high risk, still do not know their status [4]-[6]. While PITC is an effective public health intervention to increase access to HCT, it cannot be the only solution to expanding HIV testing because of challenges that limit its impact and scope [2].

Health care workers (HCWs) are particularly vulnerable to acquiring HIV; they are vulnerable to HIV infection through sexual exposure in their personal lives and face an added risk of occupational exposure to HIV infection [7] [8]. Despite the high risk of HIV infection, many HCWs are reluctant to seek HIV testing, especially in facilities where their co-workers could access their results. They have concerns about the lack of privacy when testing in their health facilities. They also fear that their co-workers would know their HIV status and they may experience stigma from their colleagues [9] [10]. The act of having an HIV test can be stigmatizing, as HCWs are often assumed to be HIV-positive if they are known to have tested [11]. Given the level of stigma that exists around HIV and fear of others finding out about their HIV status, HCWs need an option that would allow them to test privately and anonymously [9], and HIV self-testing (HIVST) could be a more discrete approach for HWCs to find out their HIV status [6].

HIVST refers to conducting of an HIV test on oneself, and can be performed using home sample collection kits or home self-testing [12]. The test is collected, performed, and interpreted in private by the individual who wants to know about their HIV status. HIVST have the potential for early identification of HIV-infected individuals in order to facilitate timely treatment initiation [6]. HIVST can be an alternative to PITC because it is one of the options that promise confidentiality and privacy of test results [7] [12]. Therefore, providing HIVST for HCWs would increase access to HIV testing in an environment that is private, not threatening, and without anxiety about stigma from colleagues [9]. According to the World Health Organization (WHO), HIVST kits are currently being used in various settings, and may be useful for HCWs in settings in which HIV is prevalent [6].

Globally, there is increasing evidence that HIVST is commonly practiced among HCWs. A study conducted across five African countries found self-testing to be acceptable to be practiced by HCWs. Furthermore, advocacy for self-testing is becoming more common, and some national policies now support regulated self-testing [10]. However, due to the limited experience with self-testing, it is not yet known whether increasing access to HIVST for HCWs through regulated self-testing will lead to a greater uptake of HIV prevention services [4]. There is a need to assess the feasibility, acceptability, and uptake of a regulated programme of self-testing among HCWs [4]. The need for baseline data on HIVST was the impetus for this study, largely because although HIV self-tests are available in South Africa, their distribution and use remains unregulated [2]. The aim of the study was to explore the acceptability of HIV self-testing among student nurses, examine their willingness to use self-testing, and their views on the implementation of a regulated HIV self-testing programme. We felt that student nurses were a relevant group of HCWs to inform the feasibility and acceptability of HIVST. While they are classified as HCWs and face challenges of testing in health care facilities where their privacy may be compromised, they are also young and at high risk for HIV transmission.

2. Methods and Materials

2.1. Study Design

The study was qualitative in nature, using focus group discussions. A convenience sample of 67 student nurses

was recruited from a private nursing college in Gauteng province, South Africa. The college trains auxiliary nurses, offers bridging of auxiliary nurses to enrolled nurses, enrolled nurses to professional nurses, and post-graduate training for critical care, operating theatres, and orthopaedic nursing. All nurses who were on block at the college during the time of data collection were able to inform the objectives of the study, hence the use of convenience sampling.

2.2. Data Collection

Five focus group discussions were conducted using a semi-structured guide with open-ended questions and probes. The focus group guide outlined general questions about knowledge, acceptability, benefits, and disadvantages of self-testing. Participants were also asked about their willingness to use self-testing as well as their views on how it should be implemented. The focus groups were audio-recorded with the permission of the participants and lasted for about 60 minutes. The discussions were conducted by the second author with the assistance of a research assistant trained in qualitative research methods. Demographic data were collected at the end of the focus group discussions.

