

Awareness and knowledge of HIV and its effect on ocular health among the Nigerian graduate youth corps

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Abstract

Background: This survey of Nigerian youth corps graduates assessed their knowledge of HIV/AIDS and its association with ocular health.

Methods: Nigerian youth corps graduates were surveyed using a structured, self-administered questionnaire. The study included 181 participants, including 95 males, with a mean age of 26 years.

Results: 94.5% of the graduates knew the full HIV and AIDS acronyms; only 10 gave either the wrong expanded form or did not know it. 60.8% knew that HIV had no cure, while 22.7% believed that it did. Mass media and health workers were the two most common sources of information about HIV/AIDS. Most members of the corps knew sexual intercourse (97.2%), contaminated blood (91.7%), contaminated sharps (89.5%), and placental transfer or breastfeeding (80.1%) could transmit HIV. About two-fifths of the corps knew HIV could affect the eyes (42%), be contracted through tears (40.9%), and cause blindness (38.7%). However, at least one-fifth believed that HIV could not be contracted through these means. Moreover, about half of the participants did not know that HIV had been isolated from tears (52.5%), intraocular fluids (54.1%), and eye tissues (52.5%) or that it could be contracted through donor eye tissue (44.8%). 26.5% knew that an eye condition could be the first symptom of the onset of HIV/AIDS.

Conclusions: This study revealed a high level of awareness of HIV/AIDS among Nigerian youths. However, gaps in knowledge of HIV and the need to drive HIV prevention should be addressed through continuing HIV education.

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Introduction

Human immunodeficiency virus (HIV) causes the symptom-complex acquired immune deficiency syndrome (AIDS). Despite decades of painstaking global efforts, there is still no cure for HIV/AIDS, and it remains a worldwide concern. Indeed, only highly active anti-retroviral therapy (HAART) has been found to help control this disease [1]. Therefore,

the current management strategy for HIV/AIDS relies on prevention.

HIV is transmitted through infected bodily fluids and tissues, especially blood and seminal and vaginal secretions; consequently, sexual intercourse is a major route of transmission [2]. HIV infection can occur at any age, but youths aged 15-25 are particularly at risk [3]. Surveys in specific geographic regions have confirmed the high prevalence of HIV in

mostly young populations, aged 15-49 years: Malawi (14.4%, 2004) [4], Zambia (15.6%, 2000/01) [5], and Namibia (10%, 2005) [6]. Young people appear to be more susceptible to HIV for many reasons, including greater indulgence in risky sexual activity [7,8], lack of correct health information, and inadequate access to reproductive health services. It has been estimated that each day, 5000 people aged 15-25 years old will contract HIV (about two million new infections per year) [1,9].

The National Youth Service Corps (NYSC) scheme is a mandatory, year-long national service programme for Nigerian graduates under the age of 30 [10]. The major components of the NYSC scheme are orientation, a post in an area for the primary assignment, community service, and a passing-out parade. Youth corps members are usually posted for national service outside their home states, fostering national unity and integration during their service in the host communities in a variety of capacities. They are expected to positively influence the host communities and are agents for development. As part of their national service activities, some graduates embark on community development projects that include HIV/AIDS awareness campaigns. Indeed, the NYSC is critical for Nigerian education and nation-building and is therefore a potential vanguard for HIV/AIDS prevention and control.

Several studies of young people from Nigeria [11-13] and elsewhere [14-16] have sought to understand the gaps in their knowledge of HIV/AIDS, with a view towards creating an appropriately targeted HIV/AIDS educational programme. One survey revealed that less than one-third of students knew that sexual intercourse (31%), blood transfusion (14.4%), mother-to-child (vertical) transmission (9.1%), and intravenous drug use (8%) are routes for HIV transmission. Moreover, only 7.1% were able to identify all four of these listed modes of transmission, and only 0.7% could identify all of the listed preventive methods. This indicates a poor general knowledge of HIV [16].

It is noteworthy that in most surveys, knowledge of the association between HIV and specific bodily organs is rarely sought. However, HIV/AIDS is a pansystemic disease. Given that youths have a major role to play in HIV control, they should be well

informed about its systemic associations. For instance, HIV has been isolated in ocular tissues/fluids [17,18]. The purpose of this study was to assess the awareness and knowledge of Nigerian graduate youth corps members about HIV/AIDS and its association with the eyes.

