

Knowledge and attitudes of Nursing Students on Voluntary HIV Counselling and Testing in Ghana: Implication for Nursing Education and policy

Edem Gloria Tokoh¹, Alexander Suuk Laar², Albert Ahenkan³

¹University of Ghana Business School, Legon. Department of Public Administration and Health Services Management.
pgetokoh@yahoo.com

²Kybele/Program for Appropriate Technology in Health (PATH), Cantoments, Accra, Ghana.

Corresponding Author: laar.alex.suuk@gmail.com

³Senior Lecturer University of Ghana Business School, Legon. Department of Public Administration and Health Services Management
aahenkan@ug.edu.gh

Abstract:

Background

Ghana like any other African countries has not been spared by the HIV and AIDS epidemic. Voluntary HIV Counseling and Testing (VCT) is one of the HIV prevention strategies adopted to curb the spread of the HIV/AIDS pandemic in Ghana. The objective of this study was to examine the knowledge and attitudes of student nurses towards VCT and its impact on their behaviour.

Methods

The study was a case study which made use of cross-sectional survey among a sample of 115 third year students of Ho Nurse's Training College. Data were collected using structured questionnaires on self-administered basis. Data was analyzed using SPSS version 20.0.

Results

The majority (93.5%) of the respondents has knowledge of the VCT and most of them (90%) acquired the knowledge from school and peers with the school been the main source. The awareness of VCT services and willingness to test was high among respondents, but its uptake is low. There was a statistically significant difference in the knowledge of students who had gone through VCT and those who had not ($P=0.023$). The results also revealed that, there was statistical difference ($P=0.076$) between the way female nursing students and the male counterparts react towards HIV and AIDS patients.

Conclusion

Awareness of VCT services and willingness to test is high among students; however its uptake is low. As knowledge about HIV and AIDS is constantly changing, knowledge of student nurses need to be continually updated through continuing education programmes.

Keywords: HIV/AIDS, VCT, Knowledge, Nursing students, Ho, Ghana.

1. INTRODUCTION

The Human Immune Deficiency virus and Acquired Immune-Deficiency Syndrome (HIV and AIDS), epidemic is one of the greatest humanitarian and developmental challenges facing the global community in recent times. [1] It is estimated that every day, over 6800 persons become infected with HIV and over 5700 persons die from AIDS, mostly because of inadequate access to HIV prevention and treatment services. [1] Effects of HIV and AIDS pandemic are shortened lifespan, illness, suffering; loss of income, increasing number of orphans, all of which have negative impact on country's economy [2] The epidemic is touching almost every facet of life [2].

Ghana like other African countries has not been spared by the HIV and AIDS epidemic. The HIV epidemic in Ghana remains the most serious of all infectious disease challenge to Public Health, although its prevalence is low. (1.3%) [3] The prevalence level ranged from 0.8% in the Northern Regions to 3.7% in the Eastern Region of Ghana. [3] HIV prevalence among women aged 15-49 is nearly 3 percent, while that of men aged 15-59 is under 2 percent [3].

The female to male ratio of 1.8:1 is higher than that found in most population-based studies in Africa. [4] This suggests that an unchecked epidemic could result in much higher prevalence levels in Ghana.

In an effort to curb the spread of the HIV and AIDS pandemic, the Government of Ghana has adopted strategies such as the establishment of counselling and testing centres, provision of treatment, care and support including highly active antiretroviral therapy service centres to prevent new infections. AIDS testing and counseling provide essential knowledge and support to individuals at risk for contracting HIV and AIDS, enabling uninfected individuals to remain uninfected and those infected to plan for the future and prevent HIV and AIDS transmission to others. Despite over three decades of attention and thousands of published studies, fundamental issues regarding Voluntary HIV Counseling and Testing (VCT) still remain poorly understood and that the world continues to grapple with the prevention and control of the pandemic. The rate of infection is rapidly increasing and more and more people are getting ill and dying from AIDS. Of all the people living with HIV or AIDS in the world, seven out of every ten live in Sub-Saharan Africa. [5] Evidence has shown that, the testing coverage in sub-Saharan Africa remains low, especially among young people. [6] As treatment becomes more widely available, it is important that as many different strategies towards increasing VCT coverage are explored.