2.3. Data Analysis

Thematic analysis was used for data analysis. Focus group discussions were transcribed verbatim and then compared to the original recording to ensure accuracy. The authors performed multiple readings of some of the transcripts to identify initial codes and develop a code list consisting of common themes emerging from the data. Once consensus was reached on the definitions of themes, the transcripts were imported into NVivo version 10, a qualitative analysis software package for application of codes on the transcripts. The transcripts were recoded if a new code emerged or an existing code was revised.

Trustworthiness was ensured through various strategies. A digital audio recorder was used to facilitate verbatim transcription and ensure that the findings reflect the views and perceptions of the participants. Data were triangulated by collecting focus group discussions, writing of extensive field notes and interview notes, and collecting demographic data from the participants. The authors also held peer debriefing sessions to identify codes emerging from the data. NVivo 10 computer software for qualitative data analysis was used to aid data organisation and analysis [13].

2.4. Ethical Considerations

Ethical approval was obtained from the Medunsa Research Ethics Committee (MREC) of the University of Limpopo (MREC/H/50/2013: PG). Permission to conduct the study was obtained from the Research Committee of the Nursing College and the campus principal. All participants provided informed consent after the study was explained and assured of confidentiality and anonymity.

3. Results

3.1. Description of Study Sample

The sample consisted of 67 student nurses who participated in five focus group discussions. Almost all ($n = 65$, 97%) were females and were aged 19 - 55 years with a mean age of 28.9 years. With regards to their qualifications, 32 (55.1%) were nursing assistants and 25 (44.9%) were enrolled nurses, 7 (10.4%) were nurses on training, and only one was a professional nurse. Over half ($n = 34$, 56%) reported that they treat HIV positive patients regularly, 12 (18%) treat HIV-positive patients only when required to do so, and 19 (29.7%) were not involved in the treatment of HIV positive clients. Almost all ($n = 65$, 98.5%) had previously tested for HIV, half ($n = 31$, 50.8%) tested at primary health clinics, a third ($n = 18$, 29.5%) tested at the hospital, and the rest tested at school, laboratory, and doctor's rooms. A quarter ($n = 15$, 25%) said the quality of HIV counselling they received was excellent, 26 (43.3%) said it was good, 6 (10%) said it was poor, and 13 (21.7%) did not give an opinion.

3.2. Themes

Analysis of the focus group discussions revealed five themes: 1) acceptability of HIV self-testing; 2) non-ac-

ceptability of self-testing; 3) willingness to adopt HIV self-testing; 4) recommendations for uptake of self-testing; 5) linking self-testing to health facilities. Seven subthemes emerged from acceptability of self-testing and two subthemes emerged from non-acceptability of self-testing (Table 1).

3.2.1. Acceptability of HIV Self-Testing

The success of the self-testing program is dependent upon the acceptability and willingness of people using that test. For most participants, HIVST was acceptable as an alternative testing option. A number of subthemes that support acceptability of HIVST emerged from the data and are outlined below.

1) HIV Self-Testing Is Good

Participants viewed HIVST as acceptable because it allows the user to decide who should be informed about the test results. They felt that HIVST will provide confidentiality for individuals who desire more privacy:

I think self-testing is good for people who are scared to go to the clinic, due to stigma and the attitudes of the nurses, so I think it will help people who are afraid (participant FG 3).

I think it's a good idea, people don't know their status because of stigma, if you do the self-testing then it's the way to go, people don't like clinics, especially males, so with the self-testing it's going to be the best thing (participant FG 2).

2) HIV Self-Testing Is Accessible

The participants were of the view that people do not test because HIV testing facilities are far. They felt that HIVST will be accessible because the user can test anytime in the convenience of their home:

The benefit is that it will be accessible and then you will be able to do it at any time, at any point of your life (participant FG1).

It will be accessible, even if you meet a partner or a new boyfriend, you can always test first before you do things, and I personally think it's a good idea (participant FG 3).