Methods

This survey was conducted in November 2013 at a NYSC orientation camp in Dankigari, Kebbi State. Two hundred consenting, newly posted Nigerian graduate youth corps members were asked to complete a pre-tested, self-administered, structured questionnaire, which was distributed by a research assistant. The questionnaire was divided into two sections. The first section probed the corps' demographics including age, gender, graduation year, graduating institution, and type of degree held. The second section inquired about HIV and AIDS, modes of transmission, and sources of information used to learn about HIV/AIDS. The questionnaire also specifically asked about the association between HIV/AIDS and the eyes.

Data were double entered and analysed using Statistical Package for the Social Sciences (SPSS) version 15 (Chicago, Illinois, USA). A simple proportional analysis was carried out.

The study was approved by the institutional ethics committee of the Federal Medical Centre, Birnin Kebbi, Nigeria. All participants gave written informed consent.

Results

Demographics of the study population

One hundred and eighty-one graduate youth corps members were surveyed. Of these, 52.5% were male. The mean age was 26 years old (Table 1).

Knowledge of HIV/AIDS

Most (171; 94.5%) of the people surveyed knew the full acronyms for HIV and AIDS; 10 (5.5%) gave either the wrong expanded form or did not know it. A

number of youths (41; 22.7%) believed that HIV had a cure, 110 (60.8%) knew there was no cure, and 30 (16.6%) were undecided. Mass media and health workers were cited as the two most common sources of information about HIV/AIDS (Fig. 1).

Most youth corps members knew the common routes of HIV transmission; sexual intercourse was the most commonly cited route (176; 97.2%; Fig. 2).

Table 1. Demographic distribution of graduate youth corps members

| Demographic Parameter (n = 181) | N (%) |
|--|------------|
| Age (years) Range 21–29; Mean 26.01, SD 2.02 | |
| Age group | |
| 21–23 | 25 (13.8) |
| 24–26 | 78 (43.1) |
| 27–29 | 78 (43.1) |
| Gender | |
| Male | 95 (52.5) |
| Female | 86 (47.5) |
| Qualification | |
| First degree | 143 (79.0) |
| Second degree | 36 (19.9) |
| PhD | 2 (1.1) |
| Year of graduation | |
| 2013 | 48 (26.5) |
| 2012 | 104 (57.5) |
| 2011 | 22 (12.2) |
| 2010 | 6 (3.3) |
| 2009 | 1 (0.6) |
| Graduating school | |
| University | 117 (64.6) |
| Polytechnic | 61 (33.7) |
| Other | 3 (1.7) |

About two-fifths (76; 42%) of the graduate youth corps members knew that HIV could infect the eyes, be contracted through tears (74; 40.9%), and cause blindness (70; 38.7%). However, at least one-fifth believed that HIV could not be contracted through ocular fluids/tissues. Moreover, approximately half of the survey respondents did not know HIV had been isolated from tears (95; 52.5%), intraocular fluids (98; 54.1%), eye tissues (95; 52.5%), or contracted through donor eye tissue (Table 2).

Discussion

In this study, we administered a survey that assessed the HIV/AIDS knowledge of 181 Nigerian graduate

youth corps members and specifically its association with the eyes. Most survey respondents knew the expanded forms of HIV and AIDS (94.5%) and that there is presently no cure (60.8%), which is in agreement with the findings of other studies about the awareness and knowledge of HIV in young populations, e.g. Lema et al. (98.4%; age 15-24 years, n = 322) [19], Durojaiye (97.4%; age 16-35 years, n = 302) [2], and Bamise et al. (92.6%; age 11-25 years, n = 581) [11].

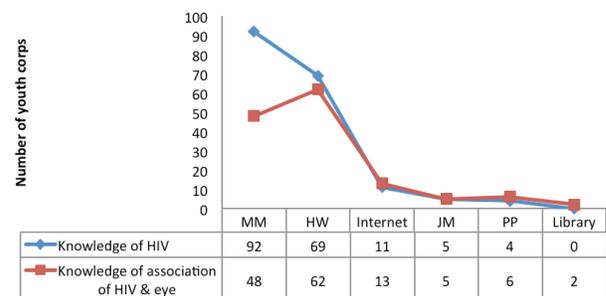


Figure 1. Source of HIV/AIDS knowledge among graduate youth corps members

MM, mass media; HW, health worker; JM, journal and magazine; PP, postal and pamphlet