It has been observed that, nurses are presently the group of health workers who have regular and prolonged contacts with individuals affected and infected with HIV and AIDS and are seen as role models in health care seeking behaviour including VCT. These nurses are entrusted to render emotional support and physical care to patients as well as encouraging them to test and conduct tests in hospitals and clinics. Therefore it is imperative that, these nurses have a firm knowledge towards HIV and AIDS so as to cope with challenges they face in their working environment of preventing HIV infections, educating people about HIV and AIDS as well as protecting themselves against acquiring the virus. However, beliefs and misconceptions of VCT have prevented them from getting tested for HIV [7] Evidence exists that, they themselves are reluctant to go through VCT and know their status or even encourage patients to be tested, [7] thereby seriously undermining the efforts of VCT campaign by health workers.

Health workers in VCT appear to lack the emphasis it should have received. The attitude and participation of health students in VCT leaves much to be desired. This is obviously a source of worry and this is what underscores the importance and relevance of this study since the level of knowledge, attitudes, and participation of the student nurses would be crucial to the success of the VCT programme as well as the bigger fight against HIV and AIDS.

In spite of research work done in the area of HIV and AIDS including VCT in Ghana, not much had been directed towards the health professional students. Filling this critical knowledge and evidence gap, this research is being carried out to assess knowledge and attitudes of student nurses towards VCT and its impact on their behaviour.

2. MATERIALS AND METHODS

Study Approach

The study was a case study which was executed using a quantitative approach in describing the nursing student's knowledge and attitudes towards Voluntary HIV Counseling and Testing. The quantitative approach is considered most appropriate for this study because of its usefulness in allowing researchers to test specific hypotheses that produce quantifiable, reliable data that are usually generalizable to some larger population.

Study Design and Sample Size

The research design made use of a stratified random sampling technique to investigate knowledge and attitudes of student nurses in VCT and its impact on their behaviour. A structured questionnaires were administered to 115 respondents randomly selected from Ho Nursing School, in the Volta Region of Ghana.

Knowledge and attitudes of Nursing Students on Voluntary HIV Counselling and Testing in Ghana: Implication for Nursing Education and policy

This sampling method was chosen for the study to ensure equal representation of respondents to reduce bias. The respondents were put into two strata: male and female with each stratum having an equal representation.

Study setting

The study was carried out in Ho Nurses' Training College in the Volta Region of Ghana. Ho Nurses' Training College is a public tertiary health institution that was established in 1965 in the Ho Metropolitan Assembly to train nurses all over Ghana. It has a student population of 895 as at the time of this study.

Study Population

The population of the study was third year students of Ho Nurses' Training College in the Volta Region of Ghana. The students were chosen as the respondents because they have two year prior training which makes them to have more knowledge and understanding of the subject matter of the study. As at the time of this study, the population of the third year students was 159, comprising 83 females and 76 males.

Data Collection

After the approval from the institution, the questionnaires were personally administered to the selected respondents in their school. Completion of each questionnaire lasted between twenty to thirty minutes for two days,

Data Analysis

The data collected were cross-checked, edited, coded and analyzed using statistical package for Social Sciences (SPSS) version 20.0. Descriptive statistics were obtained for different quantitative variables while frequencies and percentages were used to present categorical variables. The data was then presented in the form of frequency tables. Cross tabulation was employed to determine some significance of associations between variables, where Chi Square test and their respective p-values was calculated. The $p = 0.05$ (2-tailed) was used as a cut-off point to test statistical significances between variables compared. The hypothesis was tested using ANOVA.

3. RESULTS

Demographic Characteristic of Respondents

Out of the total respondents of 115, 50 (43.5%) were males and 65 (56.5%) were females. The majority of the respondents were within the age group of 20-24 (75.6%) (Table 1).

