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An Investigation of Factors Affecting HIV/AIDS Voluntary Counseling and Testing by Adolescents in Copperbelt, Luanshya District

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Abstract
This research aimed to factors influencing HIV/AIDS voluntary counselling and testing of adolescents in Luanshya district of the Copperbelt province of Zambia The research employed correlational research design in order to determine the factors influencing HIV/AIDS voluntary counselling and testing by adolescents in Luanshya district of the Copperbelt province. A sample size of (138) respondents participated in the study and were selected using simple random sampling technique. Primary data obtained from questionnaires was coded using SPSS version 25 and presented using tables and graphs. Chi-square, Pearson's correlation and regression analysis were the statistical methods employed to answer hypotheses statements and research objectives of the study. The research established that (social demographic factors, personal factors, and health system related factors) have an effect on HIV/AIDS voluntary counselling and testing by adolescents the author recommended that Community-based interventions such as "Know Your Status" campaigns in the district should be strengthened to improve uptake of HIV testing and counselling among adolescents in the district. The author also recommended that Quality assurance training for staff involved in HIV testing and counselling activities should be organize to improve on staff-client relationship to get informed consent of the youth willing to test HIV to test.

Keywords: Social demographic factors, personal factors and health system related factor, HIV/AIIDS voluntary counselling and testing by adolescents.

1.1 Introduction

Indravudh *et al* (2017) [12] conducted a study Malawi and Zimbabwe in 2017 and discovered that, cost and distance were identified as barriers of HIV testing of adolescents.

Indravudh *et al* (2017) [12] discovered that was a general lack of trust in health providers and an apparent preference for lay community distributors or providers. Respondents also mentioned issues regarding autonomy, control, respect, and confidentiality as key qualitative themes. Indravudh *et al* (2017) [12] suggested that a robust youth-friendly health services network should be promoted in order to address the uptake of HIV/AIDs voluntary counselling and testing by adolescents.

Witzel (2016) *et al* qualitative established that personal illness, risk perceptions and social interactions were significant factors in influencing the uptake of HIV/AIDs voluntary counselling and testing by adolescents.

Witzel (2016) *et al* discovered that stigma, health service quality, fear and gendered norms fears around being seen at HIV clinics, as well as the social implications of a positive diagnosis influenced the uptake of HIV/AIDs voluntary counselling and testing by adolescents. Zambia is among the countries with the highest HIV burden and where youth remain disproportionally affected. Access to HIV testing and counselling (HTC) is a crucial step to ensure the reduction of HIV transmission (Fang *et al*. 2019) [8].

Adolescents in Zambia, where VCT services are available, have been reluctant to undergo testing. Young people may be hesitant to test because they do not recognise the benefits, as well as because seropositive individuals may suffer rejection or discrimination. The first HIV/AIDS services provided in Zambia were HIV testing and counselling. According to the 2005 Service Provision Assessment, 44 percent of Zambia's medical facilities provide According to the Ministry of Health

(MoH), VCT services are provided by both public and commercial institutions in 2017.VCT services are provided by some non-governmental organisations and public health facilities.at no cost. A few private healthcare centres also provide VCT procedures at a reasonable rate.

Despite the fact that VCT services are widely available and free in government health institutions, only 10% of teenagers are aware of their HIV status (Ministry of Health (MoH), 2017) [20]. The provision of voluntary HIV/AIDS counselling and testing is regarded as the cornerstone of Zambia's HIV control strategy.

The Zambian government has now developed and implemented a number of intervention programmes to enhance HIV testing, all based on the framework. In Zambia, HIV/AIDS testing and counselling are still necessary despite all of these attempts. Current estimates based on surveys indicate that barely 10% of women and 16% of men in the general population in 12 high-burden nations in sub-Saharan Africa have gotten the results of their HIV tests (Macphail, *et al*, 2015) [18].

