

Full Length Research Paper

Analysis of HIV test uptake and factors associated with testing and disclosure of HIV infection among health workers at Chainama Hills Hospital College in Lusaka district, Zambia

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Abstract

It is estimated that 14.3% of Zambian adult population are living with HIV. HIV has not spared health workers, in Zambia only 25% of the total health workers are estimated to have taken an HIV test hence the need to ascertain the HIV testing prevalence rate of health workers for appropriate intervention to take place. This study was therefore aimed at determining the prevalence of HIV test uptake and factors associated with testing and disclosure of HIV infection among health workers at Chainama Hills Hospital College in Lusaka district. A mixed method cross sectional study was conducted on 223 male and female health workers. Participants were picked from the target population using systematic random sampling. Data was collected using questionnaires and focus groups discussions (FGDs). The study found that most health workers at Chainama Hills Hospital had taken an HIV test though they hardly took the test at the health facility. The overall prevalence for testing in those who responded to the question was 100%. Of those who tested 84% and 16% took formal and self test respectively. On the demographic variables only occupation was associated with testing (P value = 0.001). The study further revealed that disclosure of positive results was detrimental to an individual because confidentiality could not be guaranteed hence the prevalence of informal (self test). In view of the fact that health workers do not utilize health services within the facility there is need to reconsider HIV testing services for health workers at Chainama Hills Hospital College. This should be done in conjunction with health workers and their professional bodies.

Keywords: Factors, HIV testing services, Health workers, Self test, Formal test, Status disclosure.

INTRODUCTION

HIV/AIDS still remains one of the most world's serious public health problems, although some gains have been recorded in understanding the pandemic in the last decades. As of end of 2011,

an estimated 34 million people were living with HIV/AIDS (PLWHA) in the world and of these, 80% were adults in the age group 15 – 49 years (United Nations on HIV and AIDS, 2011). Of the

34 million people living with HIV/AIDS, 69% are from Sub-Saharan Africa where the burden is the greatest, while an estimated 5 million PLWHA are from Asia. The Caribbean, Eastern Europe, Asia accounts for 1.0% of PLWHA.

Currently Women represent more than half of the people living with HIV/AIDS as they have in recent years. Sub-Saharan Africa remains most severely affected, with nearly 1 in every 20 adults (4.9%) living with HIV and accounting for 69% of the people living with HIV worldwide (World Health Organization, 2013).

The impact of HIV/AIDS on the social fabric and the economy are serious and evident. The pandemic has been responsible for increased mortality especially in the labour force resulting in fewer workers in occupation and skill. The net effect of this is inefficient production and diminished administration. The pandemic has also been responsible for causing psychological and physical pain, suffering, social and economic costs to society in sub-Saharan Africa which is the greatest hit and also grapples with high poverty levels (ECA, 2012;WHO, 2013).

In Zambia it was estimated that 980,000 people were living with HIV/AIDS in 2009 with the prevalence of about 13.5%. Forty five thousand were estimated to have died of HIV related conditions the same year (http://www.indexmundi.com/zambia/demographics_profile.html).

Currently in Zambia, it can be argued that HIV prevalence remains high nationally. It is estimated that 14.3% of adult population are living with HIV (CSO, 2007). Furthermore the starting point for HIV prevention is HIV testing.

Only about 25% of the Zambian people are estimated to have tested for HIV (UNFPA, 2011). In Zambia, 12% of men and 19% of women are said to have tested for HIV in the year 2012 (UNAIDS, 2012) meaning that many people do not know their HIV status. Cardinal to the fight against HIV/AIDS is health workers who have also not been spared and currently there are no specific statistics for HIV in health workers. If this is not checked, then the gains made in the fight against HIV may be reversed considering that death may create a serious human resource for health in the country.

As earlier mentioned, testing is the starting point for prevention and disclosure is a continuum of prevention. Individuals who disclose have high

chances of seeking treatment early. Currently the literature on disclosure on one's HIV status is "extremely fragmented" (Greeff et al., 2008). Hence, purpose of this study is to analyze factors associated with HIV test uptake and disclosure of HIV infection among Health Workers at Chainama Hill Hospital College in Lusaka.

METHODS

An analytical cross sectional study employing quantitative and qualitative data collection method was conducted on 223 adult health workers. Quantitative data was collected using questionnaires while two focus group discussions were used to collect qualitative data. Stata 11 was used for statistical analysis of quantitative data. Qualitative data was explored for emerging themes and the frequency of themes was quantified. Chi-square was used to determine association of the variables. Logistic Regression analysis was used to ascertain which variables significantly affected the dependent variable.

