**Original Research Article**

**Assessing the role of health education in reducing the prevalence of HIV/AIDS in Ijebu-Ode, Ogun State, Nigeria**

**ABSTRACT**

**Background:** HIV/AIDS remains a significant public health concern in Nigeria, with education being a crucial tool in prevention and control. This study assesses the role of health education in reducing the prevalence of HIV/AIDS among residents of Ijebu-Ode, Ogun State, Nigeria.

**Materials and Methods:** A descriptive cross-sectional study was conducted among 81 residents aged 15–49 years. A multistage sampling technique was employed to select participants from different communities, healthcare centres, and educational institutions. Data were collected using structured questionnaires, key informant interviews (KIIs), and focus group discussions (FGDs). Quantitative data were analyzed using SPSS Version 26.0, employing descriptive statistics, Chi-square tests, and logistic regression. Qualitative data were subjected to thematic content analysis.

**Results:** Findings indicate that 97.5% of respondents had heard of HIV/AIDS, with 88.9% acknowledging its preventability. Health education significantly improved knowledge and preventive practices, with 80.2% of participants attending awareness programs. Pearson correlation analysis showed a strong association between health education and HIV prevention awareness (r = 0.67, p < 0.001). Chi-square analysis revealed a significant relationship between education level and perception of HIV/AIDS prevention (p = 0.015) and between attendance at health education programs and HIV testing (p = 0.009). KIIs highlighted cultural beliefs, stigma, and inadequate funding as barriers to effective health education.

**Conclusion:** Health education plays a crucial role in reducing HIV/AIDS prevalence by enhancing knowledge and promoting preventive behaviors. Addressing cultural misconceptions, improving funding, and strengthening community engagement are essential for more effective interventions.

**Keywords:** HIV/AIDS, Health Education, Prevention, Awareness, Community Engagement, Nigeria, Public Health

1. **INTRODUCTION**

Human Immunodeficiency Virus (HIV) and acquired immunodeficiency syndrome (AIDS) remain significant public health challenges in Nigeria, which bears the world's second-highest burden of HIV/AIDS. As of 2015, approximately three million Nigerians were living with HIV, with 190,950 new infections recorded that year. Notably, about 260,000 children aged 0-14 were among those affected, underscoring the epidemic's extensive reach across age groups [1].

The Nigerian HIV epidemic is generalized, exhibiting considerable regional variations in prevalence. In Ogun State, where Ijebu-Ode is located, the prevalence of HIV/AIDS reflects broader national trends, necessitating localized interventions to address specific community needs.

Health education has been identified as a pivotal strategy in combating the spread of HIV/AIDS. Educational initiatives aim to increase knowledge about transmission and prevention, influence attitudes, and encourage safe sexual practices. For instance, a study evaluating a school-based AIDS education program for Nigerian secondary school students found that participants exhibited greater knowledge about HIV/AIDS transmission and prevention, were less likely to perceive AIDS as a disease affecting only certain populations, and demonstrated increased tolerance toward individuals living with the disease [2].

Peer education has also proven effective in enhancing HIV/AIDS awareness among adolescents. Research conducted in Imo State assessed the impact of peer health education on in-school adolescents' knowledge of HIV/AIDS. The study revealed that peer education significantly improved participants' understanding of HIV/AIDS, corrected misconceptions, and positively influenced behaviors [3].

In Ijebu-Ode, efforts to raise awareness about HIV/AIDS have been implemented. For example, TotalEnergies, in collaboration with partners, organized an event aimed at sensitizing community members to preventive measures and encouraging voluntary testing. Such initiatives are crucial in promoting community engagement and reducing stigma associated with HIV/AIDS [4].

Despite these efforts, challenges persist. A study highlighted that nurses' awareness of the availability of HIV and AIDS research is essential in overcoming obstacles to successfully controlling HIV and AIDS transmission in hospital contexts in Nigeria [5].

This underscores the need for continuous professional development and access to current research findings to inform practice.

