Incidence, prevalence and impact of HIV infections among older persons in Nigeria

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ABSTRACT

Due to the paucity of data on HIV infection among the older persons, the burden of this disease is almost always ignored, thus representing a significant blind spot in the fight against the disease. UNAIDSnaids (2006) stated that globally" around 2.8 million older persons lived with HIV in 2005. Also, aged 50 years and above accounted for 10% of the cumulative HIV infection in the USA. However, same is unknown for Nigeria. This study therefore elicited the required database. Data sources include social survey, world population prospects, and grey literature covering 2010-2014. Data therefore are derived from questionnaire schedule. The study found that 1/3 of a million of older persons representing 2.1% of the total Nigerian population have HIV compared to above 2millions of those aged 15-49 (3.1 % of the population). There is need to integrate the needs of the older persons into responses to the HIV epidemic.

INTRODUCTION

Nigeria reported her first AIDS cases in 1986 and since then, the HIV and AIDS epidemics have continued to spread and attract due attention. In 1991, the country initiated a HIV sero-prevalence sentinel survey among the antenatal clinic attendees; the survey commenced with a few states and progressively expanded until all the states became involved by 1999. The Ante Natal Clinic (ANC) biological survey conforms to the first generation surveillance system. It determines HIV prevalence among the sentinel population at fairly regular and short intervals and it is used to track the trend and distribution of the HIV epidemic across the country. The HIV prevalence obtained from the ANC survey is used to estimate prevalence in the general population. The 2010 round of the ANC HIVsentinel survey is the ninth in the series in Nigeria. In 2008, the survey included the simultaneous collection of data from the HCT/PMTCT services of the participating sentinel sites for the purpose of comparison with the ANC survey data. This exercise was maintained in 2010.

In line with the World Health Organization (WHO) guidelines for progress towards the second generation surveillance system, a Behavioral Surveillance Survey (BSS) was introduced in 2002; it expanded to an Integrated Bio- Behavioral Surveillance Survey (IBBSS) in 2007. Similarly, a general population-based behavioral survey termed National HIV/AIDS and Reproductive Health Survey (NARHS) was introduced in 2003. In order to generate general direct population HIV prevalence, a biological component was incorporated into NARHS in 2007.

Worldwide, Nigeria has the second highest number of new infections reported each year, and an estimated 3.7 percent of the populations are living with HIV. Although HIV prevalence is much lower in Nigeria than in other African countries, such as South Africa and Zambia, the size of Nigeria's population (around 166.6 million) means that by the end of 2011, there were an estimated 3.4 million people living with HIV. Approximately 210,000 people died from AIDS in Nigeria in 2011 and, in 2012, the national life expectancy was 52 years. Although national life expectancy remains low, this figure has been rising since access to antiretroviral therapy became available in the mid-2000. The HIV infection has generated global attention. However, the focus of such has been on population aged 15-49, being most vulnerable cohort. This has resulted in little or no attention for those aged >50 years, thus leading to a total neglect of this perceived less

vulnerable cohort. This neglect is capable of affecting negatively global response to the epidemic. For instance, the 2006 report on the epidemic shows that globally about 2.8million older persons were living with HIV in 2005. This is quite alarming especially in this period of global aging. This figure if not captured for intervention, can further make nonsense previous successes in the epidemic. In the United States, about 10 percent of cumulative HIV infection is among the older persons. There is therefore, the urgent need to better understand the incidence, prevalence and impact of HIV epidemic on the socio-economic well being of the older persons.

HIV TRANSMISSION ROUTES IN NIGERIA

There are three main HIV transmission routes in Nigeria:

- **Heterosexual sex.** Approximately 80 percent of HIV infections in Nigeria are a result of heterosexual sex. Women are particularly affected by HIV; in 2011 an estimated 1.7 million women were living with HIV and prevalence was 3 percent among young women aged 15-24. Factors contributing to this include a lack of information about sexual health and HIV, low levels of condom use, and high levels of sexually transmitted diseases. However,

gender inequality among women has been identified as a key driver of the HIV epidemic among women.

