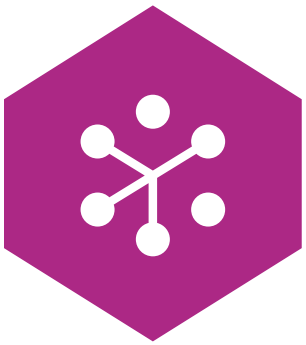

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The Case of Southern Senatorial District of Cross River State, Nigeria

LEVI UDOCHUKWU AKAH, AGNES JAMES EKPO, AND VALENTINE JOSEPH OWAN

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Care/Support, Location, and the Monitoring/Evaluation of HIV/AIDs Prevention Programs: The Case of Southern Senatorial District of Cross River State, Nigeria

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Abstract: This study analyzed the monitoring and evaluation of HIV/AIDS prevention programs in Southern Senatorial District of Cross River State, Nigeria. The study considered different levels of care/support and tested for locational variations in the monitoring/evaluation of HIV/AIDs prevention programs. A descriptive survey research design was utilized. This study covered 596 public health employees (doctors, nurses, pharmacists, and laboratory employees) in the study area. A sample of 239 respondents was chosen using the proportional stratified random sampling procedure. Data was collected using a questionnaire constructed by the researchers and validated by specialists. Data gathered were analyzed using descriptive and inferential statistics. Results indicated that HIV/AIDs programs have been successfully monitored/evaluated to a high extent. High rates of success in the monitoring/evaluation of HIV/AIDs prevention programs are attributable to high rates of care/support provided to people living with HIV/AIDs. There was a significant variation in the monitoring/evaluation of HIV/AIDs prevention programs based on the location of health facilities, with higher rates recorded for urban areas. Based on the findings, it was concluded that the monitoring/evaluation of HIV/AIDs prevention programs in the Southern Senatorial District of Cross River State had recorded a significant level of success. The study recommended, among others, that there should be even distribution of medical facilities, resources and personnel to both urban and rural areas to promote equity and access to materials needed to contain or mitigate the spread of the pandemic across all locations.

Keywords: Evaluation, HIV/AIDs Program, Pandemic, Prevalence, Surveillance, Therapy

Introduction

The HIV/AIDs pandemic is among the deadliest and long-standing pandemics in the history of humankind. The virus has claimed the lives of many and will continue to do so until a breakthrough is made in providing a more permanent solution. According to available data by the World Health Organization (hereafter, WHO), a total of 37,700,000 people are living with HIV at the close of 2020. Of this number, 1,500,000 were newly infected in 2020, whereas as high as 680,000 people died in the same year of HIV-related causes. WHO also documented that 73 percent of the people living with HIV/AIDs received antiretroviral therapy (WHO 2020). The outburst of COVID-19 in the early months of 2020 shifted people's attention from HIV/AIDs, making it appear like a forgotten story (Owan, Akah, et al. 2021). While we are battling to fit into the new normal brought about by the COVID-19 pandemic (Owan, Asuquo, et al. 2021; Aslam, Sonkar, and Owan 2021), it is pertinent that we also consider regulating the spread of the HIV/AIDs pandemic.

Due to the magnitude of the HIV/AIDS pandemic and the relevance of transmission prevention efforts, HIV-prevention projects prioritize complete and timely evaluations (Katz et al. 2013; Phillips et al. 2021; Taylor 2018). HIV prevention programs affect risk behavior if

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conducted with sufficient resources, intensity, and cultural competence (Pantalone et al. 2020; Sun et al. 2019; Ward et al. 2020). Successful project monitoring and assessment are usually one of the pillars of effective project performance (Bahadorestani, Naderpajouh, and Sadiq 2020; Ma et al. 2020; Odigwe et al. 2020), since it offers a reliable method, exhibits stakeholders' transparency, and supports strategic planning for upcoming projects (Owan and Agunwa 2019).