Study population and selection procedure

The study population comprised of adult health workers working at Chainama Hills Hospital at the time of the study. The population of the health workers of interest was 500. Systematic random sampling was used to get participants for the quantitative data while purposeful sampling was used for the qualitative data.

Inclusion Criteria

All health workers: that is medical officers, nurses, paramedical Officers, Lecturers, maids and ward attendants at Chainama Hills Hospital College, who had been at the station for more than 6 months and willing to participate in the study.

Exclusion Criteria

- I. Health workers who were bed ridden at the time of the study
- II. Health workers who could not be accessed because they were on leave or any other inevit-

able reasons.

Data Analysis

Epi Data version 3.1 was employed to create questionnaire databases for data entry and validation. Data was exported to Stata version 11 software for analysis. Microsoft excel 2007 was used in creating Stata syntax data to come up with, graphs and tables. Qualitative information from focus group discussions was analyzed and interpreted using the principle of conversion by transforming qualitative into quantitative data by quantifying the frequency of identified themes.

Logistic regression analysis was applied in order to investigate whether the hypothesized independent factors affect the dependent variable (HIV test uptake) bivariate analysis was done to extract factors that were crudely associated with attendance. Odds ratios and p values (at 5%) were obtained.

Ethical Aspects

Adults aged 18 years or older answered structured questionnaires for quantitative part. Concurrently two focus group discussions one composed of males and the other females were conducted. All the responses were anonymously recorded and based on oral or written consent, and the informants were assured that the information they provided would not be linked to them or to the specific venue. The protocol was approved by Excellence in Research Ethics and Science (ERES), an Institutional Review Board (IRB) with my reference number being No.2013-Oct-004.

RESULTS (QUANTITATIVE)

The total number of respondents was 223 comprising of males and females. The demographic characteristics of the participants are shown in table 1.

Table.1 shows that the majority of the respondents were females with a proportion of 53.85%. The age of the sample was divided into a five year category of 18 years and above as follows 18-22, 23-27, 28-32, 33-37, 38-42, 43-46

and 47 and above. The majority of the participants were aged between 18-22 and 33-37 with proportion of 17.67% each. It was also observed that majority of the participants were married with the proportion of 56.56%. All the participants were Christian and most of them were Catholics, though there was insignificant difference with the second contending group (Seventh Day Adventist) not shown, with 27.78% and 27.31% respectively. The reported prevalence of HIV infection by profession was 11.39% for nurses, 6.25% for paramedical and 4.55% for ward attendants. The average prevalence was about 6%.

Results Interpretation

At the univariate level results showed that of the demographic variables only occupation of the health workers was statistically significant as shown in table 2 at P value = 0.001

1. The effects on HIV Testing: Only occupation of health workers was determined to be significantly associated with propensity for HIV testing X^2 p value = 0.001.

2. When posted for logistic regression , lecturer OR=0.1, CI=(0.02-0.44), Ward attendant OR=0.25, CI=(0.06-0.75), Maid OR=0.04, CI=(0.002-0.75)

3. Compared to nurses as a base line, lecturers ward attendants and maids were 10, 4, and 27 times less likely to take an HIV test, respectively. OR

Compared to nurses, lecturers ward attendants and maids were 90%, 75%, and 96% less likely to take an HIV test, respectively.

We further asked direct and indirect questions to the participants in order to extract more information. Some of the questions were asked using likert scale to enrich the study. These were analyzed in triangulation with focus group discussions.

As illustrated below with figure 1, most contending factor in influencing health workers in taking an HIV test was importance of knowing status.

Figure 2, on the question 'Some health workers secretly test themselves for HIV' most of the participants 102(49%) strongly agreed. 84 (40%) somewhat agreed, and 13 did not answer this question as shown in figure 2.