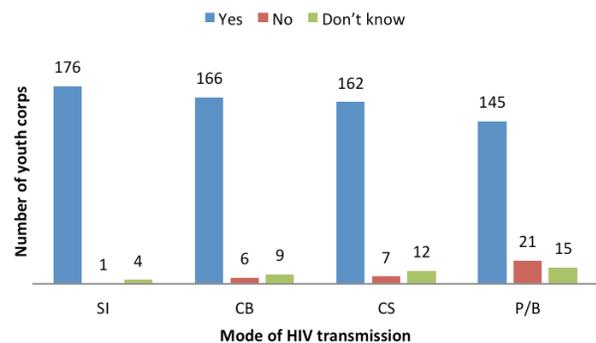


Figure 2. Knowledge of HIV transmission methods among graduate youth corps members

SI, sexual intercourse; CB, contaminated blood; CS, contaminated sharps; P/B, placental/breastfeeding

Table 2. Awareness and knowledge of the association of HIV and the eye among graduate youth corps members

| Association | Yes (%) | No (%) | Do not know (%) |
|--|------------|-----------|-----------------|
| HIV can affect the eye | 76 (42.0) | 50 (27.6) | 55 (30.4) |
| HIV has been isolated from tears | 49 (27.1) | 37 (20.4) | 95 (52.5) |
| HIV has been isolated from intraocular fluids | 39 (21.5) | 44 (24.3) | 98 (54.1) |
| HIV has been isolated from eye tissues | 32 (17.7) | 54 (29.8) | 95 (52.5) |
| HIV can be contracted through tears | 74 (40.9) | 57 (31.5) | 50 (27.6) |
| HIV can be contracted through intraocular fluids | 66 (36.5) | 39 (21.5) | 76 (42.0) |
| HIV can be contracted through donor eye tissues | 66 (36.5) | 34 (18.8) | 81 (44.8) |
| HIV patients should have an eye examination | 113 (62.4) | 18 (9.9) | 50 (27.6) |
| Eye condition may indicate HIV infection | 48 (26.5) | 64 (35.4) | 69 (38.1) |
| HIV can cause blindness | 70 (38.7) | 50 (27.6) | 61 (33.7) |

This heightened awareness of HIV among the younger generation may be because they are often the target of HIV health education messages. However, high awareness of HIV does not necessarily translate into a positive healthy practice; for instance, Lema et al. [19] reported that despite high HIV awareness amongst young people (98.4%) where most (65.2%) mentioned condom use as a method to prevent HIV transmission, only 36.3% admitted to using a condom during sexual intercourse.

Since the first cases of HIV/AIDS in Nigeria in the 1980s, there has been a focus on public HIV/AIDS educational programmes. Programmes stressing that prevention is the only effective treatment have intensified. Young people are often the targets of these campaigns because of their vulnerability to the

disease. There is no doubt that this knowledge assisted the graduate youth corps members surveyed in this study. There is also an educational bias in this study because all of the survey respondents were graduates. In a population survey done in Sudan by Mohamed et al., it was shown that people with a higher education demonstrated a better knowledge of HIV/AIDS (university graduates: 92.6%, basic and secondary education: 76.7%, and illiterate people: 42.4%) and a better tolerance of patients living with HIV/AIDS (university graduates: 55.1%, basic/secondary education: 40.5%, and illiterate people: 21.9%) [20]. Common sense would dictate that individuals would seek this life-saving information because HIV/AIDS has no cure.

Although the majority of participants provided satisfactory answers in the survey, 5.5% of the graduate youth corps members gave an incorrect expansion of the acronyms HIV and/or AIDS or did not know the expanded form at all. Furthermore, 41 individuals (22.7%) thought HIV had a cure, and 30 (16.6%) did not know whether there was a cure. We hypothesise that these individuals may pay less attention to important details. In view of the NYSC level of education and their expected role in HIV prevention in society, this is a cause for concern. Community members look to educated individuals for correct information, and the provision of incorrect information about HIV/AIDS could have serious implications for the attitudes and practices of the community. Indeed, incorrect health information can delay decisions on appropriate interventions, even at the government level, leading to avoidable morbidity and mortality. HIV could have been better controlled in South African communities earlier if it had not been for the initial denial and notion that HIV was a myth [21]. Unfortunately, the belief that HIV has a cure was not unique to this survey. Aylikci et al. [22] reported that 27% of the 473 youths in their survey were ignorant about HIV, underscoring the need to intensify HIV health education among young people. A similar report by Bamise et al. [11] also reported that 29.4% of the 592 youths queried thought there was a cure for AIDS.