Table 1. Demographic Characteristic of Respondents

Demographic Variable	Frequency	Percentage (%)
Gender:		
Male	50	43.5
Female	65	56.5
Total	115	100.0
Age		
15-19	0	0
20-24	87	75.6
25-29	26	22.6
30 and above	2	1.8
	115	100.0

Respondents Knowledge of Source of VCT

The majority 87% and the minority 1.7% of the respondents had their source of VCT knowledge from the school and the media (Table 2)

Table 2. Source of VCT Knowledge

Source of Knowledge	Frequency(N=115)	Percentage
Peers	6	5.2
School	100	87.0
Siblings	0	0.0

Parents	3	2.6
Media	2	1.7
At a health facility	4	3.4

Hypotheses Testing

Tables 3, 4 and 5 showed the results of the tested hypothesis. In Table 3, the hypotheses sought to find out whether there existed a statistical difference in the knowledge of VCT with regards to male and female nursing students. The findings indicated that there was no significant difference between the knowledge of female students and male students ($P=0.531$) (Table 3)

Table 3. Hypothesis 1. Gender and knowledge

Gender	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.319	2	.159	.637	.531
Within Groups	27.557	110	.251		

Respondents' experience of VCT

The proposition that students who have had VCT or HIV test tend to be more knowledgeable about VCT than those who had not showed that there exists a statistically significant difference between the knowledge about VCT of students who had gone through VCT and those who had not ($P=0.023$) (Table 4)

Table 4. Hypotheses 2. Knowledge and VCT Experience

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1657.228	1	1657.228	5.290	.023
Within Groups	35399.155	113	313.267		
Total	37056.383	114			

Testing of Hypothesis on Attitudinal Impact on VCT

The study sought to ascertain whether there exists a statistical difference in the attitude of male and female nursing students towards the VCT in HIV and AIDS patients. The results revealed that, there was statistical difference ($P=0.076$) between the way female nursing students and their male counterparts react towards HIV and AIDS patient (Table 5).

Table 5. Hypothesis 3. Gender and Attitude

ANOVA					
Gender	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.698	3	.566	2.357	.076
Within Groups	26.178	109	.240		
Total	27.876	112			

Other aspects of Knowledge about VCT

The study also collected information about the knowledge level of respondents of VCT and HIV and AIDS and uptake of VCT. The results generally showed that most of the respondents had enough knowledge about HIV and AIDS and most importantly its mode of transmission (Table 6).

Table 6. Other Aspects of Knowledge

Knowledge Indicator	Yes (%)	No (%)	Don't know (%)
Can people reduce their chance of not getting the HIV virus by not having sex at all?	48.7	42.6	8.7
HIV can be transmitted from mother to the baby during pregnancy?	78.3	21.7	0
Can you get HIV by living with someone who has HIV and AIDS	6.1	93.9	0
Is it possible for a healthy looking person to have HIV virus?	96.5	1.7	1.8
Can you tell from physical appearance when someone has HIV?	12.2	85.2	2.6
Can a person with HIV and AIDS be cured?	2.6	93.9	3.5
Can HIV be transmitted through mosquito bites?	4.3	95.7	
Can the virus that causes AIDS be transmitted from mother to child?	90.4	4.3	5.3

From the survey, majority (91.3%) of the respondents were of the view that anybody at all can participate in VCT meaning the majority of the respondents indeed understood what VCT means. A further question on what they think constitutes VCT, majority (80.9%) of the respondents noted that VCT includes both pre-testing and post-testing counseling. For willingness to undergo VCT test, majority of the respondents (77.4%) answered in affirmative and the minority (22.6%) answered in a negative.

4. DISCUSSIONS

This study was carried out on the back drop of the increasing trend of HIV and AIDs infections in developing countries, including Ghana. It has been observed that, nurses are presently the group of health workers who have regular and prolonged contacts with individuals affected and infected with HIV and AIDS and are seen as role models in health care seeking behavior including VCT.

