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# Studies on Economic Risk Factors that Contribute to HIV Morbidity Among Men Who Have Sex with Men (MSM) in Imo State, South East Nigeria During the Period of January 2018-2023

**Njoku E*, Ozims SJ, Adogu PU and Eberendu IF**

*Department of Public Health, Imo State University, Owerri, Nigeria*

***Corresponding author:** Njoku E, Department of Public Health, Imo State University, Owerri, Nigeria

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## Abstract

The rising rate of HIV morbidity among the MSM is a result of their social marginalization. Thus, in Imo State, South East Nigeria, this study looked at risk factors linked to high HIV morbidity among MSM. Economic factors were examined, including age and greatest level of education. A cross-sectional descriptive survey design was used, and 300 respondents were purposefully chosen, with 100 respondents from each of Imo State's three senatorial zones. The QHMMSM questionnaire, which had a reliability rating of 0.84 and was evaluated by three specialists at Imo State University in Owerri, served as the study tool. The instrument was mailed, and chi-square and descriptive mean statistics were used to analyze the results.The findings indicate that having oral sex without wearing a condom and having entire control over whether to use condoms during oral sex are economic risk factors for HIV morbidity among the MSM in Imo State.Nonetheless, MSM's HIV morbidity is not caused by their easy access to healthcare.The age at first male sex, the number of male partners in the previous six months, regular male sex, the status of the male partner, and the fact that anal sex as the insertive partner with a condom, receptive partner with a condom, and anal sex as the insertive partner without a condom do not impact HIV morbidity among MSM are examples of behavioral risk factors. On the other hand, anal intercourse as the receptive partner without the use of a condom greatly increases HIV morbidity. MSM concurred that when they play a receptive role during anal intercourse, they are more likely to transmit HIV than when they play an insertive position. This led to the deduction that MSM who participate in high-risk sexual behaviors are susceptible to HIV/AIDS infection. Moreover, the MSM's HIV morbidity was not influenced by any economic element. The results indicate that age plays a significant role in HIV morbidity, but education level also plays a significant role in HIV morbidity among MSM, with tertiary educated individuals having the highest propensity for HIV/AIDS morbidity. Thus, among other things, it was suggested that the current HIV and Aids policies be urgently reviewed in order to support MSM-friendly health care services, with an emphasis on HIV prevention initiatives.

**Keywords:** Economic risk factors; HIV; Morbidity; Men who have sex with men (MSM); Imo State

## Introduction

Acquired Immunodeficiency Syndrome (AIDS), a disease caused by the Human Immunodeficiency Virus (HIV), is widely acknowledged as a serious global health hazard. A growing number of people are both afflicted with the disease and at risk of getting it, especially those who engage in unprotected sex, sex workers, and same-sex behaviors such men having sex with men [MSM] [1]. Since the early 1980s, the HIV/AIDS epidemic has been blamed for almost 35 million fatalities globally [2]. With South Africa and Nigeria having the highest and third highest infection rates in the globe, respectively, this illness has spread pandemic proportions throughout Africa. According to statistics, there are more than four million (4,000,000) HIV-positive Nigerians [3]. In order to combat the pandemic, national and international governmental and non-governmental organizations