Even in more developed countries, between twenty and thirty percent of seropositive people are unaware that they are HIV positive (Signorelli & Osborn, 2001). The significant "youth bulge" in many of the countries with the highest rates of infection will increase the overall number of young people living with HIV or at risk of contracting HIV during the course of the next five years, even while HIV prevalence is dropping (Croce-galis, *et al*., 2014) [6]. Because of stigma and the fear of receiving positive test results, the prevalence of HIV testing and counselling that is required in many Zambian villages is still low and unknown. Furthermore, it's uncertain whether the same determinants that encourage adolescents to take HIV testing and counselling less seriously. Even though a sizable portion of the population is already afflicted with HIV/AIDS, it is estimated that less than 10% of patients are aware they are infected. The main cause of this is how tough it is to obtain, use, and locate HIV testing and counselling.

The service needs of adolescents are typically disregarded in HIV programming that is not specifically designed for adolescents (Croce-galis *et al*., 2014) [6].

Croce-galis *et al*., (2014) [6] discovered that in Zambia Only a small percentage of adolescents participate in HIV/AIDS counselling and testing programmes and the factors affecting HIV and AIDS voluntary counseling and testing by adolescents and the factors influencing this low uptake is unknown.

It is against this background this research aimed to investigate factors affecting HIV and AIDS voluntary counseling and testing by adolescents in Luanshya district of the Copperbelt province**.**

Due to quantitative methods and likert scale questionnaires being adopted in the research, a variety of the respondents' viewpoints were not captured. Another key flaw of the research is that the study is that the researcher's time and resources were limited by other academic commitments.

The other notable limitation is that the findings of the study would not allow results to be generalized to other cities in Zambia. Furthermore, this study was limited to Luanshya district of Zambia which is an urban area district, thus the findings cannot be generalized to rural areas in Zambia

1.2 Problem Statement

The provision of voluntary HIV/AIDS counselling and testing is regarded as the cornerstone of Zambia's HIV control strategy. The Zambian government has now developed and implemented a number of intervention programmes to enhance HIV testing, all based on the framework. In Zambia, HIV/AIDS testing and counselling are still necessary despite all of these attempts. Current estimates based on surveys indicate that barely 10% of women and 16% of men in the general population in 12 high-burden nations in sub-Saharan Africa have gotten the results of their HIV tests (Macphail, *et al*, 2015) [18].

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Croce-galis *et al*., (2014) [6] discovered that in Zambia Only a small percentage of adolescents participate in HIV/AIDS counselling and testing programmes and the factors affecting uptake of HIV and AIDS voluntary counseling and testing by adolescents and the factors influencing this low uptake is unknown.

It is against this background the current research is aimed to investigate factors affecting uptake of HIV and AIDS voluntary counseling and testing by adolescents in Luanshya district of the Copperbelt province.

1.3 Significance of Study

The findings of this study are advantageous to society as a whole given the importance of HIV/AIDS volunteer counselling and testing has on the decline in HIV/AIDS infections.

Since there haven't been any research on this subject in the district, it is beneficial to conduct this investigation. The study's findings is useful to the ministry of health since it will offer critical information needed to make the essential adjustments and advancements in accordance with the study's suggestions.

This study has provided information on the factors affecting adolescents HIV/AIDS voluntary testing. The Ministry of Health and its partner organisations can benefit from this study and create youth-friendly policies that will enhance the uptake of HIV/AIDS voluntary counselling and testing among young people. Additionally, the results of this study provide a starting point for future research on the disparity between knowledge, attitudes, and voluntary HIV/AIDS counselling and testing.

1.4 General Objective

To investigate the factors influencing voluntary counselling and testing by adolescents in Luanshya district of the Copperbelt province**.**

Specific Objectives

1. To determine the effect of social demographic factors on HIV/AIDs voluntary counselling and testing by adolescents.
2. To assess the effect of personal factors on HIV/AIDs voluntary counselling and testing by adolescents.
3. To establish the effect of health system related factors on HIV/AIDs voluntary counselling and testing by adolescents.