- **Blood transfusions**. HIV transmission through unsafe blood accounts for the second largest source of HIV infection in Nigeria. Not all Nigerian hospitals have the technology to effectively screen blood and therefore there is a risk of using contaminated blood. The Nigerian Federal Ministry of Health have responded by backing legislation that requires hospitals to only use blood from the National Blood Transfusion Service, which has far more advanced blood-screening technology.
- **Mother-to-child transmission.** Most children infected with HIV acquire it from their mothers. An estimated 69,400 children were newly infected with HIV in 2011.

Theoretical orientation: the use of structural functionalism

The functionalist analysis has a long history in Sociology. It is prominent in the works of Auguste Comte (1798-1857) and Herbert Spencer (1820 –1903), two of the founding fathers of sociology. It was developed by Emile Durkheim (1858-1917) and refined by Talcott Parsons (1902-1917). This perspective in sociology owes a great deal to an analogy with the natural and biological sciences. Comte, a French philosopher, believed that sociology was about adapting and applying methods of physical science to social life, to make 'law like' statements about the determinations of human behavior and to reshape society by being able to predict and hence control its workings. The emphasis on societies as integrated whole was also based in part on the crude analogy between social and biological organism(Cited in Etzioni and Etzioni, 1964).

1 Although Merton and Davis, refer somewhat indiscriminately to functional "analyses", "theory", "method", and still more vaguely to an interpretational Scheme (that) depends upon a triple alliance between theory, method and data, the strictly theoretic aspect seems isolable from the rest. It is this theoretic viewpoint of course, that is meant by the term "functional structuralism". In general, the viewpoint holds that in order to explain the existence of a given social phenomenon (call it HIV), we must find out its function that is, its consequence for the larger social system of which it is a part (Rex,1961).

2 Reduced to its common denominator the functionalist approach seems to involve the following postulates or elements: (a) Societies must be looked at holistically as systems of interrelated parts (b) Hence, causation is multiple and reciprocal (c) Although integration is never perfect, social system are fundamentally in a state of dynamic equilibrium i.e. adjustive responses to outside change tend to minimize the final amount of change within the system (d) Dysfunction, tensions and deviance do exist and can persist for a long time, but they tend to resolve themselves to be "institutionalized" in the long run (e) Change generally occurs in a gradual adjustive fashion and not in a sudden revolutionary way (f) Change comes from basically three sources: adjustment of the system to exogenous (or extra-systemic) change; growth through structural and functional differentiation; and inventions or innovation by members or groups within society (g)The most important and basic factor making for social integration is value consensus (cited in Giddens,1990).

3 The basic unit of analysis is society and its various parts are understood primarily in terms of their relationship to the whole. Thus population segments such as the youth, adults and old persons are viewed as parts of the social system rather than as isolated units. In particular, they are understood with reference to the contribution they make to the system as a whole. In the same way, an understanding of any part of society requires an analysis of its relationship to the maintenance of society. Continuing this analogy, Davis, (1959) argued that just as an organism has certain basic needs which must be satisfied if it is to survive, society has basic needs, which must be met if it is to continue to exist. These basic needs or necessary conditions of existence are sometimes known as functional prerequisites of society. For example, Davis (1959) claim that all societies have some form of social stratification and the family meet needs, which are common to all societies. Thus from the universal presence of social stratification by age, it is argued that social positions are adequately filled by persons of certain age. From the universality of the family, it is assumed that some mechanism for the production and socialization of new members as well as the maintenance

of the existing members including the aged is a functional prerequisite of society.

4 In addition, the structural-functionalist believes that an identification of function prerequisites involves an analysis of those sectors, which would lead to the break down or termination of society(HIV). They went further to argue that a society would cease to exist if its members become extinct, if they all die at youthful ages, if none of them attains the age of 60 and above. Therefore, in order for society to survive, it must have some means of improving the life expectancy at birth and maintaining the elderly population. These means are the functional prerequisites of society. The elderly are seen to reinforce the basic values of society and social norms, which derive from these values, structure and direct behaviors in the various institutions of society, since the elderly promote and reinforce social values. It can be seen as an integrating mechanism.

5 In the study of old people, the structural functionalist perspective has offered two theories. On the one hand, there is the disengagement theory which emphasizes the phasing out of old people from certain roles in order that society can continue to function. On the other hand, activity theory emphasizes the need to keep old people active in order to integrate them into society, again so that society can continue to function (Davis, 1959).