3) Confidentiality and Privacy Are Ensured

Perceived lack of privacy and confidentiality in public HIV testing centres is associated with poor uptake of HIV testing. HIVST is an acceptable option because it will offer privacy and confidentiality, which is often not the case when people test in public health facilities:

It will offer privacy, you can test at your own time, at your own space, and it's going to be between you and the four walls around you and nobody else (participant FG 1).

People do not test because they are afraid that their test results might be shared with other people. So, most people do not test because they don't want other people to know their status (participant FG 5).

4) Self-Testing Saves Time

Table 1. Themes.

Themes	Sub themes
Acceptability of HIV self-testing	HIV self-testing is good
	HIV self-testing is accessible
	Confidentiality and privacy is ensured
	Self-testing saves time
	Saves the user from being judged
	Provides opportunity to test as a family
	Increases partner disclosure
Non-acceptability of HIV self-testing	Lack of pre- and post-counselling
	Lack of self-testing skills
Willingness to adopt HIV self-testing	
Recommendations for uptake of self-testing	
Linking self-testing to health facilities	

For most people, getting an HIV test means spending almost the whole day at HIV testing centres waiting in long queues. HIVST instead can be done in the privacy of the user's home and saves the user the time of going to public HCT facilities:

The reason I'm saying the home testing is good is..., standing on that queue at the public healthcare facility is time consuming (participant FG 5).

I think it's more convenient and it saves time, because I will just buy that thing go home and test myself, compared to going to the clinic, standing in a queue telling someone that you want to test and end up standing the whole day there (participant FG 2).

5) Saves the User from Being Judged

Stigma associated with being seen at dedicated HCT centres is associated with low utilization of these facilities for testing. Some facilities have separate rooms for HCT, which easily identifies those who come for HIV testing. HIVST is a better option because it will save the user from being judged when testing at public facilities:

It actually saves you from being judged because when you go to the clinic or hospital, they know that you are going there to do an HIV test (participant FG 3).

It's actually very scary for some people to go and do a test, especially in a public place because when you get there, there's this queue and they will tell you that if you are in this queue, this is the queue for HIV testing (participant FG 3).

6) Provides Opportunity to Test as a Family

HIVST also provides the users an opportunity to test as a family at home without going to the HCT centres. Testing as a family also offers the opportunity to discuss the self-testing with the partner:

I think the advantages will be..., especially for us who have boyfriends. This will be an advantage..., I will actually buy four of them [test kits] two for each of us, we don't need to go to the clinic..., and we do it as a family (participant FG 1).

It's a very good advantage, you know that you are doing it with your husband in your own home, in your comfort, and it is easy for him to support you as it will be easy for you to support him (participant FG 4).

7) Increases Partners Disclosure

People in relationships often do not go to HIV testing facilities to test together except in special programs promoting couple testing. HIVST offers an opportunity to test together at home and has the potential to increase partner disclosure:

I think self-testing will help a lot, my boyfriend and I can test together (participant FG 5).

I think one of the benefits is..., just like us, we are not yet married, you meet a handsome man somewhere and you can decide to do self-test, and if you are both negative then you've got your way (participant FG 2).

3.2.2. Non-Acceptability of HIV Self-Testing

Despite the fact that most participants found HIVST acceptable, there were some who felt that it was unacceptable. Their arguments against HIVST mainly concerned the lack of pre- and post-test counselling, risks of inaccurate test results, and negative reaction to test results:

1) Lack of Pre- and Post-Counselling

Participants believe that if HIVST is done without pre- and post-test counselling, users with positive HIV test results will be traumatized and might harm themselves:

I mean if you test HIV-positive it will come as a shock, so if you do self-testing at home without counselling, to me, whether you do it alone or at the clinic, you still need counselling, I don't agree with the whole self-testing thing (participant FG 4).

It has a disadvantage in it, what if the person hangs him/herself after they find out the results? There are some people who need post-test counselling (participant FG 5).

2) Lack of Self-Testing Skills

Participants were concerned that users of self-testing might not use the test correctly or might not read the results properly resulting in false positive or false negative results:

Chances are, some of the people who will go out to buy the self-testing kits won't do it correctly and the results won't be accurate (participant FG 3).