Table 1. Demographic characteristics

VARIABLE	MAJORITY	(%)
Sex	Female	53.85
Age group	18-22	17.65
	33-37	17.67
Marital status	Married	56.56
Denomination	Catholic	27.78
Occupation	Nurses	38.97
RELIGION	Christianity	100

Table 2. Chi square test for association and logistic regression analysis for the effects of suggested determinants of HIV testing

Variable	N	n	Prevalence (%)	Chi square P-value	Logistic regression OR	CI
Sex						
Male	99	3	3.26			
Female	102	9	8.41			
Total	201	12	6.03	0.128		
Age group (years)						
18-22	18	0	0			
23-27	39	1	2.78			
28-32	42	3	7.5			
33-37	39	4	11.11			
38-42	26	1	4.35			
43-46	23	1	5.26			
>47	34	2	6.9			
Total	221	12	6.03	0.722		
Occupation						
Nurse	79	9	11.39			
Medical Officer	3	0	0			
Clinical Officer	30	0	0			
Paramedical Officer	16	1	6.25			
Lecturer	15	0	0		0.1	(0.02-0.44)
Ward Attendant	44	2	4.55		0.25	(0.06-0.1)
Medical licentiate	4	0	0			
Maid	1	0	0		0.04	(0.002-0.75)
Total	192	12	6.25	0.001		
Income (ZMK)						
1000-2999	37	2	5.41			
3000-3999	32	4	12.5			
4000-4999	70	6	8.57			
5000-6999	25	0	0			
>6999	15	0	0			
Total	179	12	6.70	0.279		
Partnered						
Yes	164	10	6.1			
No	25	2	8			
Total	129	12	6.35	0.716		

Table 2. Continue

Ever Tested for HIV					
Yes	200	12	6.00	0.801	
No	1	0	0		
Total	201	12	5.97		

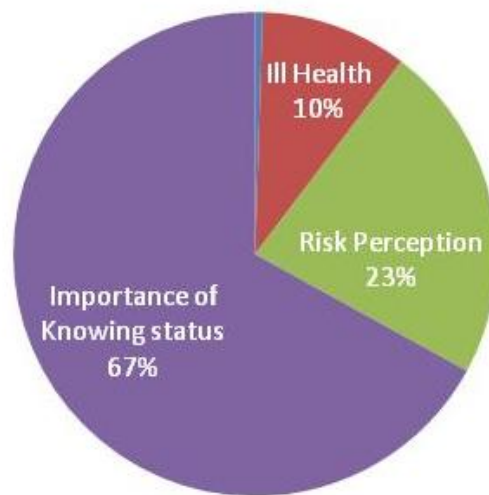


Figure 1. Factors that influenced health workers to take a test

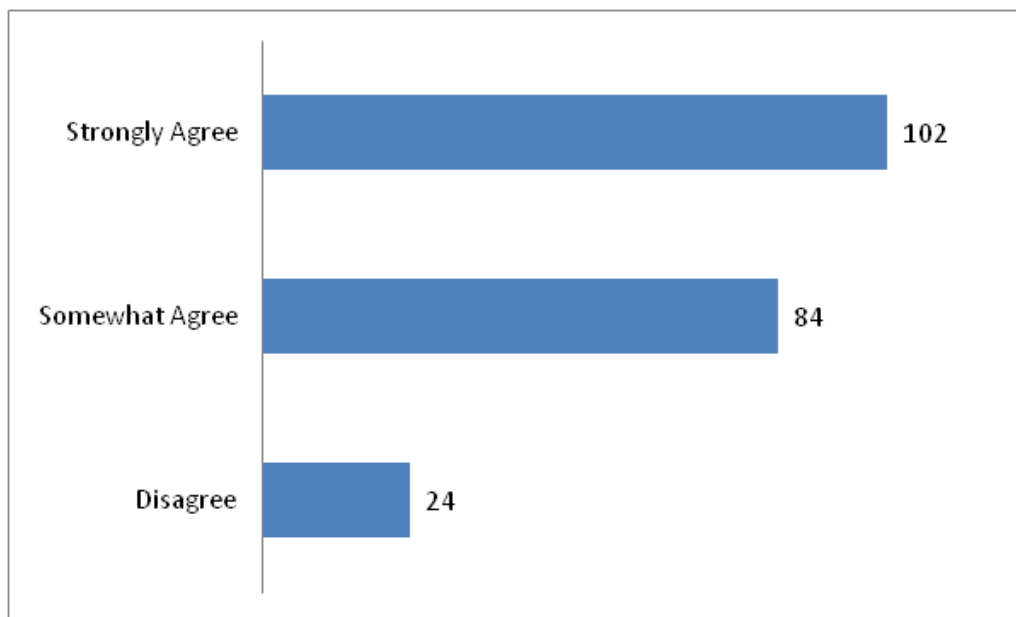


Figure 2. Questions rephrased using Likert scale, on self test.