VCT is an effective strategy for facilitating behavioral change around both preventing HIV as well as getting early access to care and support. It is also instrumental in bringing about behavioral change, reducing unprotected sex and helping reduce the incidence of HIV and other STIs among sexually active people. [8] VCT is the process by which an individual undergoes counseling enabling him or her to make an informed choice about being tested for HIV. This decision must be entirely the choice of the individual and he or she must be assured that the process will be confidential. [9]

In this study, the majority (93.5%) of the respondents has knowledge of the VCT and most of them (90%) acquired the knowledge from school and peers with the school been the main source. The high knowledge of VCT could be due to the fact that the study respondents are health professionals. This corroborates with findings from similar studies in Ethiopia [10] and Tanzania. [11] However, there was no statistical difference between the knowledge of female students and male students towards VCT ($P=0.531$). This is consistent with other studies. [12-14] Findings from studies done in Ghana [15] and sub-Saharan Africa. [16-19] contradicts our findings. The results also revealed that there was statistical difference ($P=0.076$) between the way female nursing students and the male counterparts react to VCT and HIV patients. This finding agrees with a similar study in Ghana. [15]

The difference between the knowledge about VCT of students who had gone through VCT themselves and those that had not was statistically significant ($P=0.023$). Most of the respondents had enough knowledge about HIV and AIDS and most importantly its mode of transmission. The findings also showed that, over seventy percent (74%) of the respondent have undergone the VCT and that most of them have done it because they want to know their status. Valid knowledge, attitude and practices about HIV and AIDS are important in light of the increasing epidemic.

The study also collected information about the knowledge level of respondents of HIV and AIDS and VCT. The results generally showed that, most of the respondents had enough knowledge about HIV and AIDS and most importantly its mode of transmission. In addition, the study found out that most respondents have accurate information about the HIV and AIDS, as majority of them answered correctly eight test items on HIV and AIDS infection (Table 6). There was a statistically significant difference between the knowledge of students who had gone through VCT and those who had not. ($P=0.023$) This finding contradicts the findings by Abamecha and colleagues who found past VCT experience not having significant statistical association with VCT use intention. [7]

Though, the awareness of VCT services and willingness to test was high among respondents, however its uptake is low. From the perspective of behavior change, health professionals should be role models in undertaking VCT so that it may increase VCT uptake by the general public. [7]

This craves for the need of further educational activities on awareness creation about VCT in the nursing institutions in Ghana. In order to promote these services, a comprehensive training module on VCT needs to be included in the nursing training curricula. In particular, more emphasis should focus on the benefits of VCT and to help the students to internalize the risk of HIV so that they can take preventive measures. The need to upgrade guidelines on VCT to improve VCT service delivery by having the entire Nursing students trained in VCT.

Policy Implications

The findings of this study have informed some policy recommendations. Firstly, it is recommended that HIV and AIDS combat policies of government should consider nurses and nursing students as

major stakeholders. It is believed that nurses are the group of health workers who have regular and prolonged contact with individuals affected and infected with HIV and AIDS. Thus the relevance of such group of health workers cannot be discounted in any effective HIV and AIDS programme. It is therefore suggested that the nursing students and nurses should be made official ambassadors in the fight against HIV and AIDS. This recommendation should be taken into consideration when developing an effective education strategy.

The study shows that those who participated in VCT demonstrate better knowledge and attitude toward HIV and AIDS. It is therefore recommended that all the stakeholders in the fight against HIV and AIDS should be encouraged to undergo regular testing for the virus so that they can confidently advise others to do same. This way the campaign for HIV and AIDS awareness and education may be effective.

The study also indicates that school and peer are most effective agents for disseminating knowledge about VCT and therefore these agents should be effectively supervised, monitored and co-ordinated in the effort to fight the deadly disease. All educational institutions, not limited to nursing schools, should be encouraged to devote part of their curriculum to HIV and AIDS education. It is recommended that such knowledge transfer should be integrated into every course of study, whether science related or not having some aspect on HIV and AIDS, fashioned in a coordinated manner.

There is also the need to embark on extensive and sustained HIV/AIDS educational programs. Nurses themselves must be agents of change and must show leadership by patronizing VCT services so that the public can be motivated to do so as well. It is important for nurses to intensify education on HIV and AIDS and VCT whenever a client visits the health unit even if not for purposes of receiving VCT Services.