must spend billions of naira on socioeconomic and health costs [4].HIV/AIDS is still a major health issue in Nigeria, where it is still unclear which sex or group of people—referred to as the Key Population (KP)—has the greatest acquisition rate. Despite this, a sizable portion of the disease's population resides in Nigeria. Key Population (KP) is defined as individuals who have the highest incidence of HIV-AIDS infection and the highest tendency to get the disease, according to [5]. These include people who inject drugs (PWID), men who have sex with men (MSM), and female sex workers (FSW) in Nigeria. Though they only make up 3.4% of the population, they are responsible for at least 32% of HIV infections.The concern is that, despite this subgroup's small size in relation to Nigeria's overall population, they have frequent sexual interactions with individuals outside of their group, which is the main way that HIV/AIDS is spread [8].Additionally, it was mentioned that the key population consists of young people who participate in unprotected, uncontrolled, and multiple sexual activities. It also includes people who are drawn to sex hawking as a way to satisfy their socioeconomic needs, as opposed to people who abuse drugs severely and are therefore easy targets for this KP, which is known for its activities that expose people to HIV/AIDS.The study's primary focus, according to KP, is men who have sex with men (MSM). A few decades ago, it was socially taboo to even mention homosexuality, much less engage in it [7]. All of that has significantly altered in the present due to western and modern influences. One of the most popular socio-political and theological debate issues of the twenty-first century is homosexuality, or being gay. It can be characterized as a sexual or romantic attraction or as sexual behavior between people of the same sex or gender. Within the heterosexual - homosexual continuum, homosexuality is one of the three primary categories of sexual orientations, along with bisexuality and heterosexuality. Even though the term "homosexual" also sometimes applies to both homosexual men and women, lesbianism is the term used most frequently to describe persons who identify as homosexual [8]. For a variety of reasons, including the fact that many gay and lesbian people do not openly identify as such due to prejudice or discrimination, such as homophobia and heterosexism, it is difficult for researchers to reliably estimate the percentage of people who are gay or lesbian, the proportion of people who are in same-sex relationships, or the proportion of people who have had same-sex experiences [9].As it is, some Nigerians are glad to identify as gay and even support this by saying that it is who they are by nature [10].It is currently recognized as a valid sexual orientation and way of life.These days, hearing about gay couples or marriages is hardly shocking. The MSM was listed as one of the five primary Key Populations (KPs) linked to HIV-AIDS infections in the UNAIDS study. Males (15 years and older) who have sex with men are referred to as "men who have sex with men" (MSM), regardless of whether they also have sex with women or identify as gay or bisexual on a personal or societal level [11].The attention that HIV/AIDS received when it was first announced in Nigeria has actually decreased as a result of the corona virus pandemic and advancements in healthcare for those living with the disease in terms of diagnosis, treatment, mortality, and preventive measures [12]. Nigeria's HIV prevalence rate has been declining, according to a recent Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) report, from 5.8 percent, 3.4 percent, and 1.4 percent in 2010, 2014, and 2019, respectively [13]. Improved surveillance and coordinated efforts by domestic (government and CSOs) and foreign (donor partners) entities have been credited with recent declines in the nation's prevalence estimations. The MSM are the only group in Nigeria, according to reports, whose HIV prevalence is still rising. The prevalence rate for MSM was 23% in 2017, which was far higher than the next largest prevalence group, which was sex workers at 14.4%. This suggests that the MSM group continues to be the primary source of HIV/AIDS transmission. Because of this, the organization poses a threat to the public as well as to themselves. The Centers for Disease Control (CDC) released updated HIV-AIDS pandemic recommendations in 2006 in response to this unfavorable trend. The CDC implemented steps to stop the disease's spread as it started to spread more widely, such as required screenings for adults, teenagers, and expectant mothers in medical facilities. The following populations were to be covered: all individuals in health care settings between the ages of 13 and 64; all individuals seeking treatment for an STD; all individuals beginning tuberculosis treatment; all individuals exhibiting symptoms or illnesses suggestive of HIV infection; For those deemed to be at high risk of HIV infection, recurrent testing should be done at least once a year and should look like this: Injecting drug users and their partners; those who trade drugs or money for sex; partners of HIV-positive individuals; those who have had multiple sexual partners since their last HIV test; and those who begin a new relationship despite a prior negative test result [14]. Despite the fatal nature of the disease and the wide sensitization it has received globally and nationally, a good number of HIV/AIDS patients do not know the disease is with them. Data indicated that 40 percent of infected individuals are unaware of their status [15]. In the United States, by the end of 2014, the Centre for Disease Control (CDC) estimated that 1,200,000 persons aged 13 years or older were living with HIV infection. Of those, approximately 13 percent were unaware of their diagnosis [16]. This is in spite of the claims by experts that early detection via early diagnosis goes a long way enhancing chances of survival for victims. Early diagnosis of HIV infection is of paramount importance, allowing health care providers ample opportunity to prevent further transmission of the disease and to begin therapy promptly. Furthermore, individuals living with HIV who are conscious of their positive status reduce behaviors linked