Furthermore, recent developments have posed additional challenges to HIV/AIDS interventions in Nigeria. The suspension of USAID funding has jeopardized critical HIV treatment and research programs, affecting over two million HIV patients in Nigeria who depend on USAID-funded medicines. Local governments are attempting to fill the gap, but resources are limited [6].

In response to funding challenges, Nigerian lawmakers have approved an additional $200 million for the health sector in the 2025 spending plan. This decision aims to offset the reduction in U.S. health aid and support the procurement of vaccines and treatments for epidemic diseases, including HIV/AIDS [7].

Given the dynamic landscape of HIV/AIDS interventions and the critical role of health education, it is imperative to assess the effectiveness of educational strategies in reducing HIV/AIDS prevalence in specific locales such as Ijebu-Ode. Understanding the impact of health education within this community will inform targeted interventions and contribute to broader efforts to combat the HIV/AIDS epidemic in Nigeria.

1. **MATERIALS AND METHODS**

**2.1 Study Design**

This is a descriptive cross-sectional study designed to assess the role of health education in reducing the prevalence of HIV/AIDS among residents of Ijebu-Ode.

**2.2 Study Area**

This study was conducted in Ijebu-Ode, Ogun State, Nigeria, a semi-urban area with a mix of educational institutions, healthcare facilities, and commercial activities. The study focused on various communities, healthcare centres, and schools where health education programs on HIV/AIDS awareness and prevention have been implemented.

**2.3 Study Population**

The study targeted residents aged 15–49 years, including students, traders, artisans, healthcare workers, and other community members. Special attention was given to individuals who had received health education on HIV/AIDS through formal and informal channels, such as community sensitization programs, school-based campaigns, and hospital counselling services.

**2.3 Sample Size Determination**

The sample size was determined using the Cochran formula for estimating proportions in a population outlined by Airaodion et al. [8]:

n = $\frac{Z^{2}(Pq)}{e^{2}}$

where n = minimum sample size

Z = 1.96 at 95% confidence level,

P = known prevalence of HIV in Ijebu-Ode

e = error margin tolerated at 5% = 0.05

q = 1 - p

According to a recent study by Abiodun et al. [9], the prevalence of HIV in Ijebu-Ode is 5%.

P = 5% = 0.05

q = 1 – 0.05

= 0.95

n = $\frac{\left(1.96\right)^{2}(0.05 x 0.95)}{(0.05)^{2}}$

n = $\frac{3.8416 x (0.0475)}{0.0025}$

n = $\frac{0.18126}{0.0025}$ = 72.504

The minimum sample size was 73, but it was adjusted to 81 to account for a 10% non-response rate.

**2.4 Sampling Technique**

A multistage sampling technique was used:

**Stage 1:** Stratified sampling to select different communities in Ijebu-Ode.

**Stage 2:** Simple random sampling to select households and individuals.

**Stage 3:** Purposive sampling for key informant interviews with health workers, educators, and HIV/AIDS program coordinators.

**2.5 Data Collection Methods**

1. **Structured Questionnaire**

A semi-structured questionnaire was designed to collect data from the respondents. The questionnaire was pre-tested in a neighbouring community for validity and reliability before administration.

1. **Key Informant Interviews (KII)**

Key informant interviews were conducted with health educators, community health workers, and program officers to understand the scope and effectiveness of HIV/AIDS education initiatives in Ijebu-Ode. Interviews were recorded, transcribed, and analyzed for thematic patterns.

1. **Focus Group Discussions (FGDs)**

Focus group discussions were organized among youths, women, and at-risk populations (e.g., commercial sex workers, artisans, and traders) to assess perceptions of HIV/AIDS education and its impact on behavior change. Each FGD consisted of 6–10 participants and was facilitated by trained researchers.

