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Research Article

Knowledge and Attitudes of Nurses Towards Test and Start Initiative on One Health Facility on the Hhohho Region

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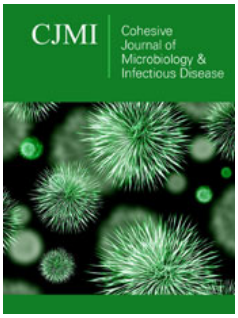

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Abstract

Background: AIDs is still the leading cause of death in the global community more especially in Sub-Sahara Africa including Eswatini. To fast track uptake of Antiretroviral therapy in Eswatini Test and Start has been introduced, aimed at initiating all people living with HIV on ART as soon as possible after diagnosis regardless of CD4 count, viral load or clinical stage. Knowledge and attitude of nurses towards the Test and Start program is an important consideration in improving ART uptake. Hence the study aimed at investigating the knowledge and attitudes of nurses on Test and Start in one referral hospital in Eswatini.

Methods: A descriptive, cross-sectional quantitative design was employed among 50 participants, selected through simple random sampling. All participants were registered nurses with at-least one-year work experience in departments providing Test and Start. An adapted, self-administered questionnaire was used to collect data. Data was analyzed using descriptive statistics and Pearson's correlation.

Findings: All participants (100%, N=50) reported to have heard about Test and Start, 50% (n = 25) obtained information from integrated trainings (which were basically for other courses and only 2% from literature. Most of them (56%, n=28) have not been formally educated, but they all knew the definition of Test and Start, only 12% (n=6) did not know the eligibility criteria for Test and Start. About 56% (n=28) complained that its increased workload, 62% (n=31) complained that Test and Start is complicated. There was a statistically significant association between knowledge and attitudes on Test and Start (r =0.394, p=0.005). Training was also significantly related with attitudes on Test and Start (r=0.349, p=0.013)

Conclusion: Awareness was high but there was knowledge deficit among nurses on Test and Start. Few nurses were trained on Test and Start hence the attitudes were reported negative towards the initiative.

Keywords: Knowledge; Attitudes; Test & Start; HIV; Antiretroviral therapy

Background Information

Human Immune Deficiency Virus (HIV) and Acquired Immuno-Deficiency Syndrome (AIDS) are a Public Health concern because the number of cases has increased dramatically over the last ten years (World Health Organization [WHO], 2015). Therefore, it is imperative that health care workers possess appropriate knowledge and attitudes towards HIV management in order to ensure quality HIV care to patients. Although 90% of people newly infected with HIV live in just 35 countries, the HIV epidemic remains global, affecting every part of the world and adding substantially to health burdens in many regions UNAIDS. Epidemic patterns, progress and challenges however vary considerably. The AIDS epidemic continues to disproportionately affect sub-Saharan Africa, which is home to 26 million people living with HIV. In 2014, there was an estimated 1.4 million new HIV infections, approximately 66% of the global total UNAIDS. In Swaziland 222 000 people are estimated to be living with HIV. This has become an awakening call to the global health governing body WHO and other agencies to endlessly seek strategies to address the issue. Therefore, international community has committed to ending the AIDS epidemic as a public health threat by 2030, which is a target of the 2030 Agenda for Sustainable Development Goals adopted by the United Nations General Assembly in September 2015 (WHO, 2015). On another note, interim targets have been established for 2020, coined the "90-90-90". As of consequence the first 90 states that by 2020 90% of all people living with HIV will know their HIV status, the second 90 suggests

that 90% of all people diagnosed with HIV will receive sustained antiretroviral therapy (ART) and the last 90 suggests that 90% of all people receiving ART will be virally suppressed. This is a global benchmark target aiming to end AIDS. As a result, WHO (2015) came up with a recommendation of fast tracking these targets by introducing Test and Start initiative [1-8].