6 Disengagement theory was further expounded by Cumming and Henry (1961:24) in “Growing Old” “Disengagement is an inevitable process in which many of the relationship between a person and other members of society are severed and those remaining are altered in quality.” As individuals grow older, they and society will prepare in advance for the ultimate ‘disengagement’ which is caused by incapacitating disease(HIV) or death. The theory states that the process of disengagement is the method by which society prepares for the structure of its member so that when the inevitable arrived, it does not disrupt the orderly functioning of society. Two criticisms have been leveled at the theory. First, by implication the theory suggests that disengagement is desirable and therefore condones a policy of indifference towards the problems of older people (Shanas, 1965). Second, disengagement is not inevitable and non-engagement in old age reflects the lifelong pattern of social interaction for some people.

7 Activity theory takes a different perception in explaining the process of old age. Havighurst (1963) argued that successful old age could be achieved by maintaining into old age the activity patterns and values typical of middle age. Happiness in old age is achieved by denying the onset of old age and where the relationship, activities or roles of middle age are lost, it is important to replace them with new ones in order to maintain life satisfaction. Indeed, there is a considerable amount of data to suggest that, in North America at least, the level of activity individuals have developed over a lifetime tends to persist into their later years (Riley, 1968). The central criticism of activity theory is its idealistic nature. It would appear unrealistic to expect, for all but a small minority, that people can maintain the level of activity associated with middle age through to old age in view of the limitations imposed by biological changes, alone. Activity theory is also unrealistic because the economic, political and social structure of society prevents the older workers from maintaining a major activity of middle age, namely, productive, employment.

Data and methods

The target population of the study is the older persons aged 50 years and above, this age range was used in view of the average life expectancy at birth of

Nigerians, which is presently 52 years. Lagos state was purposively selected due to its cosmopolitan nature with over 20 million populations, about 5 percent of them over 50 years of age. The number of People living with HIV in Lagos is approximately 5.1% of the total population of Lagos according to Local Epidemic Appraisal of Lagos State AIDS Control Agency. Lagos State has 20 Local Government Area councils and HIV treatment centre is spread across the LGAs. Earlier, the Nigerian Institute of Medical Research (NIMR) had commenced the treatment of people living with HIV. Resultantly, the studied populations were out-patients of NIMR, LASUTH and Badagry General Hospital. Each of these treatment centers comprises of older persons from different and socio-Economic and demographic backgrounds.

The study drew up a sample frame and stratified sampling technique was used based on sex, age category and educational levels. In each of these centers (strata) a total of Fifty (50) elements was randomly selected using simple random sampling. This principle of randomization ensured that every element in the population have an equal chance of appearing in the selection hence the treatment centers provides ample opportunity to assess the incidence, prevalence and impact of HIV on wellbeing of older persons. The questionnaires were analyzed with the aid of predictive analytical software otherwise known as

statistical package for social sciences (SPSS) version 20. Chi-square test and logistic regression were used for analysis and interpretation of results.

Findings

The pilot study shows that about a third of a million older persons representing 2.1 percent of the total Nigerian population are HIV positive compared to about 2milllion of adults aged 15-49 years (3.1 percent of the total population). Further analysis revealed about 12.5% of all HIV infection in Nigeria occurs among the older persons. Older persons are also less likely to be aware of and knowledgeable about HIV prevention measures than adults aged 15-49 years. Also, older persons were more likely to have 2 or more sexual partners than adults aged 15-49 years. Thus, dismissing old assertion that old age affect sexual activity especially among older men. The poverty level among the older persons is higher than among the adults, thus making them more vulnerable and unable to afford sufficient health services.

However, about three-fifths of the respondents were female older persons while the rest were male older persons. This further corroborates the vulnerability of the female gender in the HIV pandemic irrespective of age due to the polygynous nature of African culture. In terms of age, about 10 percent of the respondents are between the ages of 50-54 years, 20 percent are between the age of 55-59 years, 33 percent are between the ages 60-64 years, 17 percent are between 65-69 years and 20 percent of the respondents are 70 years and above. With respect to marital status, about 57 percent were either divorced or separated and 43 percent were either married or remarried.

About 33 percent of the respondents are Secondary School holders, 10 percent are Diploma holders, 20% of the respondents are BSC/HND holders, 13% are Masters Holder and 24% of the respondents had primary education. Therefore, more than two- thirds of the respondents never had tertiary education. When asked if they were on anti-retroviral (ARV), about 63.3 percent of the respondents are currently on anti-retroviral while 36.7% are not.