RESULTS (QUALITATIVE)

The study revealed that HIV self test was common among health workers. All the participants said that self test among health workers was common though they could not ascertain or estimate the prevalence rate.

On the factors associated with HIV test up take the common themes and contents indicated that stigma, gossip and need to guarantee confidentiality were the commonest factors influencing self test among health workers. Further more on the factors influencing health workers not to disclose in the event that they were positive common contents and themes were similar to the factors of self test that there was no benefit since that was a direct exposure of oneself to stigma and gossip.

On the reasons for self test health workers indicated that power relation was one of the most important reasons for self test. They indicated that as a health worker you are a model therefore to be able to take charge of your juniors your status shouldn't be known.

Some of the common courts from participants as shown in Table 3 below.

DISCUSSION

The discussion is based on the general objective of the research which sought to determine the prevalence of HIV test uptake and factors associated with testing and disclosure of HIV infection among health workers at Chainama Hills Hospital College in Lusaka district.

The reported prevalence of HIV infection by profession was high among nurses, followed by paramedical and lowest among ward attendants. This could mean that nurses are more assertive and more likely to take an HIV test than other health workers. Alternatively it could be due to chance as they are the majority in the health sector.

In relation to sex females had high HIV prevalence compared to men, this is relatively similar to the result of the 2007 Zambian Demographic Health Survey where the prevalence of HIV was high among females.

In relation to marital status the prevalence was high among those who reported to be single than among the married. This could be due to reduced

interest in marriage among those who were positive.

The highest prevalence in relation to age was among the reproductive age group; this is similar to the result of the Zambian demographic and health survey of 2007 (DHS 2007)

The average prevalence was lower than World Health Organisation estimate of 14.3% among the general population.

On the demographic variables only occupation of health workers was determined to be significantly associated with propensity for HIV testing and we posted only this variable to logistic regression. Furthermore the study could not establish on why the nurses were more likely to test than other health workers though there is a view that nurses are usually in direct contact with clients hence perceive themselves to be more at risk.

The study revealed that there was low prevalence of HIV self test among health workers at Chainama Hills College Hospital. This is similar to what Kruse et al found in the study Utilization of HIV services and burnout amongst health care workers in Lusaka district, Zambia (Kruse et al., 2009).

The study also agrees with some scholars who have argued that there is increasing evidence that self test is being practiced among health workers in Malawi (Namakhoma et al., 2010).

The health workers were categorical and consistent that there was HIV self test among them but were skeptical on the solution to it. They also felt it was not necessary to formalize self test. This is contrary to what World Health Organization recommendation that, Self-testing is one of the possible options for expanding access to testing among health workers (WHO, 2011).

Suffice to mention that both in self administered questionnaires and Focus Group Discussions the answers were consistent.

Health workers' reported influencers of not taking HIV test included among them Confidentiality.

The finding is generally in agreement with what the journal of Microbiology indicated that health workers do not test because of fears of confidentiality and stigma within their health services where they work" (Pennebaker, 1990)

Those that did not disclose in the self administered questionnaire further indicated factors that made them not disclose of which

Table 3. Some of the common courts from participants are shown below

Topic discussed	Group 1	Group 2
Health workers are testing for HIV	<ul style="list-style-type: none"> — Not every one — HIV is a sensitive issue so they do not want their status to be known — Some test but not at their place of work for fear of stigma 	<ul style="list-style-type: none"> — They do but not everyone — Some are scared of being tasted — They do test to clear their conscious due to nature of their work. But they do it privately in other areas and not their work place.
Health workers disclosing their HIV status	<ul style="list-style-type: none"> — They are disclosing to their best friends and family members — They disclose selectively due to fear of stigma — It depend on result, negative results can be disclosed to anyone but positive results are selectively disclosed 	<ul style="list-style-type: none"> — It depends on whether the result is positive or not. Normally positive results are not disclosed. — Yes they disclose though it's not easy to close friends and relatives — Stigma may make them not to disclose as people may think it was as a result of sex
Who health workers are most likely to disclose to	<ul style="list-style-type: none"> — Close friends and not necessarily their partners — Also close family members 	<ul style="list-style-type: none"> — People they trust who can keep secrets — Some close relatives — To their partners — Church leaders
Problems health workers face in testing and disclosing	<ul style="list-style-type: none"> — Fear of stigma — Fear of loss of partner 	<ul style="list-style-type: none"> — Fear of stigma — Fear of loss of employment — Fear of loss of partner
What needs to be done to encourage health workers to disclose		<ul style="list-style-type: none"> — Sensitizations at work places on the benefits of testing — Need for work policy on HIV and it should be treated just like any other disease — Government policy on HIV should change, no segregation or discrimination
Self testing by health workers	<ul style="list-style-type: none"> — Those with facilities are doing it 	<ul style="list-style-type: none"> — Its common and okay — Lack of confidentiality is making health workers to test themselves
Opt in/opt out		<ul style="list-style-type: none"> — That is a wrong policy and is in itself stigma of some kind — People should be informed so that they decide for themselves
Health workers sensitization on testing		
Introduction of mandatory HIV testing by the government	<ul style="list-style-type: none"> — Not a good idea though government is indirectly doing it through the clinics and hospitals — It's a good idea but people should be asked not forced — It's a good idea, early detection will save lives 	<ul style="list-style-type: none"> — More people will die as they will avoid hospitals for fear of being tested — People should be told and let them decide for themselves
Government encouraging health workers to test themselves		
Need for health workers to be counselled	<ul style="list-style-type: none"> — Health workers are humans just like anyone else — They should be tested and counselled by others not by themselves — They need to keep confidentiality of the results when people test — Health workers should be rotated 	