The Test and Start program are a strategy that aims to initiate all people living with HIV on antiretroviral therapy (ART) as soon as possible after diagnosis of HIV infection, irrespective of CD4 count, viral load or clinical stage (MoH, 2015). The benefits of Test and Start however are undeniable. If individuals know their status and initiated ART early are likely to contribute to reduction of morbidity and mortality related to HIV (MoH 2016). The Temprano study showed 44% reduction in morbidity with ART at CD4 above 500 cells/mm3 than the standard practice. Other benefits are preventing lost to follow-up clients enrolled on PreART after a positive test result, as most of them are initiated same day rather than appointing another day. Nurses who are not knowledgeable on such benefits may not be able to market this product effectively as they will be not sure if it really works and what to say when the client require explanations on some issues on Test and Start, as a result they will not implement the initiative. A review by The Joint United Nations Programme on HIV/AIDS [UNAIDS] (2014), states that some countries are making notable progress in scaling up access to treatment. Furthermore, the authors reported that globally the number of people receiving HIV treatment had increased from 2.2 million in 2005 to over 15 million in 2015. However, treatment coverage varies from country to country and the reasons for different levels of coverage relate, among others, to health care system capacity, HIV related stigma and discrimination as well as access to funding and the cost of treatment. In addition, the reason could also be that of knowledge deficit among health workers and their attitudes towards the initiative, in which, its importance is rarely emphasized. MoH (2015) states that while Swaziland has the highest HIV prevalence in the world (28.1% for ages 15-49 years) only 66% of HIV infected individuals are on ART. This as well, could be attributed to the above-mentioned reasons of treatment coverage variations.

Therefore, to examine knowledge and attitudes among health workers on HIV management various studies have been conducted which have almost the same conclusions. Gledović, Rakočević, Mugoša, and Grgurević (2015) reported that health workers had knowledge deficit concerning HIV management. The study reported that knowledge among doctors was 68% while among nurses and other health professionals was 36% Gledović et al. Furthermore, the study reported that 63.9% of the study participants indicated the need for education and 6% refused to provide health services to HIV positive patients. This shows that knowledge has an influence on how nurses and other health professionals would deliver any service. In addition, Gedu & Tshotsho [4] study reported that the level of knowledge of most of the professional nurses was still of concern as only a few were highly knowledgeable. They also state that health professionals, who render services to HIV and AIDS clients, need to be capacitated and have a positive attitude towards the patients [4]. The confidence to provide HIV services to clients is somehow linked with the level of knowledge the nurse possesses. Iwoi et al. [8] in a study which assessed knowledge and attitudes towards care of people living with HIV among nurses and midwives, supports other studies that there is knowledge deficit among nurses on HIV care approaches including the Test and Start initiative. The study findings revealed that among the respondents of the study, 14.5% had acceptable level of knowledge, 82.4% had moderate and 3.1% had low levels of knowledge pertaining HIV care. Knowledge deficit on HIV care services may contribute to low uptake and rollout of Test and Start. Not only did Iwoi et al. [8] focused on knowledge but also have findings on attitude of nurses, stating that even though there knowledge deficit among the nurses, a majority of them (68.7%) had positive attitudes while 31.3% had negative attitudes towards HIV care services test and start inclusive. Good knowledge was the only predictor of positive attitude towards HIV care. Thus, good knowledge is one important aspect in the success for rolling out the Test and Start initiative.

Swaziland adopted the Test and Start strategy in 2016. Like any other program, it came with many changes in the workplace more especially in the routine enrolment of clients to care. These include intensified testing, re-testing, Pre-ART enrolment, adherence counselling and same day ART initiations. The MoH Swaziland National HIV Test and Start Communication Strategy (2016) reported that on October 1, 2016, Swaziland transitioned the current ART guidelines (The Swaziland integrated HIV management guidelines, 2015) to a National Test and Start Approach bringing the national guidelines to be in line with the global recommendations to initiate ART regardless of CD4 cell count. Hence that is the currently used guide for HIV care in the country which among its policies it states; test the right people in the right places with the right strategies; ensure individuals are linked to care and initiate ART and also ensure high quality care that maximizes retention to care and viral suppression (MoH 2016). Despite all the activities necessary in implementing Test and Start, the issue of health workers' empowerment is lagging, thus the study seeks to examine the knowledge and attitudes of nurses toward Test and Start initiative. In addition, the study is in line with the MoH (2015) National Health Research Agenda number 6.1.2 which focuses on HIV and AIDS; availability, equity and quality of HIV and AIDS support services among people living with HIV which includes testing and starting ART among People Living with HIV. The aim of the study is to investigate the knowledge and the attitudes of nurses towards Test and Start Initiative in one health facility in the Hhohho region.