to the spread of the virus. Similarly, HIV therapy can greatly reduce the chance of HIV infection spreading to sexual partners [17]. HIV/AIDS cases among MSM have kept rising at an exponential rate. During his fieldwork, the researcher saw a startling rise in the prevalence of HIV/AIDS among MSM. There are a few causes linked to this ongoing rise. These variables, in general, include the financial conditions that put MSM at risk for HIV/AIDS. The HIV/AIDS epidemic is a remarkable and difficult global health issue. Countries at risk of the epidemic, where millions of people have already contracted HIV/AIDS, are searching for ways to effectively stop the disease's spread, while those with low case counts are fighting valiantly to prevent the disease from spreading. All of these efforts are part of the effort to contain the scourge and make HIV/AIDS no longer a public health concern. In reality, the world is waging a war of survival against a disease that, if immediate, preventive action is not done, has the potential to wipe out the next generation. Nigeria is also fighting HIV/AIDS through a variety of laws and initiatives, all of which have made a significant contribution to limiting the disease's prevalence and spread inside the nation. It is anticipated that in order to attain inclusion in the battle against HIV/AIDS, important populations such as sex workers and MSM would receive sufficient attention in program coverage. Regretfully, despite all of these initiatives, the prevalence of HIV/AIDS remains alarming, especially among the MSM. The identification of MSM in Imo State as a vulnerable group in society, free from stigma and discrimination, is one of the risk factors for HIV morbidity among them. This is particularly true when it comes to their entitlement to health care and other human rights advantages. The availability of such will give MSM a level playing field and give researchers more access to data and opportunities because the group won't be difficult to contact because of unfriendly policies.

## Materials and Methods

### Study Area

The study was carried out in Imo State. Imo state is one of the 36 States of Nigeria and is in the South East region of Nigeria. Owerri is the capital of Imo State and among the largest towns in the State. Its other notable towns are Orlu, Obowo, Oguta, Mbaise and Okigwe. It has three Senatorial Zones: Orlu, Owerri and Okigwe respectively. Located in the South-eastern region of Nigeria, it occupies the area between the lower River Niger and the upper and middle Imo River. Imo State is bordered by Abia State on the East, River Niger and Delta State to the West, Anambra State on the North and Rivers State to the South (Vanguard, Nigeria, 2015). The state lies within latitudes 4045'N and 7015'N, and longitude 6050'E and 7025'E with an area of around5,100 sq km (About Imo State, 2010).The estimated population of the State (Imo 4,978,758) has also shown high prevalence rate of HIV as 1.8 percent according to the recent NAIIS report, 2019. Imo State since 2013 has also been part of several HIV interventions targeted at KPs, especially the MSM group.

### Research Design

A cross-sectional descriptive survey design, using a respondent driven sampling technique was used in carrying the study in the three senatorial zones in Imo State. Potential participants were required to be at least 18 years of age living in Imo State, able to provide informed consent in either English or Igbo language. Primary data were collected from the three senatorial zones in the state. In each of the senatorial zones, a portion of 100 MSM was selected for the study.

### Population of the Study

The accessible population for the study consisted of three hundred (300) Men who have Sex with Men (MSM) from the three (3) Senatorial Zones of Imo State. Accessible population represented the elements in the group within the reach of the researcher

#### Sample Size/Sampling Technique

Sample size answers basic questions, such as how large or small must the sample be for it to be representative. This study adopted Cochrane's formula for determining sample size.

The formula is given as $N= Z^2 pq\ d^2$

Where N = the desired sample size (when the population is greater than 10,000)

Z= the standard normal deviate, usually set as 1.96 which corresponds to 95 percent confident level.

P=the proportion in the target population estimated to have particular characteristics. (0.5percent)

Q=1.0 - p and

D=degree of accuracy desired, usually set at 0.05

This study employed purposive sampling to identify the initial sample after which snowball sampling technique was used to identify and select 300 participants for the study: 100 participants from each of Senatorial Zones in Imo State (Orlu, Okigwe and Owerri). This is a sampling procedure in which the initial respondents are chosen by probability (random) or non-probability (non-random) methods, and then additional respondents are obtained by information provided by the initial respondent.

## Instrument for data collection

The main instrument used for data collection was a self-developed structured questionnaire titled: Questionnaire on HIV Morbidity among Men who have Sex with Men (QHMMSM). The Questionnaire was developed by the researcher after critical

review of various research works relevant to the topic: contained twelve (12) questions on biological risk assessment. All the questions were structured (Appendix A), using the 4-scale Likert of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD). The instrument was scaled thus: SA (4 points), A (3 points), D (2 points) and SD (I point).

## Validity of Instrument for Data Collection

The instrument for data collection was subjected to validity test to ascertain its suitability for the study. It was prepared under the guidance of the research Supervisor and was given to two experts in Measurement and Evaluation in the Faculty of Education, Imo State University and a lecturer in the School of Medicine, Imo State University to ascertain the face and content validity of the instrument. Their corrections were effected and reflected in the final draft of the instrument.

## Ethical Consideration

Ethical approval was obtained from the Health Research and Ethical committee of The Imo State University, Owerri. The participants were fully informed about the nature of the study, and the research objectives. The names of respondents were not included and information obtained remained confidential and was used only for the purpose of this research.