Nurse administrators must encourage and facilitate participation in refresher courses on HIV and VCT among staff in those units. They must demonstrate adequate knowledge of VCT and HIV/AIDS so that student nurses can tap from this knowledge to give education to the public. Nurses' support with VCT is a vital component of efforts to fight HIV/AIDS in Ghana.

Study Limitation

Findings from this study cannot be generalized to the majority of the nursing institutions in Ghana since the study was a single institutional survey. Further research need to be conducted among all nursing institutions across the country for the results to be generalized. Despite the limitation, the study provides useful information on education and policy.

5. CONCLUSION

Awareness of VCT services and willingness to test is high among students; however its uptake is low. As knowledge about HIV and AIDS is constantly changing, knowledge of student nurses need to be continually up-dated through continuing education programmes such as seminars and workshops. In addition, HIV and AIDS including VCT training should be incorporated into basic and post-basic nursing curriculum. The need for program managers and practitioners to consider VCT as an important component for care and treatment for HIV and AIDS.

ACKNOWLEDGEMENT

We are grateful to Ho Nurses Training College Authority and staff particularly the Principal, for granting the permission to conduct the study in their school. We also extend our gratitude to the students who so freely gave their time and volunteered during the data collection.

REFERENCES

- [1]. Adekeye, O. A. Psycho-cultural variables as predictors of attitude of young people towards HIV Voluntary Counselling and Testing in South-Western Nigeria. International Book/Book Chapter: Germany: VDM Verlag Publishers. 204 pages. (ISBN: 978-3-639-27426-4). 15 International Book/Book Chapter 2010: Germany: VDM Verlag Publishers. 204 pages. (ISBN: 978-3-639-27426-4). 15.
- [2]. Ashford LS. HOW HIV AND AIDS AFFECT POPULATIONS. PRB's Population Bulletin, "The Global Challenge of HIV and AIDS" (March 2006)
- [3]. GHANA AIDS COMMISSION, 2013

- [4]. Ghana Demographic Health Survey. Demographic Health Survey, 2003. GSS Accra
- [5]. Local Government in South Africa. HIV and AIDS and Municipalities, 2007. Accessed at: www.etu.org.za 20/10/2015.
- [6]. Baisley K, Doyle AM, Changalucha J, Maganja K, Watson-Jones D, et al. Uptake of Voluntary Counselling and Testing among Young People Participating in an HIV Prevention Trial: Comparison of Opt-Out and Opt-In Strategies. *PLoS ONE*; 2012, 7(7): e42108. doi:10.1371/journal.pone.0042108
- [7]. Abamecha F, Godesso A, Girma F. Intention to voluntary HIV counseling and testing (VCT) among health professionals in Jimma zone, Ethiopia: the theory of planned behavior (TPB) perspective. *BMC Public Health* 2013, **13**:140 doi:10.1186/1471-2458-13-140
- [8]. Addis Z, Yalew A, Shiferaw Y, Alemu A, Birhan W, Mathewose B et al. Knowledge, attitude and practice towards voluntary counseling and testing among university students in North West Ethiopia: a cross sectional study. *BMC Public Health* 2013, **13**:714 doi: 10.1186/1471-2458-13-714
- [9]. UNAIDS Technical Update: Voluntary Counseling and Testing (VCT): May 2000.
- [10]. Elfeno R & Yimam E. Assessment of Knowledge, Attitude and Practice towards VCT, among Jimma Teachers Training college Students, Jimma town Oromia region, Southwestern Ethiopia. *Inter. J. Edu. Res. Technol* 2014; 6[1]:61-73. DOI: 10.15515/ijert.0976-4089.6.1.61-73
- [11]. Charles MP, Kweka EJ, Mahande AM, Barongo LR, Shekalaghe MJ. Evaluation of uptake and attitude to voluntary counselling and testing among health care professional students in Kilimanjaro region, Tanzania. *BMC Public Health* 2009; 9: 128 doi: 10.1186/1471-2458-9-128.
- [12]. Josephine O. Investigative study of the Knowledge, Attitude and Opinion of University undergraduates to HIV/AIDS and its screening. *International Journal of Asian Social Science*, 2014, 4(1): 51-58
- [13]. Daniyam CA, Agaba PA, Agaba EI. Acceptability of voluntary counselling and testing among medical students in Jos, Nigeria. *J Infect Dev Ctries* 2010; 4(6):357-361.
- [14]. Sherr L, Lopman B, Kakowa M, Dube S, Chawira G, Nyamukapa C, et al. Voluntary counseling and testing: uptake, impact on sexual behaviour, and HIV incidence in a rural Zimbabwean cohort. *AIDS* 2007, 7:851-860
- [15]. Asante KO. HIV/AIDS knowledge and uptake of HIV counselling and testing among undergraduate private university students in Accra, Ghana. *Reproductive Health* 2013, **10**:17 doi: 10.1186/1742-4755-10-17
- [16]. Iliyasu Z, Abubakar IS, Kabir M, Aliyu MH. Knowledge of HIV/AIDS and Attitude towards voluntary counseling and testing amongst adults. *J National Med Assoc* 2006;**12**(98):1917-1922.
- [17]. Francis B, Sarah S, Simon B, Joan K, Charles K. Voluntary HIV counseling and testing among men in rural western Uganda: Implications for HIV prevention. *BMC PHealth* 2008; **8**:263.
- [18]. Bayray, A. Knowledge, Attitude, and Practice of Voluntary Counseling and Testing for HIV among University Students, Tigray, Northern Ethiopia, *MEJS 2010*; (1): 108-118.
- [19]. Okodu SO. Awareness and Knowledge of HIV Counselling and Testing among Undergraduate University Students in Lagos, Nigeria. *International Journal of TROPICAL DISEASE & Health* 2014, 4(9): 896-904