Methodology

A descriptive, cross-sectional quantitative design was used in this study because it provided an objective portrayal of knowledge and attitudes of nurses. The study was conducted in one of the health care facilities in the Hhohho region of Eswatini. Among 118 registered nurses (holders of diplomas and degrees) in departments providing Test and Start services, a sample of 50 participants was obtained by simple random sampling Lipsey [9]. To determine the

sample size, a study power size of 80%, significance level (alpha) of 5% and an effect size of 0.5were used. A self-administered questionnaire from a tool adapted from HIV and AIDS toolkit (International Planned Parenthood Federation, 2013). The HIV and AIDS toolkit is comprised of three (3) parts; socio-demographic information, training and experience with people living with HIV, HIV/AIDS knowledge, attitudes and practices. Descriptive statistics and Pearson's Correlation were used to analyse data which was entered into the Statistical Package of Social Sciences version 20.0. Ethical considerations were adhered to ensure that the participants' rights were not violated. Permission was sought and obtained from the Eswatini National Health Review and Research Board and the health facility management, as well as informed consent from participants.

Results

A total of 50 participants took part in the study. The response rate was 100%. The findings are presented according to the participants socio-demographic characteristics, and then based on the study objectives.

The socio-demographic characteristics of the participants

Age: the age of the participants ranged between 25 to 53 years. A majority (44%, n=22) were aged between 30-34 years, and 26% (n=13) were aged between 25-29 years. Those aged 40 years and above were 16% (n=8) and 14% were aged between 35-39 years. The mean age of the participants was 33.8 years with a standard deviation of 6.2 years.

Sex: The data showed that most (66%, n=33) participants were predominantly female and only 34% (n=17) were males.

Qualification(s): Almost half (48%, n=24) of the participants were Bachelor's degree holders, 34% (n=17) had post-diploma certificate in midwifery and mental health, 14% (n=7) were General Nursing Diploma holders and only 4% (n=2) had a Master's degree.

Work duration: A majority (48%, n=24), of the participants had worked between five (5) to nine (9) years, 22% (n=11) between 1-4 years, 14% (n=7) reported that they had worked for 15 years or more and 8% (n=16) had worked between 10-14 years. The work duration ranged between 1 to 29 years, with a mean of 8.4 years and a standard deviation of 5.8 years. Table 1 summarises the socio-demographic characteristics of the study participants.

Table 1: Socio-demographic characteristics of the participants (N=50).

Socio-Demographics		Frequency(n)	Percentage (%)	Mean	Standard Deviation
Age (years)	25-29	13	26	33.8	6.2
	30-34	22	44		
	35-39	7	14		
	40+	8	16		
Sex	Male	17	34		
	Female	33	66		
Qualification	Diploma	7	14		
	Post-diploma	17	34		
	Bachelor's degree	24	48		
	Master's degree	2	4		
Work duration (years)	4-Jan	11	22	8.4	5.8
	9-May	24	48		
	14-Oct	8	16		
	15+	7	14		

Research objective 1

To assess the knowledge of nurses on Test and Start in one health facility in the Hhohho region, Eswatini.

Have ever heard about test and start initiative: All (100%, n = 50) the participants reported that they have heard about the Test and Start initiative.

Source of information: Half (50%, n=25) of the participants reported that they got information on the Test and Start initiative from integrated trainings (not merely Test and Start trainings), 38% (n=19) from colleagues, 10% (n=5) from the media and only 2% (n=1) of the participants reported that they obtained information from literature. Sources of information on the Test and Start initiative is graphically summarized in Figures 1 & 2.

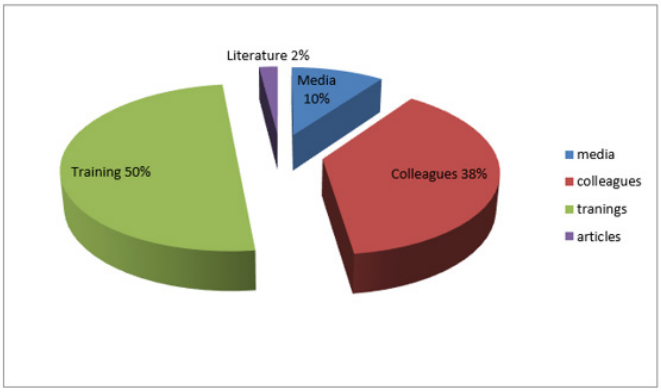

Figure 1: Sources of information about test and start initiative (N=50).

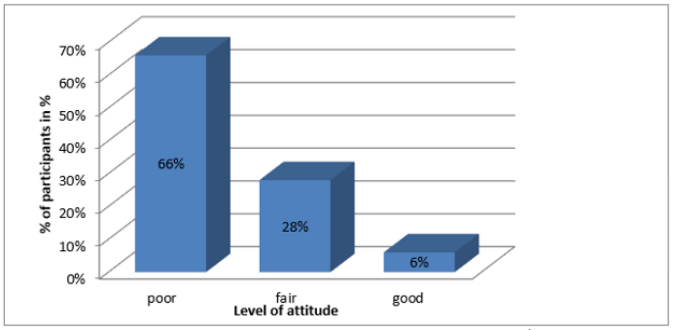

Figure 2: Attitude among the participants towards test and start Initiative (N=50).