**2.6 Data** **Analysis**

* **Quantitative data** from the questionnaires were entered into SPSS (Version 26.0) and analyzed using descriptive statistics (frequencies, means, standard deviations) and inferential statistics (Chi-square test, logistic regression) to assess associations between health education exposure and knowledge/behavioral change.
* **Qualitative data** from KIIs and FGDs were analyzed using **thematic content analysis** to identify key themes regarding the effectiveness of HIV/AIDS education.

**2.7 Ethical Considerations**

Informed consent was obtained from all participants before data collection. Participation was voluntary, and respondents were assured of confidentiality and anonymity in data handling and reporting.

1. **RESULTS**

The study involved 81 participants with diverse socio-demographic backgrounds, including a nearly equal gender distribution and varying educational levels. Most participants (97.5%) had heard of HIV/AIDS, with unprotected sex (86.4%) and sharing unsterilized needles (80.2%) identified as primary transmission modes. Prevention awareness was high, with 88.9% acknowledging HIV/AIDS prevention methods like abstinence (80.2%) and condom use (74.1%).

Attitudes toward HIV/AIDS were generally positive, with 67.9% willing to associate with HIV-positive individuals and 93.8% supporting dignity and respect for patients. Health education played a significant role, with 80.2% attending awareness programs, mostly through media (61.5%) and health facilities (53.8%). Despite this, only 67.9% had undergone voluntary HIV testing, with fear (38.5%) and stigma (23.1%) being key barriers.

Health education significantly influenced HIV/AIDS perception (90.1%) and preventive measures (85.2%). However, challenges such as cultural beliefs (49.4%), stigma (43.2%), and inadequate funding (51.9%) were noted. Correlation analysis showed a strong positive relationship between health education and HIV prevention awareness (r = 0.67, p < 0.001). Chi-square analysis indicated a significant association between education level and perception of HIV prevention (p = 0.015), and between attending health education programs and HIV testing (p = 0.009).

Key informant interviews and focus group discussions highlighted improved awareness but persistent challenges like stigma and misinformation. Behavioral changes were observed, with increased condom use and voluntary testing uptake. Peer education and digital platforms were preferred methods for spreading awareness, but funding constraints and lack of trained personnel hindered implementation.

**Table 1: Socio-Demographic Information**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency (n = 81)** | **Percentage (%)** |
| **Age (in years)** |  |  |
| 15 – 24 | 20 | 24.7 |
| 25 – 34 | 30 | 37.0 |
| 35 – 44 | 18 | 22.2 |
| 45 and above | 13 | 16.1 |
| **Gender** |  |  |
| Male | 40 | 49.4 |
| Female | 39 | 48.1 |
| Prefer not to say | 2 | 2.5 |
| **Marital Status** |  |  |
| Single | 32 | 39.5 |
| Married | 38 | 46.9 |
| Divorced | 6 | 7.4 |
| Widowed | 5 | 6.2 |
| **Educational Level** |  |  |
| No formal education | 5 | 6.2 |
| Primary education | 10 | 12.3 |
| Secondary education | 32 | 39.5 |
| Tertiary education | 34 | 42.0 |
| **Occupation** |  |  |
| Student | 22 | 27.2 |
| Civil servant | 19 | 23.5 |
| Self-employed | 25 | 30.9 |
| Unemployed | 10 | 12.3 |
| Others | 5 | 6.2 |
| **Religion** |  |  |
| Christianity | 45 | 55.6 |
| Islam | 30 | 37.0 |
| Traditional | 4 | 4.9 |
| Others | 2 | 2.5 |