However, we cannot state clearly the extent to which the HIV/AIDs pandemic has permeated an area or region except through effective monitoring, tracking, and evaluation. An essential component of a sound monitoring system is the integrated interpretation of data from multiple sources. Monitoring allows program managers to understand what has been done, identify areas that deserve further attention, and highlight concerns that may lead to improved responses. Evaluation is a collection of measures to determine the quality or value of a given program, intervention, or project. Important evaluation practices include an assessment of the contents, scope of coverage, quality, and completeness of the program. If the evaluation of the process discloses that the program did not take place or reach its target audience, then a review is valuable. However, the evaluation process can show whether the program is being executed as expected or otherwise. An appraisal of short-term outcomes (known as the evaluation of results) should be carried out if the execution is not according to plan.

In Cross River State, Nigeria, little appears to have been done in monitoring and evaluating existing HIV/AIDs programs implemented by the government or donor agencies. The monitoring and evaluation of the programs tend to be a daunting exercise due to numerous challenges. Some of these challenges include inadequate funding, poor monitoring and evaluation goals, the problem of stigmatization, and others (Cavazos-Rehg et al. 2021; Kissi et al. 2019; Wang, Kiwuwa-Muyingo, and Kadengye 2021; Schiaroli et al. 2020). These issues have led to the argument that HIV/AIDS programs are not being monitored and evaluated adequately (Al Awaidy and Sharanya 2019; Arias Garcia et al. 2020; WHO 2020). Although these programs play an essential role in the battle against HIV/AIDS, it is unclear how successful they are monitored and evaluated by stakeholders. It is also not clear the extent to which each specific challenge has limited the efficacy in the monitoring and evaluation of HIV/AIDs prevention programs in developing countries. Thus, the current study sought to determine the extent to which the evaluation of HIV/AIDs prevention programs has been successful in the Southern Senatorial District of Cross River State. The study also analyzed the influence of care/support and location on monitoring/evaluation of HIV/AIDS prevention programs in the district.

Care and support include various nutritional, health, psychological, economic, physical, and legal services that should be offered to infected persons. These programs are essential to the well-being of orphans and other vulnerable youths who are HIV positive. Care and support are essential regardless of access to antiretroviral drugs, from diagnosis through HIV-related illnesses (UNAIDS 2016). A study found that a $5-family-food voucher increased consent by 29 percentage points for home-based HIV testing (Cluver et al. 2014). People with food vouchers were tested for HIV and agreed to do so a year later than people without a coupon, suggesting the long-lasting benefits of incentives for foods to boost HIV counselling and test rates (Tanser et al. 2021). Also, it was revealed that combining care with at least two daily meals ("cash plus care") reduced non-compliance to 18 percent (Palazuelos, Farmer, and Mukherjee 2018; Hosek and Pettifor 2019). Therefore, WHO (2016) in a global health sector report (covering 2016 to 2021) indicated that complete support and assistance include the provision of compliance support, counseling and testing, legal, socioeconomic aid, mental and emotional help, contraception and health services, pre-exposure prophylaxis, and antiretroviral medication.

Bekker, Beyrer, and Quinn (2012) characterized a successful HIV program as one that avoids or lowers HIV-related risk behaviors or favorably influences their effectiveness, or both, in the

most cost-effective, or cost-beneficial manner given a level of resource investment. It was further emphasized by Bekker, Beyrer, and Quinn (2012) that HIV prevention programs must be assessed to determine whether the intended objectives (behavioral or health) are met. Otherwise, the outcome objectives should be rechecked for clarity and mid-course modifications made for objectives to be met (Awofala and Ogundele 2018). However, due to limited resources, not every HIV prevention program can be subjected to scientifically rigorous outcome evaluation (Katz et al. 2013; Jones, Sullivan, and Curran 2019). Other challenges that affect the evaluation of HIV prevention programs include stigma, fluctuating incidence of HIV cases, resistance to antiretroviral therapy, gender discrimination, difficulty in collecting sensitive data, and racial discrimination (Agudelo-Rojas et al. 2019; Ansari and Pandey 2018; Cardoso et al. 2021; Feyissa et al. 2019; Greenwoood et al. 2022; Logie et al. 2018). Nevertheless, it can be argued that a program once started can and should be evaluated for decision-making and improvement. Along these lines, HIV/AIDs prevention programs have been evaluated in different parts of the world (Adejimi et al. 2018; Garcia et al. 2022; Joshua et al. 2020; Marshall et al. 2022; Mustanski et al. 2020; Ndungu, Gakuu, and Kidombo 2019; Rohrbach et al. 2019).