among them was stigma, blame, fear of positive results, physical abuse and gossip. This agrees with Kimberly's study on family relations where it was found that choosing to disclose may leave one to stigma and discrimination and put one self at a risk for loss of employment, housing, health insurance and custody of children, (Kimberly et al., 1995).

These were verified in FGDs with themes and content such as stigma. Health workers further felt that it was not beneficial to test and let alone disclose.

Though Pennebaker asserted that individuals who disclose their status have fewer times of seeing physicians as opposed to those who do not disclose (Pennebaker et al., 1990), the study found that for a health work disclosing is more stressful and can make an individual lose out psychologically, he can lose control of clients and eventually suffer from both self and enacted stigma. This finding agrees with levy (Levy et al., 1999).

On whom to disclose to, most participants on self administered questionnaire said they would disclose to a partner and most of the participants were married, however both focus groups said that it depended on the relationship present and confirmed that there were instances where a husband or wife new her positive HIV status but the partner did not know. This is also contrary to Cristy et al. 1997 findings that disclosure of HIV status was linked to gender of the family member and education.

The study found that health workers were practicing self test partly because confidentiality was guaranteed. One sure way a health worker would ensure that others do not know his or her status is to test her/him self. Stigma and gossip are other reasons why health workers engage in self test.

Most of the factors associated with prevalence of testing, self testing, and disclosure are mostly related, for example lack of confidentiality may influence health workers not to test, to test themselves, and finally not disclosing their HIV status when sero positive.

Research limitation

The research limitations included inability to guarantee factuality of the information; however the triangulation was in the design to enhance

validity and reliability. Some participants avoided a few questions such as their HIV status.

RECOMMENDATIONS

Though the HIV test up take was high there is need to reconsider HIV testing services for health workers as health workers took the test from other facilities. This should be done in conjunction with health workers themselves and their professional bodies.

HIV services should be integrated with other services to reduce stigma and discrimination

Furthermore, robust research should be done which should do rapid test as well and include other districts for possible policy change

CONCLUSION

Findings from this study show that most health workers at Chainama Hills Hospital had taken an HIV test though they hardly took the test at the facility. The overall prevalence for testing to those who responded to the question was 100% of which (170)84% took formal test and 16% took a self test.

Of the demographic variables only occupation was associated with testing Chi square= 0.001.

Focus Group Discussions reaffirmed the prevalence of self test. The most influencing factor for testing was importance of knowing HIV status and the most influencing factor for not testing was reported to be fear of positive results.

The study further revealed that disclosure of positive results though appears to be necessary is detrimental to an individual because confidentiality cannot be guaranteed hence the prevalence of informal (self test). Despite this view the study found that health workers did not support the idea of formalizing self test.

On the solutions to enhance HIV testing, disclosure of results in enhancing care, health workers felt that there should be a policy shift to integrating HIV services as opposed to the current stand alone services.

Competing Interests

The authors (s) declare that they have no

competing interests in whatever form.

Authors Contribution

MA participated in the conception of the study, participated in the design including data acquisition and carried out the statistical analysis. He interpreted the findings and drafted the manuscript. SZ conceived of the study, he participated in designing and coordinating the study, he also helped to draft and review the manuscript.

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