1.5 Research Questions

1. What is the effect of social demographic factors on HIV/AIDs voluntary counselling and testing by adolescents?
2. What is the effect of personal factors on HIV/AIDs voluntary counselling and testing by adolescents.
3. What is the effect of health system related factors on HIV/AIDs voluntary counselling and testing by adolescents.

2.0 Literature Review

2.1 HIV/AIDS and HIV/AIDS Voluntary Testing and Counselling

The variables affecting free HIV/AIDS counselling and testing. Are numerous and can be categorised as socio-demographic factors, individual traits, test-related knowledge, and health system-related factors (CDC, 2019). The provision of HIV Testing and Counseling must be a part of any national HIV prevention programme (HTC). The risk of HIV transmission to others is known to be lower in those who have the disease and are aware of their status. Numerous studies have demonstrated the importance of HTC in identifying infected individuals and providing them with the opportunity to benefit from therapeutic interventions (Ababa and Ali, 2015). HIV testing and counselling (HTC) are still necessary to obtain HIV treatment and preventative services (Ababa and Ali, 2015) [1].

HIV Testing and Counseling is one sure-fire strategy to promote safe sexual behaviour through counselling and access to other health services because adolescents are more prone to engage in hazardous behaviours that are known to transfer HIV. Young people in sub-Saharan Africa (SSA) who are categorised as sexually active frequently engage in early intercourse before the age of 15, according to studies, underscoring the significance of effective and socially acceptable HTC options for this demographic. After realising how vulnerable youth are to HIV transmission, the WHO issued specific HTC guidelines for them in 2014, (Ababa and Ali, 2015) [1].

2.2 The Effect of Social Demographic Factors on HIV/AIDS Voluntary Counselling And Testing by Adolescents

According to a study by Kaai *et al*. (2014) [14] on the factors influencing HIV testing and counselling services among adolescents in Canada and the United Kingdom, age was the most frequently mentioned socio-demographic factor in relation to HIV/AIDS voluntary counselling and testing.

Kaai *et al.* (2014) [14] also found that other demographic factors, such as ethnicity of an adolescent, social status, gender, and level of education, affected adolescents ' decision to get tested for HIV.

According to Addis *et al* (2023) study of adolescents in Northwest Ethiopia, found that there is a correlation between level of education, financial status, religious affiliation and uptake of HIV/AIDs voluntary counselling and testing by adolescents Studies show that socioeconomic status, which encompasses geographic location, poverty, and demographic traits including education, gender, age, and gender identity, affects HTC behaviour. Gender has also been found to be significantly correlated with HIV testing behaviour. People who test late for HIV are more likely to be between the ages of 18 and 29, in contrast to their older counterparts. Poverty was discovered to be linked to HIV testing and counselling behaviour, supporting what has been shown in behavioural research on health seeking, (Ababa and Ali, 2015) [1].

2.3 The Effect of Personal Factors on u HIV/AIDs Voluntary Counselling and Testing by Adolescents

Kaai *et al.* (2014) [14] found various personal traits to be associated with in their investigation of factors influencing uptake HIV/AIDS voluntary testing and counselling among adolescents in Canada and the UK.

Kaai *et al.* (2014) [14] divided these traits into six broad categories: culture, necessary or partner-recommended HTC, level of HTC education, sickness or presenting indicators of HIV, fear of stigma linked with HIV and other worries. The most common personal factor influencing uptake of HIV/AIDS voluntary testing and counselling among adolescents was risk perception of HIV/AIDS test, (Ababa and Ali, 2015) [1].

Kaai *et al.* (2014) [14] also found that perceived risk was the most potent predictor of influencing uptake of HIV/AIDS voluntary testing and counselling. Strauss *et al.* (2015), found that adolescent deviant behaviour can influence their uptake of HIV/AIDS voluntary testing and counselling. Strauss *et al.* (2015), went on to suggest that people were more likely to get an HIV test if they thought they posed a big risk due to unhealthy sexual behaviours and suspected they might be positive. Adolescents who have never had intercourse and think they are HIV-free are less likely to get tested. The stigma and discrimination associated with HIV are a significant barrier to people seeking voluntary counselling and testing for the disease, (Strauss *et al*, 2015).

