

Research Title: HIV-Related Knowledge and Attitude among Women and Men in Nigeria: a secondary Analysis of the NDHS, 2018

Abstract

Background: The Human Immunodeficiency Virus (HIV)/acquired immunodeficiency syndrome (AIDS) remains a significant global public health concern, and Nigeria has been grappling with this devastating epidemic for several decades. Promoting knowledge and attitude toward HIV/ AIDS is a key strategy to control the prevalence of the epidemic. This study aimed to assess men's and women's knowledge of HIV/AIDS in Nigeria and its association with their attitudes towards HIV and people living with the disease

Methods: This study utilized data from the 2018 Nigeria Demographic and Health Survey (2018 NDHS). Descriptive statistics were used to determine the mean score related to comprehensive knowledge and attitude across each age group stratified by gender.

Results: The mean knowledge score for men is 73.0, and for women 74.4. Attitude score for both men and women is 58.6 and 59.3, respectively. This implies that the general level of knowledge among men and women aged 15-49 in Nigeria is high. Still, the discriminatory attitude towards people living with HIV/AIDS is poor, and discrimination towards people living with HIV/AIDS still exists in the country. Individuals aged 15-19 had the highest discriminatory attitude score in both men and women (67.5 and 63.4) compared to other age groups.

Conclusion: Findings from this study show that although the awareness of HIV and its significant routes of transmission is high, there is a need to develop community-based age-appropriate education programs to address barriers in communication and discriminatory attitudes towards people living with HIV/AIDS

1.0. Introduction

Human Immunodeficiency Virus (HIV)/acquired immunodeficiency syndrome (AIDS) continues to be a significant public health issue, with a rise in campaigns to improve the general knowledge of HIV and its transmission. Despite interventions and advances in scientific understanding of HIV and its prevention, many people continue to be infected with the virus. In 2021, 38.4 million people lived with HIV globally, and 1.5 million became newly infected (UNAIDS, 2023). Although tremendous progress has been made in combating HIV globally, with a 52% reduction in the annual acquired immunodeficiency syndrome (AIDS) related mortality (UNAIDS, 2023), enormous challenges remain

The burden of HIV/AIDS is not evenly distributed across or within countries and regions. According to the WHO (2021), the African Region is the most affected region, with 25.7 million people living with HIV in 2018. The African Region also accounts for almost two-thirds of the global total of new HIV infections, and about 1.1 million people were infected with HIV in 2018. Nigeria, the most populous country in sub-Saharan Africa, is home to 1.9 million people living with HIV/AIDS (PLWHA). Although HIV prevalence in Nigeria is relatively low at 1.3% compared to other African countries such as South Africa (14.2%) (Zuma *et al.*, 2022) and Zambia (11%) (UNAIDS, 2020), an estimated 74,000 new infections and 51,000 AIDS-related deaths were recorded in Nigeria in 2021 with most of these deaths among persons aged 15-49 years. With concerted efforts by the government and relevant stakeholders, the prevalence of HIV dropped by 29% since 2010 (UNAIDS, 2023). Nonetheless, this is still lower than the third Sustainable Development Goal (SDG-3) sub-target to end the epidemic of HIV/AIDS by 2030 (Project 2030), which will be achieved when the number of new HIV infections and AIDS-related deaths decline by 90% between 2010 and 2030 (Assefa *et al.*,

2020). In addition, regarding progress towards achieving UNAIDS 90-90-90 goals, 67% of all PLHIVs know their status, 63% are on HIV treatment, and 54% are virally suppressed (US President's Emergency Plan for AIDS Relief, 2020).

Studies in Nigeria among segments of the general population have shown that while knowledge of the nature of HIV is high, the practice of unsafe sexual behaviour is common and is associated with low knowledge of modes of transmission and risk perception (Oharume, 2020; Omisore *et al.*, 2022). A report by UNICEF noted that in Nigeria, only one in every four young women aged 15-24 years (24 percent) has comprehensive knowledge of HIV prevention. This rate is below the average for West and Central Africa (33 percent) and has not significantly improved over the past six years (UNICEF, 2023). Moreover, the attitude towards PLWHAs is generally negative, even among healthcare workers.