The study thereafter sought to know the age at first sexual intercourse, about 23.3% of the respondents said between the ages of 15-19 years, 20% said between the ages of 20-24 years, 30% said between the ages 25-29 years, 16.7% said between 30-34 years and 10% of the respondents said between 35 years and above when they had their first sexual intercourse.

When probed further if they used condom during their first sexual intercourse, about 36% of the respondents claimed that they used condom while the remaining 64 percent claimed that they did not use condom at their first sexual intercourse. Despite, their HIV status about 70 percent of the respondents still have sex at least once in a week while the remaining 30 percent they have sex once in a month or as time and opportunity comes.

When asked to remember their last sexual partner before testing positive to HIV, about 13.3% of the respondents agreed that their last sexual partner was their spouse, 33.3% of the respondents agreed that their last sexual partner was a casual partner, 20% agreed that their last sexual partner was a commercial sex worker, 24.7% agreed that their last sexual partner was either their employer or their colleagues and 8.7% of the respondents agreed that their last sexual partner fall in the category of other sexual partner. Indeed, the majority expressed casual sex as likely source of their HIV status.

The status sought to know if they had ever double dated, about 70 percent of the respondents claimed affirmed that they did while the remaining 30 percent claimed never to have double

dated. As a corollary to the above, more than 93 percent of the respondents agreed that they currently have at least one sexual partner while the rest claimed otherwise.

TEST OF HYPOTHESIS

HYPOTHESIS ONE:

$H_{o:}$ There is no significant relationship between Sexual behavior and HIV infection

$H_{I:}$ There is a significant relationship between Sexual behavior and HIV infection

LEVEL OF SIGNIFICANCE:

The specified level of significance at which this hypothesis was tested is 5%.

The Chi-square test analyzed with SPSS is presented below:

Test Statistics

N=150

CHI-SQUARE=120.382

DF=4

Asymp. Sig.=.000

a. Friedman Test= Q7,8,9,10,11

Test Statistics[a]

N	150
Chi-Square	120.382
Df	4
Asymp. Sig.	.000

b. Friedman Test= Q7,8,9,10,11

DECISION:

As shown above, the asymptotic significance of the variable under testing is less than 0.05. This indicates that the observed frequencies do not conform to the expected frequencies. Alternatively, the table value shows 9.49(0.05, 4), this makes the Chi-square calculated to fall in rejection region. That is Chi-cal > Chi-tab. Hence, the null hypothesis that there is no significant relationship between Sexual behavior and HIV infection stands rejected while the alternative hypothesis is accepted.

HYPOTHESIS TWO:

$H_{o:}$ There is no significant relationship between old age and risky behavior

$H_{I:}$ There is a significant relationship between old age and risky behavior

LEVEL OF SIGNIFICANCE:

The specified level of significance at which this hypothesis was tested is 5%.

The Chi-square test analyzed with SPSS is presented below:

Test Statistics[a]

N	100
Chi-Square	154.397
Df	4
Asymp. Sig.	.000

a. Friedman Test = Q12,13,14,15,16

DECISION:

As shown above, the asymptotic significance of the variable under testing is less than 0.05. This indicate that the observed frequencies do not conform to the expected frequencies. Alternatively, the table value shows 9.49(0.05, 4), this makes the Chi-square calculated to fall in rejection region. That is Chi-cal > Chi-tab. Hence, the null hypothesis that there is no significant relationship between old age and risky behavior stands rejected while the alternative hypothesis is accepted.

HYPOTHESIS THREE:

$H_{o:}$ There is no significant relationship between risky behavior and incident of HIV

$H_{I:}$ There is a significant relationship between risky behavior and incident of HIV

LEVEL OF SIGNIFICANCE:

The specified level of significance at which this hypothesis was tested is 5%.

The Chi-square test analyzed with SPSS is presented below:

Test Statistics[a]

N	100
Chi-Square	99.494
Df	3
Asymp. Sig.	.000

a. Friedman Test = Q17,18,19,20

DECISION:

As shown above, the asymptotic significance of the variable under testing is less than 0.05. This indicate that the observed frequencies do not conform to the expected frequencies. Alternatively, the table value shows 7.82(0.05, 4), this makes the Chi-square calculated to fall in rejection region. That is Chi-cal > Chi-tab. Hence, the null hypothesis that there is no significant relationship between risky behavior and incident of HIV stands rejected while the alternative hypothesis is accepted.