2.4 The Effect of Health System Related Factors on HIV/AIDs Voluntary Counselling and Testing by Adolescents

Tsegay *et al*. (2014) research found that, insufficient testing facilities and a lack of anonymity as barriers to uptake of HIV/AIDs voluntary counselling and testing by adolescents

Tsegay *et al*. (2014) also found most adolescents avoided STI clinics out of concern that their neighbours would notice them and spread the word about their risky behaviour.

Macphail, *et al,* (2015) [18] found that the availability of adequate testing facilities as a favourable predictor of uptake of HIV/AIDs voluntary counselling and testing by adolescents

According the findings of Croce-galis, *et al*, (2014) [6], adolescents are 2.4 times are likely HIV/AIDs voluntary counselling and testing if they believe if their HIV/AIDS test results are kept private.

2.5 Research Gaps

The provision of voluntary HIV/AIDS counselling and testing is regarded as the cornerstone of Zambia's HIV control strategy. The Zambian government has now developed and implemented a number of intervention programmes to enhance HIV testing, all based on the framework. In Zambia, HIV/AIDS testing and counselling are still necessary despite all of these attempts. Current estimates based on surveys

indicate that barely 10% of women and 16% of men in the general population in 12 high-burden nations in sub-Saharan Africa have gotten the results of their HIV tests (Macphail, *et al*, 2015) [18].

Even in more developed countries, between twenty and thirty percent of seropositive people are unaware that they are HIV positive (Signorelli & Osborn, 2001). The significant "youth bulge" in many of the countries with the highest rates of infection will increase the overall number of young people living with HIV or at risk of contracting HIV during the course of the next five years, even while HIV prevalence is dropping (Croce-galis, *et al*., 2014) [6]. Because of stigma and the fear of receiving positive test results, the prevalence of HIV testing and counselling that is required in many Zambian villages is still low and unknown. Furthermore, it's uncertain whether the same determinants that encourage adolescents to take HIV testing and counselling less seriously. Even though a sizable portion of the population is already afflicted with HIV/AIDS, it is estimated that less than 10% of patients are aware they are infected. The main cause of this is how tough it is to obtain, use, and locate HIV testing and counselling.

The service needs of adolescents are typically disregarded in HIV programming that is not specifically designed for adolescents (Croce-galis *et al*., 2014) [6].

Croce-galis *et al*., (2014) [6] discovered that in Zambia Only a small percentage of adolescents participate in HIV/AIDS counselling and testing programmes and the factors affecting uptake of HIV and AIDS voluntary counseling and testing by adolescents and the factors influencing this low uptake is unknown.

It is against this background the current research is aimed to investigate factors affecting HIV and AIDS voluntary counseling and testing by adolescents in Luanshya district of the Copperbelt province.

3.0 Research Methodology

3.1 Research Design

Correlational research design was used in the current study, since little is known about the factors influencing voluntary counselling and testing by adolescents in Luanshya district of the Copperbelt province.

Therefore correlational research design was used to determine the factors influencing uptake of voluntary counselling and testing by adolescents in Luanshya district of the Copperbelt province.

Correlational research design was also employed in the current study since it offers factual and reliable findings using figures that is free from bias of the researcher.

3.2 Population of the Study

This research had a target population of 862 adolescents of Luanshya district of the Copperbelt province. The respondents to that were targeted were adolescents from 13-19 Yeas old

3.3 Data Collection Tools

The study used primary data sources and questionnaires was distributed collect primary data from the respondents involved the research at the study site.

A structured questionnaire (likert scale) was used to collect primary data since it is the most appropriate method for collecting primary data in a quantitative study.