Any training on test and start initiative: Most of the participants (56%, n=28) have not been trained on Test and Start and 44% (n=22) of the participants were trained.

Type of training: Among those who were trained, about half (45.5%, n=10) were trained in formal settings, 36.4% (n=8) were trained at work (on the job) and 18.2% (n=4) indicated to have trained both 'on the job' and formally.

Test and start initiative activities and procedure: All (100%, n = 50) the participants were able to define Test and Start, however, 12% (n=6) did not know the eligibility criteria for Test and Start. A majority (90%, n=45) of participants reported that Test and Start increased ART coverage and only 10% (n=5) reported that Test and Start did not increase ART coverage. On the other hand, 88% (n=44) reported that that Test and Start aimed at decreasing HIV transmission whereas 12%, (n=6), reported that Test and Start did not reduce HIV transmission.

Linkages of other services to test and start: Client linkage to other services improves Test and Start initiative. Most of the participants (94%, n=47) indicated that linkages of HIV services increased ART coverage and only 6% (n=3) reported that linkages don't increase ART coverage. Knowledge of participants on Test and Start initiative is summarised in Tables 2 & 3.

Table 2: Knowledge of participants on test and start initiative (N = 50).

Statements about Test and Start	Yes%(n)	No%(n)
Initiate with or without CD4 measurement	100(50)	0(n=0)
Eligibility: all who test positive	88(44)	12(6)
Increase ART coverage	90(45)	10(5)
Aims at decreasing HIV transmission	88(44)	12(6)
Counselling is not necessary	6(3)	94(47)
Retesting is important	96(48)	4(2)
Linkages increased coverage	94(47)	6(3)
OIs are treated before ART initiation	92(46)	8(4)
TDF/3TC/EFV most common first line regimen	88(44)	12(6)

Table 3: Associations between selected variables (N=50).

Variables		Pearson Correlation (r)	Pearson Correlation (r)
IV	DV		
Age	Work duration	0.927	0.001
Trained	Awareness	0.419	0.002
Trained	Attitudes	0.349	0.013
Awareness	Being comfortable providing Test and Start	0.542	0.001
Attitudes	Being comfortable proving Test and Start	0.403	0.004
Level of knowledge	Attitudes	0.394	0.005

IV is the independent variable and DV is the dependant variable.

Adherence counselling: Most of the participants (94%, n=47) indicated that counselling was important under Test and Start

and only 6% (n=3) reported that it was not important. Ninety six percent (96%, n=48) of all the participants knew the importance of 're-testing for verification', 4% (n=2) reported that 're-testing for verification' was not important.

Testing for CD4 and test and start: More than half of the participants (64%, n=32) indicated that ART initiation continues with or without CD4 result under Test and Start and 36% (n=18) indicated that no ART initiation without CD4 count.

Treatment of opportunistic infections (OIs) before ART initiation: Eighty four percent (84%, n=42) of the participants indicated that OIs should be treated first before ART initiation to prevent Immune Reconstitution Inflammatory Syndrome (IRIS), and 16% (n=8) indicated that OIs should not treated first.

Commonly used drug combination for first line under test and start: A majority of the participants (88%, n=44) reported that tenofovir disoproxil fumarate/Lamivudine/Efavirenz (TDF/3TC/EFV) was the most commonly used drug combination for first line under Test and Start, and only 12% (n=6) reported it was not.

Participants overall level of knowledge: Above a quarter of the participants (36%, n=18) had good knowledge on Test and Start initiative similarly, 36% (n=18) had moderate knowledge and 28% (n=14) had poor knowledge on Test and Start initiative.

Research objective 2

To determine the attitudes of nurses towards Test and Start in one health facility in the Hhohho region (Eswatini).

Test and Start is an HIV transmission preventive initiative: Most of the participants (76%, n=38) reported that Test and Start was a HIV transmission preventive initiative and only 24% (n=12) reported it was not a preventive initiative.

Test and Start reduces morbidity and mortality: Ninety six percent (96%, n=48) participants also reported that Test and Start was aimed at reducing morbidity and mortality related to HIV and AIDS, and only 4% (n=2) reported that Test and Start was not aimed at reducing morbidity and mortality related to HIV and AIDS. In addition, 88% (n=44) of the participants indicated that by 2022 the country will achieve zero new HIV infection and only 12% (n=6) did not realise the dream of 'zero new HIV infection by 2022 coming into fruition.