Studies evaluating the prevention programs of HIV/AIDs tend to reveal a high degree of success (Bennett et al. 2015; Parham et al. 2015; Malama et al. 2020; Sypsa et al. 2017; Operario et al. 2017). For instance, it was found that the execution of the minimal preventive package for intervention in HIV/AIDs prevention programs had a significant level of success in decreasing the rate of prevalence (Adejimi et al. 2018). Other studies have reported that HIV incidents dropped after the implementation of different prevention programs (Girum, Wasie, and Worku 2018; Hanum et al. 2021). In a more recent study, it was discovered that HIV prevalence was 5.35 percent and there is a significant difference when comparing the rates of new HIV infections among 1,028 feverish individuals and blood donors (Olusola, Olaleye, and Odaibo 2021). Other recent studies have documented that even though there is no cure or HIV vaccine now, technological developments (in areas such as HIV testing, rapid and sustained treatment, pre-exposure prophylaxis, and robust syringe service programs) have the potential to significantly reduce the number of new HIV infections (Bosh et al. 2021; Chesson et al. 2021; Giguère et al. 2021; Rendina et al. 2021; Romero et al. 2021). The reduction of HIV transmission, morbidity, and mortality might be sped up and inequities could be narrowed by stepping up efforts to execute these methods fairly and equally. However, due to social distancing regulation occasioned by the COVID-19 pandemic, it has been forecasted that the chances of HIV and STI increasing are lower if a longer period of sexual distancing is maintained (Jewell, Smith, and Hallett 2020; Stephenson et al. 2021; Ponticiello et al. 2020; Zapata et al. 2021; Jenness et al. 2021).

On the other hand, Taylor (2018) noted a rising frequency of sexually transmitted illnesses, especially HIV/AIDS, among adolescents in Sub-Saharan Africa, demonstrating that the continent's previous attempts to combat the pandemic have been insufficient. Results from many recent studies tend to also reveal a high rate of prevalence of HIV among individuals with antiretroviral therapy in the US (Kalichman, Eaton, and Kalichman 2021) and several other countries such as Tanzania (Mosha et al. 2022), China (Jing et al. 2022), and Thailand (Thitipatarakorn et al. 2022). According to UNAIDS (2016), various reasons can hinder people from starting and staying on antiretroviral medication. According to studies in Sub-Saharan Africa, transport and opportunity expenses are vital determinants influencing whether persons eligible for HIV treatment begin antiretroviral medication (Amosse et al. 2021; Chamie et al. 2021; Kadia et al. 2021; Abdulai et al. 2022; Tweya et al. 2020).

A mapping analysis conducted in the rural northern section of South Africa's KwaZulu-Natal region indicated that clinic travel time is the most critical factor influencing health services utilization (Kim et al. 2021). Furthermore, studies on location have also documented the presence of a divide in access to medical facilities between rural and urban inhabitants (Amiri et al. 2021; Laksono, Wulandari, and Soedirham 2019; Laksono, Rukmini, and

Wulandari 2020; X. Wang et al. 2018). This makes it difficult for rural dwellers to travel long distances to access health facilities in urban areas (Myers 2019; Pereira et al. 2021; Strowd et al. 2021). This implies that urban-rural inequality in access to medical care is pervasive due to similarities in evidence from studies in different parts of the world. To reduce this, research has shown that there is a need to address the factors that have led to regional differences in HIV prevalence and prevention (Blanco et al. 2020; Lu et al. 2021; Shadmi et al. 2020; Sullivan et al. 2021). This gave the impetus to consider care/support as one of the factors that can play a role in HIV intervention and response to medication.