## Method of Data Collection

The structured questionnaire was administered to the respondents across the study area with the help of research trained assistants using the mailing approach whereby copies of the instrument were sent to the respondents through the trained assistants. After a week interval, the filled copies were returned via the assistants in the various senatorial zones in the state. The reason is that the study covers a large area.

## Statistical Analysis

All questions on the questionnaire were coded before capturing on an excel spreadsheet and the actual data analysis were done using the latest 2014 Statistical Package for Social Sciences (SPSS). This provided descriptive statistics (descriptive mean and inferential statistics [chi-square]) for the study based on which results and conclusions emerged for the study.

## Results

(Table 1) The economic risk factors of HIV morbidity among MSM was analysed and the percentage frequency (4.23) for the 8 questions showed the following; question one (1) "Are you the breadwinner in your family?" and the response are as follow; 4.0% "Strongly agree"; 14.0% "Agree"; 60.0% "Disagree"; 20.0% "Strongly disagree". Question two (2) " Have ever been engaged in commercial sex (Selling sex)?" and the response are as follow; 2.0% "Strongly agree"; 12.0% "Agree"; 43.7 "Disagree"; 40.0% "Strongly disagree". Question three (3) "How many sexual partners do you have in a month?" while the participants responded as follow; 34.0% and 2.0% for "1-5" and "11 and above" respectively. Question four (4) "How much do you make selling sex in a month?" and the responses were 18.0% and 2.0% for N20, 000-30,000 and N30,000-40,000 respectively. Question five (5) "Do you depend on sexual partner for financial assistance?" and the response are as follow; 14.0% "Agree"; 52.0% "Disagree"; 32.0% "Strongly agree". Question six (6) "Do you depend of your sexual practices to meet up your needs?" and the response are as follow; 16.0% "Agree"; 46.0% "Disagree"; 36.0 "Strongly agree". Question seven (7) "Are you responsible for the maintenance/ upkeep of any group of people in the society?" and the response are as follow; 2.0% "Strongly agree"; 14.0% "Agree"; 52.0% "Disagree"; 30.0% "Strongly disagree". Question eight (8) "Does pressure to acquire material things (Phone, laptop etc) expose you having more sexual partners? And the response are as follow; 18.0% "Agree"; 46.0% "Disagree"; 34.0% "Strongly disagree".

***Table 1**: Frequency and percentage of respondents' economic risk factor.*

| Responses | Frequency | Percentage | |
|---|---|---|---|
| Are you the breadwinner in your family? | Strongly agree | 12 | 4 |
| | Agree | 42 | 14 |
| | Disagree | 180 | 60 |
| | Strongly disagree | 60 | 20 |
| | Total | 294 | 98 |
| Have ever been engaged in commercial sex (Selling sex) | Strongly agree | 6 | 2 |
| | Agree | 36 | 12 |
| | Disagree | 131 | 43.7 |

| | | | |
|---|---|---|---|
| | Strongly disagree | 120 | 40 |
| | Total | 293 | 97.7 |
| How many sexual partners do you have in a month? | 1-5 times | 102 | 34 |
| | 11 and above | 6 | 2 |
| | Total | 108 | 36 |
| How much do you make selling sex in a month? | N20,000-30,000 | 54 | 18 |
| | N30.000-40,000 | 6 | 2 |
| | Total | 60 | 20 |
| Do you depend on sexual partner for financial assistance? | Agree | 42 | 14 |
| | Disagree | 156 | 52 |
| | Strongly disagree | 96 | 32 |
| | Total | 294 | 98 |
| Do you depend of your sexual practices to meet up your needs? | Agree | 48 | 16 |
| | Disagree | 138 | 46 |
| | Strongly disagree | 108 | 36 |
| | Total | 294 | 98 |
| Are you responsible for the maintenance/ upkeep of any group of people in the society? | Strongly agree | 6 | 2 |
| | Agree | 42 | 14 |
| | Disagree | 156 | 52 |
| | Strongly disagree | 90 | 30 |
| | Total | 294 | 98 |
| Does pressure to acquire material things (Phone, laptop etc) expose you having more sexual partners? | Agree | 54 | 18 |
| | Disagree | 138 | 46 |
| | Strongly disagree | 102 | 34 |
| | Total | 294 | 98 |