TABLE 4: Odds ratios from two logistic regression models examining effect of selected characteristics on likelihood of impact of HIV on the older persons.

	MALE		FEMALE	
Characteristics	**Odds**	**S.E**	**Odds**	**S.E**
AGE				
50-59	1.41	0.446	0.74	0.324
60-69	1.00	Rc	1.00	Rc
70+	1.81	0.539	0.82	0.408
Education				
Primary	0.78	0.537	0.74	0.354
Secondary	1.16	0.473	1.31	0.435
Tertiary	1.00	Rc	1.00	Rc
Marital status				
Married	0.34	0.657	0.88	0.357
Divorced/Separate	0.34	0.848	1.35	0.510
Widowed	1.00	Rc	1.00	Rc
Religion				

Christians	1.14	0.425	1.04	0.299
Islam	1.00	Rc	1.00	Rc
Traditionalist	0.65*	0.596	2.47**	0.573
Nature of Family				
Monogamy	1.67*	0.682	1.57*	0.476
Polygamy	1.00	Rc	1.00	Rc
Others	0.21	0.335	0.33	0.254
-2 log likelihood	382.463		598.217	
Model chi-square	64.767**		64.502**	

*Significant at P < 0.05 ** Significant at P < 0.01

RC -reference category

Impact of HIV on the older persons

In this section, impact of HIV on the wellbeing of the older persons is examined with respect to selected socio-demographic variables. Table 4 presents the odd ratios of two logistic regression models examining the effects of some basic characteristics on the likelihood of impact of HIV on the older persons. In this regard, separate models are developed on the basis of gender, examining the effects of the independent variables on the likelihood of impact of older persons by sex of the respondents. The variable is coded 1 for those who reported impact, and 0 if otherwise. The aim is to assess the effect of each of the independent variables (with respect to defined categories) on impact of HIV on older persons while others are held constant.

According to the Table, nature of family, type of family, education and living arrangement are significantly related to impact of HIV on older persons. In the male model, with the exception of nature of family and religion, all the characteristics are insignificantly associated with impact of HIV on older persons. In this model, while those in monogamy are 1.7 times more likely, those in other nature of family are 22 percent less likely to have reported impact of HIV on older persons than those with polygamous family. With respect to religion, those who are traditionalists are 65 percent less likely to have reported impact of HIV on older persons than the Muslims.

In the female model, while those in monogamous family are 1.6 times more likely, those in other type of family are 33 percent less likely to have reported impact of HIV on older persons than those with polygamous. With regard to religion, those who are traditionalists are 2.5 times more likely to have reported impact of HIV older persons than the Muslims.

Discussion of findings

This study has been able to provide some useful information's as regards the incidence, prevalence and impact of HIV on older persons and that there is a significant relationship between Sexual behavior and HIV infection. It also explains the fact that there is a relationship between old age and risky behaviors and that there is a significant relationship between risky behavior and incident of HIV.

Conclusion

The attainment of menopause, cultural practice of wife inheritance, ritual cleansing increase the incidence and prevalence of the virus. There is therefore the need to integrate the needs of the older persons into responses to the HIV epidemic. In accordance to the relevant questions asked and data collected from respondents, several conclusions have been drawn.

It was discovered that more than half of the respondents were female, most of the respondents were between the ages of 60-69 years, most are Yoruba and most of them are Diploma holders. It was also gathered that the majority of respondents were traders, followed by those that were not employed. Most respondents did not use condom during their first sexual encounter. Most of the respondents agree to

the fact that their last sexual partners were casual partners, that they double date or co-habit and also took alcohol before sex.

RECOMMENDATIONS

Based on the findings of this study, it is recommended that:

Firstly, Government should provide employment and inculcating Sex Education across the populace. Secondly, using social and media interventions to pass information's on Sexual Reproductive Health issues and Risky Behaviors. This can be done by Health workers and Non-Governmental organizations.

Finally, Communities including churches and mosques should always inculcate teaching of morals in their preaching.