AUTHORS' BIOGRAPHY



Edem Gloria Tokoh, was born on the 12th December, 1981. She hails from Ho in the Volta Region of Ghana. In 2006-2010 she gained admission into University of Ghana where she obtained a B.A (Hons) in Psychology. She continued from 2012-2014 into University of Ghana Business School and graduated with MBA in Health Services Management. She is currently a Hospital Administrator at Ridge Hospital Accra, Ghana. Edem has passion for research especially in developmental issues and empirical research. She is a member of an Association of Hospital Administrators in Ghana. She has also worked in University of Ghana Hospital from 2010-2014. She was also the Women's Commissioner for Graduate Student Association of Ghana from 2013-2014, she is happily married with a child.



Alexander Suuk Laar, hails from Bunkpurugu-Yunyoo District in the Northern Region of Ghana. He is a Health Economist with a background in Sociology and Public Health. He received his Master of Public Health in Health Economics Degree from the University of Cape Town in South Africa in 2010 and his first degree in Bachelor of Arts in Sociology from the University of Ghana, Legon in 2005. He has seven years' experience in social science research and project management. He has experiences working in various international and national organizations like Kybele Inc./Program for Appropriate Technology in Health (PATH), Project Fives Alive! under National Catholic Health Service and Institute for Healthcare Improvement (IHI) in America, Research and Development Division of the Ghana Health Service, National Health Insurance Authority and Ghana Education Service. His research interests are in HIV and Infant feeding, HIV/AIDS, Maternal and child health and Sexual and Reproductive Health and its translation into health systems policy and programs.



Dr. Albert Ahenkan, is a Senior lecturer in the Department of Public Administration and Health Services Management of University of Ghana Business School. He obtained his PhD from the Vrije Universiteit Brussel (VUB), Belgium in 2011. His areas of expertise include sustainable development, health policy management, climate change, public policy, project management, and local economic development. He has taught many courses at both graduate and undergraduate courses including advanced environmental management, sustainable development, and health policy management. Dr. Ahenkan is a member of the University of Ghana Academic Board. He has published a number of articles in international peer reviewed journals. He has also initiated and managed a good number of development projects on poverty reduction, health, water and sanitation, food security, environmental management and forest resources creation in Ghana.