Test and Start for all HIV positive people: The issue of Test and Start being worth providing to "all" HIV positive individuals was supported by almost all the participants (98%, n=49). However, 62% (n=31) of the participants reported that Test and Start was a complicated program and 38% (n=19) indicated it was not a complicated initiative.

Sustainability of test and start: More than half of the participants (68%, n=34) reported that Test and Start was a sustainable initiative while 32% (n=13) reported that Test and Start was not sustainable.

Willingness to provide test and start: A majority of the participants (70%, n=35) indicated that they were comfortable providing Test and Start, whilst slightly above a quarter of them (30%, n=15) were not comfortable providing Test and Start services.

Test and Start Initiative effectiveness: Eighty six percent (86%, n=43) indicated that Test and Start was an effective strategy in the management of HIV. On another note, 56% (n=28) of participants, complained that Test and Start increases the workload and 44% (n=22) indicated that it does not. Moreover, 92% (n=46) of the participants indicated they would want to attend Test and Start training and 8%, (n=4) were not interested on Test and Start training because they were trained.

Attitude level of the participants: The findings indicates that most of the participants (66%, n=33) had poor attitudes towards Test and Start, 28% (n=14) had fair attitude and only 7.3% (n=3) had a good attitude towards the initiative. The participants' mean score on attitude was 13.3 with a standard deviation of 7.9. In the overall, the participants had a negative attitude.

Objective 3

To determine the association between socio-demographic variables, knowledge and attitude of nurses towards Test and Start Initiative. There was a significant relationship between the age of the participants and the work duration (r=0.927, p=0.001). This means that, the older the participant, the higher the number of years of experience in HIV management settings. For instance, those aged above 40 years were found to have worked 15 years and above in HIV management settings. Training was significantly related to being aware of the Test and Start Initiative (r=0.419, p=0.002), which means that, most of those who were trained had high level of awareness on Test and Start Initiative. Awareness was also associated with comfort in providing Test and Start services (r=0.542, p=0.001). Participants who had high level of awareness on Test and Start Initiative were more comfortable in providing Test and Start services. The data supported a positive relationship between attitudes and comfort in providing Test and Start services to clients (r=0.403, p=0.004) [9-11]. Those who had positive attitudes towards the Test and Start Initiative were more comfortable in providing Test and Start services. Attitudes were related to training on Test and Start Initiative (r=0.349, p=0.013). This explains the fact that participants who had attended training on Test and Start had positive attitudes towards the Initiative. Knowledge was associated with attitudes (r=0.394, p=0.005). This means that those who were knowledgeable about the initiative had positive attitudes towards Test and Start.

Discussion

Socio-demographics

The findings of this study indicated that the mean age of the participants was 33.8 years. This could perhaps suggest vast experience among the participants as most of them had worked more than five years as evidenced by mean work duration of 8.4 years. This finding is supported by works of [1] who linked experience with knowledge. Nurses who have been working for a long time in HIV management gain expertise thus are more likely

to work effectively in HIV initiatives. Consistent with Marranzano et al. [12] participants in the current study were bachelor's degree holders. Marranzano et al. [12] reported that degree holders showed high levels of knowledge. This finding implies that the higher the qualification, the higher the level of knowledge of individuals. Nurses who are empowered with knowledge become are open minded and critical thinkers who are more likely to have positive attitudes towards newly introduced initiatives including Test and Start [12-20].

Knowledge on test and start

In harmony with Mulenga (2017), only 2% of the participants obtained information about Test and Start from research articles. Mulenga (2017) reported that among the frontline nurses; nursing journals and medical journals were the least consulted sources. This finding is however contrary Mohammed (2016) who reported that slightly above half of the participants indicated that medical textbooks and retraining courses were predominant sources of information on HIV management. The possible meaning of this finding could be that knowledge is not only influenced by the nurse's personal attributes, but also the organizational factors like lack of information resource centres within facilities. Contrary to Kutoane and Beer (2014), the current study showed that more than half of the study participants were knowledgeable ART first line combination even though they were not trained on Test and Start. In Swaziland exiting students undergo special training, Integrated Management of Adult and Adolescent Illness (IMAI) strategy, which could possible explain why they were knowledgeable on ART. Hence, they were familiar with ART first line combination. Nurses who are knowledgeable about first line drug of choice are most likely to be able to prescribe accordingly. The study findings show that only one-third of the participants had good knowledge on the components of Test and Start initiative. This is consistent with a study by Ouzouni et al. [19] indicating that whilst overall scores confirmed they possessed good knowledge, however demonstrated knowledge deficit on HIV management. A study by Mulaudzi [17] revealed that nurses coped well if they have high level knowledge. This could mean that the efforts in making sure that health providers' knowledge is at the highest level, are not adequate.