This research was based on the Context-Input-Process-Product (CIPP) framework of program assessment (Stufflebeam 1971). The CIPP model is made up of four complementary sets of components that enable evaluators to consider critical, but often neglected program features. The context, input, process, and product assessment phases are all included in this. The context assessment offers a broad picture of the relationship between the program and evaluation strategies (Mertens and Wilson, 2012). This aids in decision-making by allowing the evaluator to determine a community's needs, assets, and resources so that good programming may be provided (Fitzpatrick, Sanders and Worthen, 2012). Its goal is to evaluate the program's strategy, merit, and work plan, as well as its response to client requirements and comparable alternative strategies.

Process evaluation assesses the quality of a program's implementation. The evaluator monitors, documents, and evaluates program actions throughout this stage (Fitzpatrick, Sanders and Worthen 2011; Mertens and Wilson 2012). The goal is to offer feedback on the degree to which planned activities are carried out. This understanding can aid staff in modifying and improving the program plan and the degree to which participants fulfil their tasks (Stufflebeam 2003). Product assessment evaluates the program's impacts on its target audience, considering both planned and unintentional results. Stakeholders and relevant specialists are examined at this stage, with an eye on outcomes that affect the group, subgroups, and individuals. Using a variety of methodological strategies, all outcomes are recorded and aids in the verification of assessment results (Mertens and Wilson 2012; Stufflebeam 2003).

The application of the CIPP theory to the current research is to successfully monitor and evaluate HIV/AIDs prevention programs and the environment in which such programs are implemented. The required inputs, including people and material resources that must be provided to drive the HIV/AIDs prevention programs, must be considered. The procedures, including the activities to be completed by various groups in the program, must be clearly defined and reviewed for consistency. The product (the total efficacy of the HIV/AIDS program) must also be evaluated subjectively or statistically in terms of health, social, and economic effects. This is because a CIPP context assessment study identifies and specifies program objectives by examining program-related needs, issues, assets, and opportunities. The context and process evaluation results provide a good starting point for analyzing future outcomes (products). A strong context and process evaluation may help a program's planning or leadership team to boost its proposal when submitting a request for external financing. A context evaluation is more comprehensive than a traditional "needs assessment" since it includes questions about possible obstructions and assets, but it does contain that key part. For all of these to function, there must be clearly defined objectives, enough financing, and increased awareness of the advantages of enhanced data collection. If any or all these elements are absent, the monitoring and evaluation of HIV/AIDs prevention programs will be flawed.

Based on the CIPP framework, the current study assessed the degree to which the monitoring/evaluation of HIV/AIDs prevention programs has been successful. The study also assessed care/support and location and their respective contributions to the monitoring/evaluation of HIV and AIDs-prevention programs in Cross River State. Along these lines, the following hypotheses were formulated and tested.

i. The level of success in the monitoring/evaluation of HIV/AIDs prevention programs is not significantly high.
ii. There is no significant difference in monitoring/evaluation of HIV/AIDs prevention programs based on the level of care/support provided.
iii. There is no significant difference in the monitoring/evaluation of HIV/AIDs prevention programs based on the location of health facilities.

Methodology

Research Method and Design

The quantitative research method was adopted for the study following the descriptive survey research design. Descriptive survey research design is "suitable for studies seeking to describe observed phenomena as they are occurring in the population using the observations from the sample" (Owan and Robert 2019, 5). Therefore, this study aims to use appropriate tools to collect primary data from respondents.

Population and Sample

The study's population included all public health employees (doctors, nurses, pharmacists, and laboratory personnel) in the Southern Senatorial District of Cross River State. According to the Cross River State Ministry of Health [CRSMH] (2021), there are 596 healthcare service professionals in the district. These include thirty-one medical doctors, 453 nurses, fifty-four pharmacists, and fifty-eight laboratory staff. Taro Yamane's method was used to determine the research sample size (Yamane 1973). The formula is used in determining the sample size of a study when the population size is already known. The formula was also used to yield a representative sample that will ensure that the population parameters (characteristics of the population) are possessed by the sample statistic (characteristics of the sample). The Taro Yamane's formula is given as:

$$n = \frac{N}{1+N\,(e)^2}$$

Where:
n = the sample size to be determined
N = the population size (which in this study is known as 596 public health workers)
e = the acceptable sampling error (At 95% confidence level, e = 0.05)