1.1. Significance of Research

The findings of this study have significant research and policy implications. For Nigeria to achieve the SDG targets for HIV/AIDS, KAP studies must develop suitable health promotion interventions to facilitate health behaviour change. This study will add to existing knowledge and help promote already existing efforts in the fight against HIV/AIDS in the country. Health knowledge and awareness programs can use findings from this study to define target groups more effectively and design intervention programs accordingly.

1.2. Research Questions

- What is the level of knowledge about HIV/AIDS among Nigerian men and women (15-49)?
- How do knowledge levels about HIV/AIDS differ between men and women?
- What are the gaps in HIV/AIDS knowledge and attitude need to be addressed?

2.0. LITERATURE REVIEW

The inadequate knowledge of HIV and its transmission has been identified as a major factor contributing to the spread of the epidemic among youths in Nigeria (Obidoa *et al.*, 2012; Fagbamigbe *et al.*, 2017). The 2018 Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) reported HIV prevalence was 1.3% among adults 15 – 49 years, with a higher prevalence among women 1.7% compared to males 0.8%. Further review revealed that, despite the prevalence of HIV among women, the percentage of people who are knowledgeable about prevention measures is higher among men than among women. 74.1% of men aged 15-49 years are aware of HIV prevention compared to 70.7% of women aged 15-49 years (NAIIS, 2019).

While disparities in the knowledge of HIV are linked to gender, the positive relationship between other factors such as education, socioeconomic status and geographic location (rural vs. urban) are well documented in Africa and other contexts (Bunyasi and Coetzee, 2017; Igulot and Magadi, 2018; Gutiérrez and Trossero, 2021). This highlights the need to consider the extent to which individuals can make and exercise choices about sexual behaviour. Risk perception is also an important factor in the adoption of preventive sexual behaviour (Oharume, 2020; Omisore *et al.*, 2022). This implies that knowledge alone does not translate to the adoption of preventive sexual behaviours.

Perceptions and attitudes towards HIV/AIDS are also important in averting HIV transmissions, testing and treatment uptake. Negative attitudes such as stigma and discrimination towards individuals with HIV/AIDS also hinder prevention, treatment and care (Yaya *et al.*, 2018). Promoting knowledge and attitude towards HIV/AIDS among women is vital in preventing and containing the epidemic. However, in Nigeria, a dearth of studies associates HIV/AIDS-related knowledge among men and women aged 15-49 with their attitudes towards people living with the disease. Using nationally

representative Demographic Health Survey (DHS) 2018 data, the proposed study aims to assess men's and women's knowledge of HIV/AIDS in Nigeria and its association with their attitudes towards people living with the disease.

2.1. THEORETICAL FRAMEWORK

The Health Belief Model (HBM) serve as the theoretical framework for this study. According to Glanz and Bishop (2010), the HBM is one of the most frequently employed theories to predict and interpret changes in health behaviour. The model predicts that people would take the action that would most likely result in positive outcomes because it assumes that health-seeking behaviours or changes in health behaviour are impacted by specific cognitive characteristics (Munro *et al.*, 2007). It suggests that a person's decision to engage in health behaviours, such as preventive practices for HIV/AIDS, is influenced by their perception of the threat of illness or disease, their perceived benefits of taking preventive action, and the barriers that they face.

In the context of this research, the HBM can be used to understand the individual-level factors that influence men's and women's decisions across different age groups to undertake protective measures for sexual engagements, attitudinal perceptions towards people living with HIV between men and women, the perceived benefits of HIV-related knowledge, early testing and ART treatment. This framework will lead to an in-depth understanding of age and gender-related perceived knowledge of HIV/AIDS, and how this knowledge affects attitudes towards people living with HIV.

3.0. RESEARCH METHODOLOGY

This study utilized data from the 2018 Nigeria Demographic and Health Survey (2018 NDHS) which was implemented by the National Population Commission (NPC) in collaboration with the National Malaria Elimination Programme (NMEP) of the Federal Ministry of Health, Nigeria. ICF provided technical assistance through the DHS Program, a USAID-funded project providing support and technical assistance in the implementation of population and health surveys in countries worldwide (NPC and ICF, 2019).