The study adopted closed ended ordinal questionnaires (5 point Likert scale) since it is a reliable data collection tool for quantitative studies that require facts and unbiased reporting of findings.

3.4 Data Analysis Tools

Statistical Package for Social Science (SPSS) version 27 was used to code and analyse the primary data obtained from the completed questionnaires.

The demographic information of the respondents was depicted in frequency tables and graphs. Chi-square was used to determine if the hypotheses statements are valid or not Pearson's correlation coefficient was used to determine the strength of the linear relationship between variables.

Therefore in this research Pearson correlation coefficient was used to determine if there is significant relationship between the independent variables and the dependent variable. Pearson correlation coefficient was used to establish the magnitude of the relationship. Regression analysis was used to determine if there is a relationship between independent variables and the independent variable.

3.5 Summary

The research employed Correlational research design will be adopted in this study in order to determine the factors influencing HIV/AIDS voluntary counselling and testing by adolescents in Luanshya district of the Copperbelt province in Zambia.

A sample size of (138) respondents participated in the study and were selected using simple random sampling technique

Primary data obtained from questionnaires was coded using SPSS version 25 and presented using tables and graphs. Tables, bar graphs, and pie charts were used to show the demographic characteristics.

Chi-square, Pearson's correlation and regression analysis were the statistical methods employed to answer hypotheses statements and research objectives of the study. The study used primary data sources and questionnaires were distributed collect primary data from the respondents involved the research at the study site.

A structured questionnaire (likert scale) was used to collect primary data since it is the most appropriate method for collecting primary data in a quantitative study.

This study adopt closed ended ordinal questionnaires (5 point Likert scale) since it is a reliable data collection in quantitative studies.

The statistical package for social science (SPSS), version 25, was used to code the survey data.

4.0 Data Analysis and Discussion

Introduction

This chapter provides as a summary of the study's findings. The Chapter focuses on presenting the demographic characteristics of the respondents and the results of the findings of the study.

4.1 Demographic Data

In the study males were (51.72%) of the respondents and females constituted (23.19%) of the respondents. The majority of respondents (51.45%) were in the age group of between 13-15 years old constituted and (48.55%) percent of the respondent are in the age group of between 16-19 years old.

The Effect of Social Demographic Factors on Uptake of HIV/AIDs Voluntary Counselling and Testing by Adolescents

The chi-square test established that social demographic factors are predictors of HIV/AIDs voluntary counselling and testing by adolescents. The chi-square test has also confirmed

that social demographic factors and HIV/AIDs voluntary counselling and testing by adolescents. Have a strong and significant relationship. The results from the chi-square test has ascertained that social demographic factors have an effect on HIV/AIDs voluntary counselling and testing by adolescents.

The Effect of Personal Factors on Uptake of HIV/AIDs Voluntary Counselling and Testing by Adolescents

The results chi-square test established that personal factors are a predictor of HIV/AIDs voluntary counselling and testing by adolescents.

The chi-square test has also confirmed that personal factors and HIV/AIDs voluntary counselling and testing by adolescents possess a strong relationship

The Effect of Health System Related Factors on Uptake of HIV/AIDs Voluntary Counselling and Testing by Adolescents

The findings of the chi-square test has shown that an increment of health system related factors will lead to an increase in HIV/AIDs voluntary counselling and testing by adolescents.

The chi-square test has also established that Health system related factors is a predictor of HIV/AIDs voluntary counselling and testing by adolescents.

The chi-square test has also confirmed that health system related factors and HIV/AIDs voluntary counselling and testing by adolescents.have strong relationship. The results from the chi-square test has ascertained health system related factors have an effect on HIV/AIDs voluntary counselling and testing by adolescents.

Conclusion

The purpose of this research was to investigate the factors influencing voluntary counselling and testing by adolescents in Luanshya district of the Copperbelt province.

The results from the chi-square test, regression analysis and Pearson's correlation established that social demographic factors are predictors of HIV/AIDs voluntary counselling and testing by adolescents. The finding from the chi-square test, regression analysis and Pearson's correlation also confirmed that social demographic factors have an effect on HIV/AIDs voluntary counselling and testing by adolescents.