Attitudes towards test and start initiative

Consistent with Kurth et al. [10] the current study showed that most of the participants acknowledged that Test and Start was a preventive initiative. The results emphasize treatment as prevention, because those individuals who are on ART are more likely to have a suppressed viral load and reduced risk of transmitting HIV to partner. Noteworthy, about a quarter of the participants does not support this notion. This could be a barrier in rolling out the Test and Start initiative. Participants in the study also indicated that Test and Start initiative was a complicated programme. In harmony with provision of HIV management was thought to be challenging and costly. This suggests that there may be a need for simplified packages for nurses Above a quarter of the participants indicated that they were not comfortable providing Test and Start services. This is supported by Hassan et al. [6] in a study on Jordan nurses, who reported fear as another factor influencing HIV service delivery. This suggests that some health care workers might be reluctant to provide Test and Start services. Though most of the participants indicated that Test and Start was an effective initiative, more than half of the participants complained that its increased workload. The study supports evidence from Ruud et al. [21] who reported that unhappy health workers were likely to have negative attitudes. These reflect that staff shortage could affect provision of innovative initiatives. The possible result for this could be massive burnout among the staff, with a sluggish progress in rolling out Test and Start. Contrary to expectation that knowledge is a predictor of positive attitudes, the study reported that about two thirds of the participants exhibited negative attitudes towards Test and Start initiative. The results are in support of a study by Gledović, Rakočević, Mugoša, & Grgurević who reported that a high proportion of health care workers showed negative attitude regarding HIV testing. These findings suggest that knowledge is not the sole predictor of attitude, as observed by Iwoi et al. [8] who indicated that good HIV and AIDS knowledge was observed to be the only independent predictor of positive attitude towards HIV care [21-27].

Association between socio-demographics, knowledge and attitudes

Evidence Chan [2] supported that work duration or years of experience were significantly related to both knowledge and attitudes. However, this does not appear to be the case in the current study. The data did not support a relationship between work duration and knowledge as well as attitudes. This finding was contrary to Okpala [20] indicating that those who had worked at least four (4) years had good knowledge. Furthermore, this result is also not consistent with Shabani, who indicated that those who have been providing the service for at least four (4) years were comfortable and happy. This suggests that under normal circumstances with increasing work experience knowledge increased and attitude improves. The findings indicate a significant relationship between training and attitude. This explains the fact that most participants who never attended training on Test and Start had negative attitudes towards the Test and Start Initiative. Consistent with this study, [3] indicated that training improved the attitudes of nurses, however not reaching the desired level. It was reported that a significantly high proportion of trained nurses would refuse to provide HIV services. This suggests that their determinants influencing of attitudes are multifactorial and not only training.

Implications

A. Nurses have poor attitudes towards the Test and Start initiative, because of the inadequate knowledge on Test and Start.

B. Not only does training increases knowledge but also improves attitudes of nurses, as the results indicate that those who were trained had positive attitude.

C. Knowledge is not a sole predictor of attitude as the results also show that some of those participants with higher level of knowledge had negative attitudes.

D. Nurses with poor attitudes were not comfortable with providing Test and Start services as they lacked confidence in providing the service.

Limitations

Although the study has significant findings, it is imperative to acknowledge that there were shortcomings that placed restrictions on the methodology and conclusions. Participants of the study were difficult to get due to staff shortages at their respective departments. On another note 50 participants were targeted, which is a relatively small sample size, hence the findings can be generalized with caution to other settings.

Conclusion

The purpose of the study was to investigate the knowledge and attitude of nurses towards Test and Start in one health facility in the Hhohho Region. A quantitative descriptive cross-sectional study design was employed in this study with a total of fifty participants, selected using simple random sampling. All the participants were registered nurses with at-least one-year work experience in a department providing Test and Start. A structured questionnaire was a tool used to collect the data and a self-administered method of data collection was employed to all the participants. The collected data was analysed using descriptive statistics and Pearson's correlation. The results of the study show that awareness on Test and Start among participants was high, but knowledge was inadequate, and the participant had poor attitudes towards Test and Start.

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