A representative sample of approximately 42,000 households was selected for the survey. The target groups were women aged 15-49 and men age 15-59 in randomly selected households across Nigeria. The 2018 NDHS is a national sample survey that provides up-to-date information on demographic and health indicators. The survey included a series of questions to measure respondents' knowledge and attitudes regarding HIV/AIDS. For this research, a secondary analysis of results gotten from the questionnaires will be carried out.

Questionnaire content

Knowledge questions

1. Reduce the risk of getting HIV: use of condoms during sex
2. Reduce the risk of getting HIV: limiting sexual intercourse to one uninfected partner
3. A healthy-looking person can have HIV
4. HIV cannot be transmitted by mosquito bites
5. HIV cannot be transmitted by supernatural means
6. A person cannot be infected by sharing food with a person who has HIV

Knowledge of prevention of mother-to-child transmission of HIV:

7. During Pregnancy
8. During delivery
9. By breastfeeding

Attitude

10. Do you think children living with HIV should be able to attend schools with children who do not have HIV
11. Would buy vegetables from a storekeeper with HIV

3.1. Statistical analysis

Knowledge was assessed by a set of nine questions regarding the mode of transmission, and attitude 2 separate questions. Descriptive statistics were used to determine the mean score related to comprehensive knowledge across each age group stratified by gender, as well as the percentage of individuals aged 15-49 with discriminatory attitudes. Statistical analysis was conducted using MS Excel.

4.0. Ethical Considerations

This study is a secondary analysis of publicly available data from NDHS. Ethical procedures were undertaken by the NDHS. All DHS surveys are approved by ICF International and an Institutional Review Board in the respective country to ensure that the protocols comply with the U.S. Department of Health and Human Services regulations for protecting human subjects.

5.0. Results

Table 1. The mean score on comprehensive knowledge

Age Groups	Men Mean Score	Women Mean Score
15-19	65.8	64.6
20-24	73.8	75.1
25-29	74.7	75.3
30-39	76.1	76.3
40-49	74.9	72.8
15-49	73.0	74.4

Table 2. Mean % with Discriminative attitude

Age groups	Men	Women
15-19	67.5	63.4
20-24	59.9	57.9
25-29	55.0	58.4
30-39	55.1	59.1
40-49	55.5	58.1
15-49	58.6	59.3

6.0. Discussion

HIV remains a major public health problem in Nigeria despite the concerted efforts by the government to curb it over the last decade. This study showed the level of knowledge of HIV and knowledge of its means of transmission is high amongst individuals aged 15-49 in Nigeria, and there is no significant difference in knowledge levels among the age groups and between men and women. This finding is similar to what was reported in Cross River State, Nigeria among adults aged 18 years and above (Okonkwo *et al.*, 2017). The study reported that although Knowledge of HIV and common routes of transmission was high among respondents, some misconceptions still existed.

Age varied significantly with knowledge with those aged 15-19 years having lower scores in knowledge, also a negative attitude towards PLWHA was evident in the younger age group (Tables 1 and 2). The finding of a negative attitude towards PLWHA among the younger age group is not peculiar to this study. Similar results were reported by (Okonkwo *et al.*, 2017). This may be due to the level of risk perception and fear of contracting the infection and stigmatization associated with being HIV positive. Ignorance, anxiety and fear of stigmatization have been identified as major barriers to the acquisition of accurate information on HIV and promote denial. In general, the discriminatory attitude towards people living with HIV/AIDS is poor, and discrimination towards people living with HIV/AIDS still exists in the country. Results from this study show that almost 60% of both male and female respondents (15-49) will alienate vegetable vendors known to be infected with HIV, and would not attend school with PLWHA (Table 2). Negative attitudes towards people living with HIV/AIDS have been identified as an obstacle in combating the spread of HIV/AIDS and this hampers their willingness to get tested and seek treatment (Yaya *et al.*, 2018), the HBM also posits that the perceived severity of HIV/aids among healthy people contributes to

discriminatory attitudes. These concerns need to be addressed urgently to improve the acceptance of PLWHA in our communities and promote voluntary counselling and testing for HIV.