Results from the chi-square test, regression analysis and Pearson's correlation established that personal factors are a predictor of HIV/AIDs voluntary counselling and testing by adolescents.

Results from the chi-square test, regression analysis and Pearson's correlation has also confirmed that personal factors and HIV/AIDs voluntary counselling and testing by adolescents possess a strong relationship.

Results from the chi-square test, regression analysis and Pearson's correlation showed that an increment of health system related factors will lead to an increase in HIV/AIDs voluntary counselling and testing by adolescents and this finding showed that health system related factors is a predictor of HIV/AIDs voluntary counselling and testing by adolescents.

Results from the chi-square test, regression analysis and Pearson's correlation also confirmed that health system related factors have an effect on HIV/AIDs voluntary counselling and testing by adolescents. The findings of the current research are also been supported by findings of Kaai *et al.* (2014) [14], Addis *et al* (2023), Strauss *et al.* (2015), Tsegay *et al*. (2014) and Croce-galis, *et al*, (2014) [6] whose findings have supported the current research.

The current research concludes by revealing that research that (social demographic factors, personal factors, and health system related factors) have a significant effect on voluntary counselling and testing by adolescents.

Recommendations

Based on the results of the study the following suggestions are recommended for stakeholders:

1. Community-based interventions such as "Know Your Status" campaigns in the district should be strengthened to improve uptake of HIV testing and counselling among adolescents in the district.
2. It will also be strategic if educational campaigns on reduction of discrimination, stigmatization, fear of positive results and bad staff attitude against persons with HIV are implemented in the district.
3. Quality assurance training for staff involved in HIV testing and counselling activities should be organize to improve on staff-client relationship to get informed consent of the youth willing to test HIV to test.

References

1. Ababa A, Ali A. Factors associated with HIV counseling and testing and correlations with sexual behavior of teachers in primary and secondary schools, 2015, 197-208.
2. Abokyi LV, Zandoh C, Mahama E, Sulemana A, Adda R, Baiden F. Willingness to undergo hiv testing in the kintampo districts of Ghana. 2014; 48(1):43-46.
3. Addis Z, Yalew A, Shiferaw Y, Alemu A, Birhan W, Mathewose B. 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(1):1. http://doi.org/10.1186/1471-2458-13-714
4. Asante KO. HIV/AIDS knowledge and uptake of HIV counselling and testing among undergraduate private university students in Accra, Ghana. Reproductive Health. 2013; 10(1):1. http://doi.org/10.1186/1742-4755-10-17
5. Bwambale FM, Ssali SN, Byaruhanga S, Kalyango JN, Karamagi CAS. Voluntary HIV counselling and testing among men in rural western Uganda: Implications for HIV prevention. 2008; 12:1-12. http://doi.org/10.1186/1471-2458-8-263
6. Croce-galis M, Hardee K, Gay J. HIV Prevention for Brief: Scaling up Evidence-Informed HIV Prevention for Adolescent girls and young women, 2014, 1-6.
7. Erena AN, Shen G, Lei P. Factors affecting HIV counseling and testingamong Ethiopian women aged 15–49. BMC Infectious Diseases. 2019; 19(1):1-12.
8. Fang Y, Zhang Y, Wang Z, Ip M, Li J, Lau JT. Low uptake of HIV testing among male clients of female sex workers in China. *AIDS Care.* 2019; 31(2):193-198. https://doi.org/10.1080/09540121.2018.1510100
9. Gadegbeku C, Saka R. Attitude of the Youth towards Voluntary Counselling and Testing (VCT) of HIV/AIDS in Accra, Ghana. 2014; 3(11):133-141.
10. Govindasamy D, Ferrand RA, Wilmore SMS, Ford N, Ahmed S, Afnan-holmes H. Review article Uptake and yield of HIV testing and counselling among children and adolescents in sub-Saharan Africa: a systematic review, 2015, 1-9.