**Table 2: Knowledge of HIV/AIDS**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency (n=81)** | **Percentage (%)** |
| **Have you ever heard of HIV/AIDS?** |  |  |
| Yes | 79 | 97.5 |
| No | 2 | 2.5 |
| **Primary modes of HIV transmission (Multiple Responses)** |  |  |
| Unprotected sexual intercourse | 70 | 86.4 |
| Sharing of unsterilized needles | 65 | 80.2 |
| Mother-to-child transmission | 55 | 67.9 |
| Mosquito bites | 12 | 14.8 |
| Casual contact | 10 | 12.3 |
| **Can HIV/AIDS be prevented?** |  |  |
| Yes | 72 | 88.9 |
| No | 4 | 4.9 |
| Not sure | 5 | 6.2 |
| **Ways to prevent HIV/AIDS (Multiple Responses)** |  |  |
| Abstinence | 65 | 80.2 |
| Use of condoms | 60 | 74.1 |
| Faithfulness to one partner | 55 | 67.9 |
| Avoiding sharing sharp objects | 58 | 71.6 |
| HIV screening and counseling | 63 | 77.8 |
| **Can a healthy person have HIV/AIDS?** |  |  |
| Yes | 67 | 82.7 |
| No | 8 | 9.9 |
| Not sure | 6 | 7.4 |

**Table 3: Attitude Towards HIV/AIDS**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency (n=81)** | **Percentage (%)** |
| **Willing to associate with HIV/AIDS patients?** |  |  |
| Yes | 55 | 67.9 |
| No | 15 | 18.5 |
| Not sure | 11 | 13.6 |
| **Should HIV/AIDS patients be treated with dignity and respect?** |  |  |
| Yes | 76 | 93.8 |
| No | 2 | 2.5 |
| Not sure | 3 | 3.7 |
| **Is health education important in reducing HIV/AIDS prevalence?** |  |  |
| Yes | 79 | 97.5 |
| No | 1 | 1.2 |
| Not sure | 1 | 1.2 |

**Table 4: Practice and Exposure to Health Education**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency (n=81)** | **Percentage (%)** |
| **Attended an HIV/AIDS awareness program?** |  |  |
| Yes | 65 | 80.2 |
| No | 16 | 19.8 |
| **Where did you receive health education? (Multiple Responses)** |  |  |
| School | 30 | 46.2 |
| Health facility | 35 | 53.8 |
| Community outreach programs | 28 | 43.1 |
| Religious institutions | 25 | 38.5 |
| Media | 40 | 61.5 |
| **Regularly practice safe sex due to health education?** |  |  |
| Yes | 50 | 61.7 |
| No | 20 | 24.7 |
| Not applicable | 11 | 13.6 |
| **Ever undergone voluntary HIV testing?** |  |  |
| Yes | 55 | 67.9 |
| No | 26 | 32.1 |
| **If no, why?** |  |  |
| Fear of result | 10 | 38.5 |
| Lack of awareness | 8 | 30.8 |
| Stigma and discrimination | 6 | 23.1 |
| Others | 2 | 7.7 |

**Table 5: Effectiveness of Health Education**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Frequency (n=81)** | **Percentage (%)** |
| **Has health education influenced perception of HIV/AIDS?** |  |  |
| Yes | 73 | 90.1 |
| No | 8 | 9.9 |
| **Has health education helped in taking preventive measures?** |  |  |
| Yes | 69 | 85.2 |
| No | 12 | 14.8 |
| **Challenges to effective health education (Multiple Responses**) |  |  |
| Cultural and religious beliefs | 40 | 49.4 |
| Low literacy level | 30 | 37.0 |
| Lack of trained health educators | 28 | 34.6 |
| Stigma and discrimination | 35 | 43.2 |
| Inadequate funding | 42 | 51.9 |

**Table 6: Correlation Analysis**

|  |  |  |
| --- | --- | --- |
| **Variables** | **Pearson Correlation (r)** | **p-value** |
| Health Education & HIV Prevention Awareness | 0.67 | <0.001 |
| Attendance at Health Education Programs & Safe Sex Practice | 0.58 | <0.001 |
| Health Education & Willingness to Associate with HIV/AIDS Patients | 0.45 | 0.003 |

**Table 7: Chi-Square Analysis**

|  |  |  |
| --- | --- | --- |
| **Variables** | **Chi-Square Value** | **p-value** |
| Gender & Awareness of HIV/AIDS | 3.25 | 0.071 |
| Education Level & Perception of HIV/AIDS Prevention | 8.46 | 0.015 |
| Attendance at Health Education & HIV Testing | 6.78 | 0.009 |