***Table 2:*** *Variables in the Equation.*

| S.E. | Wald | df | Sig. | Exp(B) | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bread winner | Strongly disagree | | | .000 | 2 | 1.000 | |
| | | Agree | .000 | 40192.984 | .000 | 1 | 1.000 | 1.000 |
| | | Disagree | -42.406 | 23205.424 | .000 | 1 | .999 | .000 |
| | Engaged in commercial sex | Disagree | | | .000 | 2 | 1.000 | |
| | | Agree | -21.203 | 16408.711 | .000 | 1 | .999 | .000 |
| | | Disagree | -21.203 | 16408.714 | .000 | 1 | .999 | .000 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Depend on sexual partner for financial assistance | Agree | -42.406 | 23205.422 | .000 | 1 | .999 | .000 |
| | Depend on sexual practices to meet your needs. | Agree | 106.014 | 36690.997 | .000 | 1 | .998 | 1.100E+046 |
| | Responsible for other people in the society | Strongly disagree | | | .000 | 2 | 1.000 | |
| | | Agree | .000 | 23205.425 | .000 | 1 | 1.000 | 1.000 |
| | | Disagree | .000 | 32817.433 | .000 | 1 | 1.000 | 1.000 |
| | | Constant | -21.203 | 16408.713 | .000 | 1 | .999 | .000 |

Table 2: The economic risk factors that contribute to HIV morbidity among the MSM in Imo State.

The coefficients of the binary logistic regression were estimated and are given in (Table 2). The p-values of the coefficients and the odds of each of the variables are also given in the table. The significance of the coefficients is tested using the p-values of the Wald test statistic. The last level of each of the categorical variables is used as the reference level.All the economic risk factors did not contribute significantly to the HIV morbidity among the MSM in Imo State since their p-values were all greater than the level of significance (0.05).The Chi-square test was used to test for the significance of the coefficients of the binary logistic model that was fitted to determine the zone, age, and highest level of education risk factors that contribute significantly to the HIV morbidity among the MSM in Imo State. The hypotheses for the test are given below.

The coefficients of the model are not significant

The coefficients of the model are significant

## Discussions

The goal of this study's findings was to comprehend the independent variables that intersected HIV morbidity among men in Imo State who had sex with men. Thus, having trustworthy knowledge and data concerning the risk variables connected to males who have sex with men is crucial for avoiding and managing HIV morbidity. The HIV pandemic has been exacerbated by morbidity in general, which has also raised the ongoing costs associated with treating the illness. In Imo State, the MSM's HIV morbidity was not substantially influenced by any of the economic risk variables. This could be due to the fact that 20.0% and 60.0% of participants strongly agreed that they were not the family's primary provider, which may have limited the study's sample size. Previous research has found that the MSM community has used financial motivations as justifications for having anal intercourse. The results of this study also indicate that 42.3%, 20.0%, and 24.0% of workers are independent contractors, civil servants, and traders, respectively. These figures may contribute to the extremely low rate of transactional sex. As just 12.0% of respondents agreed to sell sex, there is a direct association between this and the study's participants selling sex. It is therefore not unexpected that sex work plays a significant role in sexually transmitted infections, even if reports indicate that the prevalence of STDs, including HIV, is higher among sex workers and their customers than in the general population. However, results from other research indicated that men who have sex with men but do not engage in transactional sex have a slightly higher prevalence of HIV [18, 19].According to [20], low levels of HIV knowledge have been observed generally among MSM in low and middle income countries, which may explain the low levels of HIV risk perception observed in a study. This could be due to the self-perceived risk of contracting HIV and thus the initiation of protective measures. However, research also shows that younger males, aged 15 to 19, were more likely to engage in transactional sex. This finding is consistent with many other studies, such as one conducted in South America that found that the average age at which a man engages in transactional anal sex is 15.5 years [21, 22].According to a number of studies, when asked if they had "ever received or given money, gifts, or alcohol in exchange for sex with another man," twenty-nine (29) men said they had [23].The majority of individuals (18/29) claimed to have participated in the activity as the giving partner, meaning they have traded things, cash, or alcoholic beverages for sex with another male. The remaining eleven/29 admitted to being the receiving partner in transactional sex, meaning they had taken products, cash, or alcohol from another male.

## Conclusion

The findings show that the HIV morbidity among MSM in Imo State was not substantially influenced by any of the economic risk factors. The age of the subjects considerably adds to the HIV morbidity among the MSM in Imo State, according to the age-related findings. The subjects' greatest level of education was found to have a substantial impact on HIV morbidity among MSM in Imo State, with tertiary education level participants

showing the highest tendency for HIV morbidity among MSM in Imo State.

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