This study found no statistically significant relationship between gender and knowledge levels or discriminatory attitudes, contrary to some previous studies that men tend to have more comprehensive knowledge of HIV compared to women (Yaya *et al.*, 2018). In the present study, no statistically significant gender differences were observed between the overall knowledge score of men and women (73% and 74%) respectively, in fact, the overall knowledge score of women was slightly higher than men. This is similar to an RCT carried out in Uganda on gender HIV knowledge and prevention, where there were no statistically significant gender differences observed at baseline (Nabunya *et al.*, 2021). This implies that gender is not a strong determinant of the level of HIV-related knowledge. Similarly discriminatory attitude between men and women was not statistically significant but was evident in the lower age groups. Thus, there is a need to develop community-based age-specific education programs to address barriers in communication and discriminatory attitudes towards people living with HIV/AIDS.

The findings of this study have important research and policy implications. By assessing age and gender-related knowledge and attitude, the information will aid in targeting interventions to specific population groups with higher vulnerability or lower awareness. This information can guide the development of tailored interventions for different subgroups. These findings contribute to the understanding of the factors that may or may not affect awareness regarding HIV transmission, including mother-to-child transmission. knowledge and awareness programmes can use these findings to define target groups more effectively and design intervention programmes accordingly.

7.0. Recommendations

Recognizing the severity of the HIV/AIDS pandemic, the Nigerian government has implemented various strategies and interventions to address the public health threat. The National Agency for the Control of AIDS (NACA) leads the national response, collaborating with international partners, civil society organizations, and the private sector. Efforts have focused on prevention, treatment, care and support, as well as reducing stigma and discrimination, and over the years considerable improvements have been made.

Although the findings of this study show that HIV-related knowledge is good among individuals aged 15-49 in the country, discriminatory attitude toward PLWHA remains poor. There is a need to intensify efforts towards interventions that would reduce stigma and discrimination. Therefore, the government, civil society organizations and all relevant stakeholders should:

1. Enhance Access to HIV Testing and Counseling:

- Establish and promote accessible and confidential HIV testing and counselling services across the country, including in rural and underserved areas.
- Offer testing services tailored to different age groups, taking into account their specific needs and preferences.
- Develop innovative approaches, such as mobile clinics or community-based testing, to reach remote or marginalized populations.

2. Reduce Stigma and Discrimination:

- Launch awareness campaigns to combat HIV-related stigma and discrimination, emphasizing that HIV is a medical condition and not a moral judgment.
- Establish legal frameworks that protect the rights of people living with HIV/AIDS and ensure that cases of discrimination are appropriately addressed.

8.0. Strengths and Limitations of the proposed study

This study provides a population-based insight into the knowledge of HIV in Nigeria. The major strength of this study is the use of a nationally representative dataset from the NDHS that provides a breadth of demographic, socio-economic and vital health data. This breadth of data allows for in-depth analysis and examination of somewhat relationships between demographic factors such as age and HIV knowledge and attitude. In addition, the inclusion of both men and women allows us to identify gender-related gaps in the knowledge and awareness of HIV/AIDS. However, future studies can use a more context-specific and wider range of indicators to better illustrate the determinants of HIV knowledge in Nigeria.

9.0. CONCLUSION

The findings of this study contribute to the existing body of knowledge and help to inform targeted interventions, educational campaigns, and policy initiatives aimed at improving prevention strategies and reducing the stigma associated with the disease. Although the awareness of HIV and its major routes of transmission are high as indicated by this study, there are gaps in efforts towards the reduction of stigma. There is a need to develop community-based age-appropriate education programs to address

barriers in communication and discriminatory attitudes. By addressing misconceptions and improving knowledge, we can empower individuals to adopt safer practices and reduce the discrimination faced by those living with HIV/AIDS. Additionally, Future research should consider the evaluation of existing programs in the prevention and management of HIV/AIDS in the country.

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