**Table 8: Summary of Key Informant Interviews (KIIs) on Effectiveness of HIV/AIDS Education**

|  |  |  |
| --- | --- | --- |
| **Theme** | **Findings** | **Representative Quotes** |
| **Awareness and Knowledge** | Most informants reported an improvement in knowledge of HIV transmission and prevention due to health education programs. | “We have seen increased awareness, especially among young people, about how HIV is transmitted and the importance of safe practices.” – Community Health Worker |
| **Educational Strategies Used** | Strategies included peer education, community outreach, and school-based programs. | “We use dramas, interactive sessions, and mobile campaigns to engage the public.” – Health Educator |
| **Challenges in Implementation** | Inconsistent funding, stigma, and cultural beliefs hindered the effectiveness of HIV/AIDS education. | “People are still reluctant to discuss HIV openly due to fear of discrimination.” – Program Officer |
| **Perceived Impact** | Reduction in risky behaviors such as unprotected sex and increased willingness to seek HIV testing and counseling. | “We now see more youths voluntarily getting tested, which was not the case a few years ago.” – Health Educator |

**Table 9: Perceptions of HIV/AIDS Education from Focus Group Discussions (FGDs)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Participant Group** | **Knowledge of HIV/AIDS** | **Attitude Towards Education** | **Reported Behavior Change** |
| **Youths (6 FGDs, n=45)** | Moderate to high awareness, but some misconceptions persist (e.g., belief in HIV cure). | Positive attitude towards peer education programs and social media campaigns. | Increased condom use and uptake of voluntary counseling and testing (VCT). |
| **Women (4 FGDs, n=32)** | Good awareness but fear of stigma prevents open discussions. | Favor community sensitization programs but highlight barriers to women's participation. | Some reported avoiding multiple sexual partners after health talks. |
| **At-Risk Populations (6 FGDs, n=50)** | Mixed awareness; commercial sex workers had high knowledge, while artisans had limited knowledge. | Skepticism about effectiveness of education but openness to more targeted interventions. | Some reported increased condom use and willingness to attend sensitization programs. |

**Table 10: Identified Themes from Thematic Analysis of KIIs and FGDs**

|  |  |
| --- | --- |
| **Theme** | **Description** |
| **Awareness and Accessibility** | HIV/AIDS education has improved general awareness, but access to reliable information remains a challenge. |
| **Cultural and Social Barriers** | Stigma, religious beliefs, and gender norms affect the effectiveness of education programs. |
| **Behavioral Changes** | Participants reported increased willingness to use protection and seek HIV testing, though some risky behaviors persist. |
| **Preferred Education Methods** | Peer education, community outreach, and digital platforms were seen as the most effective means of spreading awareness. |
| **Challenges in Program Implementation** | Funding constraints, inadequate health personnel, and misinformation hinder program success. |

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1. **DISCUSSION**

The study sampled 81 participants with a diverse age distribution: 24.7% were aged 15–24, 37% were 25–34, 22.2% were 35–44, and 16.1% were 45 and above. The gender distribution was nearly equal, with 49.4% male and 48.1% female participants. Marital status varied, with 39.5% single, 46.9% married, and smaller percentages for divorced and widowed individuals. Educational attainment was relatively high, with 42% having tertiary education and 39.5% secondary education. Occupationally, participants were students (27.2%), self-employed (30.9%), civil servants (23.5%), and unemployed (12.3%). Religiously, 55.6% identified as Christians, 37% as Muslims, and the remainder adhered to other beliefs.

These demographics are consistent with national data, where young adults constitute a significant portion of the population, and educational attainment has been improving over the years. The near-equal gender distribution aligns with national statistics, and the variety in occupational status reflects the diverse economic activities in Nigeria.