11. Hong W, Liu R, Ding Y, Hwang J, Wang J, Yang Y. Cross-country differences in stay-at-home behaviors during peaks in the COVID-19 pandemic in China and the United States: The roles of health beliefs and behavioral intention. *International Journal of Environmental Research and Public Health*. 2021; 18(4):2012.
12. Indravudh P, Sibanda E, D' Elbée M, Kumwenda MK, Ringwald B, Maringwa G. "Investigating young people's preferences for HIV self-testing in Malawi and Zimbabwe. AIDS. 2017; 31:S203-12.
13. Jimoh AAG, Balogun OR. Factors Hindering Acceptance of HIV/AIDS Voluntary Counseling and Testing (VCT) among Youth in Kwara State, Nigeria. 2020-2010; (3):159–164.
14. Kaai S, Bullock S, Burchell AN, Major C. Patient Education and Counseling Factors that affect HIV testing and counseling services among heterosexuals in Canada and the United Kingdom: An integrated review. Patient Education and Counseling. 2014; 88(1):4-15. http://doi.org/10.1016/j.pec.2011.11.011
15. Kalanzi DJN. HIV Testing and Public Health in Uganda: American International Journal of Contemporary Researh, Uganda. University of Ghana, 2014; 3(1):24-31. http://ugspace.ug.edu.gh 59
16. Kalichman SC, Eaton L, Cherry C. NIH Public Access. 2021; 33(6):432-440. http://doi.org/10.1007/s10865-010-9275-7.
17. Leta TH, Sandøy IF, Fylkesnes K. Factors affecting voluntary HIV counselling and testing among men in Ethiopia: a cross-sectional survey, 2022. http://doi.org/10.1186/1471-2458-12-438
18. Macphail C, Pettifor A, Moyo W, Rees H. Factors associated with HIV testing among sexually active South African youth aged years, 0121(October), 2015, 15-24. http://doi.org/10.1080/09540120802282586
19. Mkandawire P. Assessing factors associated with HIV testing among adolescents in Malawi. Global Public Health. 2017; 12(7):927-40.
20. MoH NAC. Sexually Transmitted Infections (STIs). Retrieved September 2010, from HIV Guide-Zambia: Zambia HIV National Guidelines, 2017. http://www.zambiahivguide.org/guidelines/zambia_hiv_national_guidelines/sexually_transmitted_infections__stis_.html
21. Helleringer S, Kohler HP, Frimpong JA, Mkandwire J. NIH Public Access. 2011; 51(2):185-193. http://doi.org/10.1097/QAI.0b013e31819c1726.
22. Ogaji DS, Oyeyemi AS, Ibrahim I. Primary health care Awareness, willingness and use of Voluntary HIV testing and counseling services. 2013; 25(2):36-44.
23. Owolabi RS, Daniel O, Araoye MO, Osagbemi GK, Odeigah L, Ogundiran A. Self-reported reasons for seeking HIV testing by people living with HIV/AIDS (PLWHA) in a tertiary hospital in Nigeria, 2011, 59-62.
24. Odimegwu CO, Imo CK, Amoo EO. HIV voluntary counseling and testing and behavior changes among youths in Nigeria. *Journal of Biosocial Science*. 2020; 52(3):366-381. https://doi.org/10.1017/S0021932019000506
25. Ofori KN. Application of the health belief model to HIV testing and counseling among youth living in selected rural communities in Ghana. *International Journal of HIV/AIDS Prevention, Education and Behavioural Science*. 2019; 5(1):11-18.
26. Witzel T. Lora W, Lees S, Desmond N. Uptake contexts and perceived impacts of HIV testing and counselling among adults in East and Southern Africa: A meta-ethnographic review. PLoS ONE. 2017; 12:1-16.
27. Yamane T. Statistics: An Introductory Analysis. 3rd Edition, Harper and Row, New York, 1973.