I think if ever you are ignorant, you won't check the pamphlet. You have to follow the instructions on the pamphlet to make it easy to do the test, if you don't follow what the pamphlet tells you, you might not wait for the right time for the results and then you might think that you are fine meanwhile the test results is incorrect

(participant FG 4).

3) Willingness to Adopt HIV Self-Testing

Participants who were willing to engage in self-testing reported that one of the conditions to use self-testing was their readiness to use the test:

If you do the home test by yourself, you know what you are doing, you know what to expect when you do the test (participant FG 2).

With self-testing it means you are free to make a choice, and from there when you test yourself you are ready to do that and you are really sure that you will accept the outcome, whether it's positive or negative, and if it's negative you will be fine with it (participant FG 1).

3.2.3. Recommendations for Uptake of Self-Testing

Participants recommended that people should be educated about self-testing before the country adopts it as an alternative testing option:

If they make HIV self-testing kits available, they must educate people about HIV/AIDS before they sell them to the public. In that way they will know that the person who got the kit was informed about HIV/AIDS (participant FG 3).

It should be aired on national television so that people should know about the test, they must know how to use it. They should have people at the shopping malls demonstrating these things, this should be known nationally (participant FG 1).

I think self-testing must go together with an intense awareness campaign, HIV messages must be out there every day (participant FG 5).

In contrast, participants who argued against HIVST were of the view that the cost of the self-testing kits will make it difficult for people to use the tests:

I am not sure how much it will cost, but some people might not be able to afford it. You might really want to test but find that you can't really afford, so I think that cost will be a challenge (participant FG 4).

3.2.4. Linking Self-Testing to Health Facilities

One of the major challenges for healthcare providers who promote HIVST is linking the HIV-positive results from self-testing to healthcare facilities. The participants shared their views on how self-testing results could be linked to the local HIV-testing facilities:

After people do self-tests they should take the results to the hospital or clinic. The results must be dropped in something like a yellow container in order to know how many people tested and how many tested positive or negative (participant FG 2).

There should be a connection between a clinic and the self-test. At the end there will be statistics to show the numbers of people who took the self-testing kits, the number who used them, and the number who tested positive or negative (participant FG 3).

4. Discussion

The study explores the acceptability and willingness to use self-testing among student nurses in a private nursing college. Most nurses perceived HIV self-testing as an acceptable option, and showed willingness to use it. Previous studies conducted among HCWs in sub-Saharan Africa found high acceptability and willingness to use self-testing [7] [9] [10]. However, in the current study, HIVST was an acceptable testing method on condition that it was easily accessible, affordable, and available. One other important condition for using self-testing was the nurse's readiness to use the test.

While most of the nurses were willing to purchase the self-testing kits, some felt that it must be provided for free. They felt that the cost of self-testing kits was a potential barrier to the uptake of HIVST. These findings have implications for the uptake of self-testing because the success of the option is partly reliant upon the affordability of the test to the users [14]. Different self-testing models targeting people of low socio-economic status and those who can afford to purchase the test kits should be considered by those planning to implement HIVST [6].

Participants found self-testing acceptable and believed that it offers freedom over the timing and conditions of HIV testing, supporting the commonly held view that individuals should be able to decide when and where they

would like to test for HIV [15] [16]. HIVST is also convenient and have the potential to save time and increase HIV testing particularly among men who dislike going to testing facilities. Furthermore, HIV self-testing will offer couples an opportunity to test together and promote HIV status disclosure among partners. Similar benefits of HIVST were reported by other researchers [15]-[19]. The current study reports on the opinions of nurses, but there is evidence that HIVST increases partner testing. A study conducted in Kenya reported that the majority of HCWs who used self-testing also took test kits to their sexual partners, and the majority of partners used the HIVST kits on themselves.