A significant majority (97.5%) had heard of HIV/AIDS, indicating widespread awareness. Primary modes of transmission identified included unprotected sexual intercourse (86.4%), sharing unsterilized needles (80.2%), and mother-to-child transmission (67.9%). However, misconceptions persisted, with 14.8% attributing transmission to mosquito bites and 12.3% to casual contact.

These findings mirror those of a study in Imo State, Nigeria, where peer health education significantly improved HIV/AIDS knowledge among in-school adolescents, though misconceptions about transmission routes remained [4].

Regarding prevention, 88.9% believed HIV/AIDS could be prevented, citing methods such as abstinence (80.2%), condom use (74.1%), faithfulness to one partner (67.9%), avoiding sharing sharp objects (71.6%), and HIV screening and counseling (77.8%). A majority (82.7%) recognized that a healthy-looking person could have HIV/AIDS. This aligns with findings from a study in South-southern Nigeria, which highlighted that while awareness of preventive measures was high, socio-cultural factors often impeded their adoption [10].

The study revealed that 67.9% were willing to associate with HIV/AIDS patients, and 93.8% believed such patients should be treated with dignity and respect. Notably, 97.5% acknowledged the importance of health education in reducing HIV/AIDS prevalence.

These positive attitudes are encouraging and suggest a shift towards greater acceptance and reduced stigma. However, stigma and discrimination remain challenges, as noted in a review of socio-cultural factors influencing HIV prevention in Nigeria [11].

A substantial proportion (80.2%) had attended an HIV/AIDS awareness program. The primary sources of health education were media (61.5%), health facilities (53.8%), schools (46.2%), community outreach programs (43.1%), and religious institutions (38.5%).

Regular safe sex practices due to health education were reported by 61.7%, while 67.9% had undergone voluntary HIV testing. Among those who had not tested, reasons included fear of results (38.5%), lack of awareness (30.8%), and stigma and discrimination (23.1%).

These findings are consistent with a study in Durban, South Africa, which found that despite high levels of awareness, actual adoption of preventive measures was hindered by factors such as fear and stigma [12].

Health education positively influenced perceptions of HIV/AIDS for 90.1% of participants and aided 85.2% in taking preventive measures. Challenges to effective health education included inadequate funding (51.9%), cultural and religious beliefs (49.4%), stigma and discrimination (43.2%), low literacy levels (37%), and lack of trained health educators (34.6%).

These challenges are echoed in a literature review on socio-cultural factors affecting HIV prevention in Nigeria, which highlighted the significant impact of cultural beliefs and inadequate resources on health education efforts [11].

The study found significant positive correlations between health education and HIV prevention awareness (r=0.67, p<0.001), attendance at health education programs and safe sex practice (r=0.58, p<0.001), and health education and willingness to associate with HIV/AIDS patients (r=0.45, p=0.003).

Chi-square analysis revealed significant associations between education level and perception of HIV/AIDS prevention (χ²=8.46, p=0.015), and attendance at health education programs and HIV testing (χ²=6.78, p=0.009).

These statistical associations underscore the pivotal role of health education in enhancing HIV/AIDS awareness, shaping positive attitudes, and promoting preventive practices. Similar findings were reported in a study assessing the impact of peer health education on HIV knowledge among adolescents in Imo State, Nigeria [4].

The result of the qualitative part of the study revealed that health education programs have contributed to improved knowledge of HIV transmission and prevention. The increase in awareness among youths and at-risk populations is particularly noteworthy. These findings are consistent with the study by Ojikutu et al. [13], which highlighted that targeted HIV/AIDS education significantly improves knowledge levels, particularly among adolescents and young adults. Similarly, a study conducted in South Africa found that school-based HIV education programs resulted in a substantial reduction in misconceptions about HIV transmission [14]. However, despite increased awareness, misconceptions about HIV/AIDS persist, particularly among certain at-risk populations, such as artisans. This aligns with findings from a study in Kenya by Ngugi et al. [15], which emphasized that while education increases general knowledge, some groups still retain erroneous beliefs about HIV cures and modes of transmission.