Most graduate youth corps members confirmed the popularity of both mass media and health workers as sources of information about HIV/AIDS. This has been observed elsewhere: in a survey of knowledge,

attitudes, and practices regarding HIV/AIDS among male high school students in the People's Democratic Republic of Laos, more than three-quarters of the students mentioned television and radio as their major sources of information about HIV/AIDS [3]. In reports from two other continents, Gao et al. [23] (China) and Lai et al. [24] (US) analysed the coverage of HIV/AIDS in newspapers. In China, there was insufficient newspaper coverage over a decade, and the authors suggested enhanced collaboration between health educators and the media to achieve optimal information dissemination. From the results in the United States, the authors advised that those newspapers with greater circulation should be preferred for the dissemination of research findings of public importance.

Other sources of HIV/AIDS information identified in this study were journals, magazines, postal information, and pamphlets. This survey did not investigate gender preferences for HIV/AIDS information sources, although the literature provides evidence that there are differences. Bamise et al. [11] found that male pupils obtained information from their parents (120, n = 347), internet (136, n = 256), and posters (183, n = 347), while female pupils accessed information about HIV/AIDS from the radio, television, newspapers/handbills, school library, friends/relatives, and testimonies of people living with HIV/AIDS. In a survey by Yazdi et al. [25], most Iranian adolescents reported that television (84%) and schoolteachers (66%) were the best sources of HIV/AIDS information, while parents (27%) and school books (15%) were the least informative. In this survey, the internet was the third most popularly cited source of information. However, in a Turkish study by Aylikci et al., the internet was the most important source of information about HIV/AIDS [22].

Most members of the graduate youth corps surveyed knew the most common modes of HIV transmission: sexual intercourse (97.2%), transfusion of HIV-contaminated blood (91.7%), use of HIV-contaminated sharps (89.5%), and fetomaternal transfer through the placenta or from breastfeeding (80.1%). These results are comparable to work by Thanavanh et al. [3], where the majority of students were aware that HIV can be transmitted through sexual intercourse (97.7%), from mother-to-child

(88.3%), and through sharing needles or syringes (92.0%). In a similar study, Bamise et al. [11] reported that most students agreed that HIV could be transmitted from a pregnant mother to an unborn baby (73.1%), through contaminated instruments (83.8%), and through transfusion of contaminated blood (90.4%). Yazdi et al. [25] reported that most Iranian adolescents agreed that heterosexual intercourse (90%) and shared intravenous needles (94%) can cause HIV infection. However, misconceptions about the transmission of HIV was observed among 59.3-74.3% of the respondents [3], especially the myth that HIV can be transmitted through kissing (53.7%) or mosquito bites (48.2%) [11].

HIV infects various bodily organs and has been isolated from ocular tissues/fluids [17,18,26]. Using reverse transcriptase polymerase chain reaction, Peng et al. [17] detected high HIV loads in the aqueous humour (27.244 ± 4.123 copies/mL) and vitreous humour (84.930 ± 5.071 copies/mL) in patients with AIDS-related cryptococcosis ($p < 0.05$). HIV has also been isolated from the corneal epithelium; however, in a comprehensive literature review of the relative risk of HIV infection through corneal transplantation, Caron and Wilson did not find any cases of HIV transmission from routine eye care or ophthalmic surgical procedures. However, given the relative risk of HIV transmission from ophthalmic surgical procedures, donor corneas should be carefully screened to avoid the transmission of HIV to the recipients [18]. Interestingly, many of the graduate youth corps members were aware of the association between HIV transmission and the eyes. Forty-two percent knew that HIV could infect the eye (42%), be contracted through tears (40.9%), and cause blindness (38.7%). If more young people had this level of knowledge, it would greatly assist HIV control because they would be able to make informed decisions about responsible behaviours. However, at least one-fifth of the graduate youth corps members surveyed incorrectly believed that HIV could not be contracted through ocular fluids, and half of them did not know that HIV had been isolated from tears (52.5%), intraocular fluids (54.1%), or eye tissues (52.5%) or that it has been contracted through donor eye tissue (44.8%).

Conclusions

A high level of HIV/AIDS awareness was observed among the Nigerian graduate youth corps members. Their basic knowledge of HIV and its association with ocular fluids/tissues was also high. Nevertheless, because of the gaps in HIV knowledge and the need to drive HIV prevention campaigns, HIV education is still necessary amongst this group of people.

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