One of the documented reasons for the poor uptake of HCT is the perceived or potential lack of confidentiality in public HCT facilities. Data from sub-Saharan Africa show that concerns about privacy and confidentiality are some of the reasons people do not utilize public HCT services [9] [10] [19] [20]. In the current study, participants felt that HIVST will offer increased privacy and confidentiality particularly for people who have concerns about stigma and confidentiality when testing in public HIV testing centres. Self-testing will also allow users to control who is informed about the test results, which cannot be assured when testing in public HCT centres. HIVST has an added benefit of saving people from being seen at HCT facilities where they might be judged and stigmatized. According to Ganguli and colleagues, self-testing was in actual fact conceived in part to reduce the stigma associated with HCT [14].

The main challenge of the self-testing program is how to provide post-test counselling for users who test HIV-positive [9]. Without counselling, participants were concerned that people might have adverse reactions to positive test results [7]. However, those who advocate self-testing argue that the people who use self-testing are self-motivated to purchase the self-testing kits, perform the test properly, and deal with the test results [19]. There is consensus that some of the arguments against self-testing are unfounded. In fact, a recent review of literature found very little evidence of any harm occurring in the practice of self-testing [21]. Even though counselling is a primary component of HIV testing, Richter and colleagues [5] argue that it should never constitute a barrier to people who want to test for HIV but do not want to be counselled. In line with this argument, the majority of HCWs in Kenya claimed that counselling is not necessary for HCWs, while some recommended that it should be provided by an external body [7]. On the other hand, for the general population, WHO recommends the provision of face-to-face or telephone support from a trained counsellor or HCW where HIV self-testing kits are provided or sold [6].

The risk of inaccurate results has been one of the main arguments against self-testing since its inception [5] [7] [10] [22]. Some of the participants in the current study were of the same view: they believed that if people do not have adequate skills to self-test, they might not use the test correctly, which may result in inaccurate results. However, self-testing may be safe if implemented with steps to ensure the accuracy of tests, confirmation of positive test results, and referral for counselling and care [10]. Participants recommended that the Department of Health should develop systems to ensure that self-testing results are linked to health facilities. They suggested that the users of self-testing should transmit the results to the local health facility when they purchase the self-testing kits. Similar findings were reported by other researchers [10].

In line with other studies, participants suggested that people should be educated first before the roll-out of self-testing to ensure safe and accurate testing [10] [19]. They felt that the Department of Health should create strategies to educate people about self-testing. Suggested strategies included awareness campaigns and educational programs aired on national television and other media relevant to the local context. Our findings are in line with the views of HCWs in Kenya [7]. Options for self-testing instructional materials could take the form of pamphlets with instructions to help users understand how to test themselves and interpret their test results, or a YouTube video demonstrating how to use the test kit, or provision of face-to-face training on the use of the test kits. The instructional materials should be written in different languages using a large font that is easy to read or include pictorial instructions modified for audiences with low or no literacy [4]-[6]. Furthermore, self-testing kits should provide a link to an anonymous hotline to provide pre-test and post-test counselling and linkage to care and support [4] [6] [9].

5. Conclusions

HIVST was an acceptable option of testing for nurses who would use self-testing only when they are ready to test, if self-testing kits are easily accessible and affordable, and there are strategies to educate people before the adoption of HIV self-testing as an option. The high acceptance of HIVST among student nurses suggests that

HIV self-testing is a feasible option to increase the HIV-testing uptake of HCWs. The lack of pre- and post-testing counselling, the risk of inaccurate test results, and lack of strategies for the confirmation of self-testing results were the main arguments against self-testing.

The Department of Health should consider the provision of counselling services as an important component in the implementation of regulated HIV self-testing services. The success of the self-testing program is reliant on safe and accurate testing and the linking of self-testing results to health facilities. Therefore, extensive educational and awareness campaigns should precede the roll-out of the self-testing programs. It is also important that the Department of Health considers different self-testing models for different target groups in order to modify the educational messages to meet the needs of audiences across socio-demographic differences.

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