The study found that various educational strategies, including peer education, community outreach, and school-based programs, were instrumental in disseminating HIV/AIDS awareness. These strategies have been widely recommended in previous studies. For instance, a study by Mavedzenge et al. [16] found that peer education and mobile campaigns were highly effective in increasing HIV/AIDS awareness and promoting safer sexual behaviors among adolescents in sub-Saharan Africa. Similarly, research by Kaufman et al. [17] emphasized the effectiveness of drama and interactive learning in engaging communities and challenging deep-seated misconceptions. This suggests that incorporating culturally appropriate and engaging methods can enhance the impact of health education interventions.

Despite the success of HIV/AIDS education programs, challenges such as inconsistent funding, stigma, and cultural beliefs were identified as major barriers. Stigma remains a significant obstacle, discouraging open discussions about HIV/AIDS and limiting participation in education programs. This finding is consistent with the study by Turan et al. [18], which found that stigma and discrimination are among the biggest barriers to effective HIV/AIDS intervention programs in Nigeria. Additionally, inadequate funding was highlighted as a recurrent issue. A systematic review by Delany-Moretlwe et al. [19] pointed out that many HIV prevention programs in low-resource settings struggle with financial constraints, leading to program discontinuation and reduced reach. The role of cultural and religious beliefs in limiting discussions about HIV/AIDS was also noted, echoing findings by Shamu et al. [20], who observed that in deeply religious communities, HIV education is often met with resistance, necessitating more culturally sensitive approaches.

The study observed positive behavioral changes, including increased condom use, greater willingness to seek HIV testing, and reduced engagement in risky behaviors. This is in line with findings by Maticka-Tyndale [21], which reported that HIV/AIDS education significantly increases the adoption of preventive measures, particularly among youths. The increased uptake of voluntary counseling and testing (VCT) observed in this study is further supported by research from Adebayo et al. [22], which found that exposure to consistent HIV education campaigns correlates with higher testing rates. However, while behavior change was reported, some risky behaviors persist, indicating the need for sustained and more targeted educational efforts.

FGDs revealed that different groups have varying levels of knowledge and attitudes toward HIV/AIDS education. Youths displayed moderate to high awareness but retained some misconceptions. Women were well-informed but feared stigma, which limited their participation in discussions about HIV/AIDS. At-risk populations, such as commercial sex workers and artisans, had mixed awareness levels and demonstrated skepticism about the effectiveness of education. These findings are similar to those of Iwuagwu et al. [23], who found that while commercial sex workers often have high awareness due to targeted interventions, other at-risk groups, such as transport workers and informal laborers, have lower knowledge levels. The reluctance of women to engage in open discussions due to stigma aligns with research by Afolabi et al. [24], which found that HIV-related stigma disproportionately affects women in Nigeria, often discouraging them from seeking testing or participating in prevention programs.

The study identified peer education, community outreach, and digital platforms as the most effective means of spreading awareness. Digital platforms, particularly social media, were seen as valuable tools for reaching youths. This finding aligns with research by Chib et al. [25], which found that social media interventions effectively increased HIV/AIDS awareness and engagement among adolescents in Africa. Moving forward, integrating digital health strategies with traditional education methods could enhance the reach and impact of HIV/AIDS education programs.

1. **CONCLUSION**

This study highlights the significant role of health education in reducing the prevalence of HIV/AIDS among residents of Ijebu-Ode, Ogun State, Nigeria. The findings demonstrate that exposure to health education programs significantly enhances knowledge about HIV/AIDS transmission and prevention, promotes positive behavioral changes, and encourages voluntary HIV testing. The majority of participants acknowledged the importance of health education, with statistical analyses showing a strong correlation between attendance at health education programs and safe sex practices, HIV awareness, and willingness to associate with HIV-positive individuals. Despite these positive outcomes, challenges such as cultural beliefs, stigma, low literacy levels, and inadequate funding continue to hinder the effectiveness of health education programs. Addressing these barriers is crucial to further improving HIV/AIDS awareness and prevention efforts in the region.

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