Substituting values into the formula, we have that:

$$n = \frac{596}{1+596(0.05)^2} = \frac{596}{1+596*0.0025} = \frac{596}{1+1.49} = \frac{596}{2.49}$$

$$\therefore n = 239.357 \cong 239$$

This means that a sample of 239 respondents will be large enough for the population of 596 public health workers in the Southern Senatorial District to be adequately represented in this study. However, in selecting the actual sample of the study, the proportionate stratified random sampling technique was adopted. The population of the study was stratified according to the cadre of public health workers (e.g., doctors, nurses, pharmacists, and laboratory staff) in the Southern Senatorial District. In each stratum, 40.10 percent of the population was computed. This was done so that healthcare practitioners are represented in the sample in the same

proportion as the population. Upon computation and selection, a total of 239 respondents (public healthcare workers) were selected.

Instrumentation: Validity and Reliability

A questionnaire named "Care/Support, Location, and Monitoring/Evaluation of HIV/AIDS Prevention Programs Questionnaire" (CSLMEHAPPQ) was used to gather data. The researchers created the questionnaire and sub-divided it into two portions. Section A was meant to collect demographic information from respondents such as gender, age, experience, employment, and the location of their health facility. Section B was designed with twelve items on a four-point Likert scale to assess care/support and the monitoring/evaluation of HIV/AIDs prevention programs. Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) were the answer possibilities. Six specialists (three public health experts and three psychometrists) from the University of Calabar, Calabar, assessed the instrument for face and content validity. These specialists made sure that the items covered the main topics in each sub-section. They also ensured that the statements and placements of items were generally clear. Items deemed irrelevant were changed or removed, and recommendations for improvement were offered. The instrument's scale content validity index (SCV-I UA) was 0.913, with individual item content validity indices ranging from 0.82 to 0.95. The Cronbach Alpha method was used to assess the instrument's reliability, and a coefficient of 0.862 indicated that the instrument was internally consistent.

Data Collection and Analysis Procedures

Primary data were obtained in this study by administering copies of the instrument. The researchers made physical contact with the selected respondents based on a scheduled date allocated for each category of the respondents. Before administering the instrument, the researchers received written informed consent from the targeted participants. Fortunately, the 239 respondents all voluntarily consented to participate in the study after the researchers had explained the purpose and implications of participating in the study. During the administration, the researchers explained the significance of the exercise and why they (respondents) should provide honest replies to the items. The respondents were also told that personal information would be used just for the study and not shared with anybody. The respondents were also aware that after anonymization and aggregation of responses, the result will be published in a peer-reviewed journal. After the data collection process, all copies of the instruments were obtained without loss from respondents. Thus, a return rate of 100 percent was achieved. The serial numbers previously issued for simple identification were considered while scoring the questionnaires. The Likert scale was scored differently for positively and negatively phrased questions. Following the scoring, all the responses were coded on a person-by-item matrix using a computer spreadsheet application. Variables were coded differently depending on the data gathered and the measurement scale.

Results

Monitoring/Evaluation of HIV/AIDs Prevention Programs

The first objective of this study was to determine the extent monitoring/evaluation of HIV/AIDs prevention programs has been successful. We hypothesized that the level of success in the monitoring/evaluation of HIV/AIDs prevention programs is not significantly high. Since there is only one continuous variable in this hypothesis that does not depend on any other variable, the one-sample t-test analysis was performed. To test this hypothesis, the observed (calculated)

mean of the respondents to this variable was compared to the expected (population) mean. The population mean was statistically determined to be 15.00. As shown in Table 1, the investigation found that the observed mean score for the monitoring/evaluation of HIV/AIDs prevention programs = 17.06. With a mean difference of 2.06, this number is greater than the actual population mean of 15.00. A glance at the p-value reveals 0.00, which is smaller than the 0.05 alpha threshold at 238 degrees of freedom. Based on this result, the null hypothesis was rejected while the alternative hypothesis, which states that "the extent to which the monitoring/evaluation of HIV/AIDs prevention programs has been successful is significantly high", was retained. This implies that the rate at which the monitoring/evaluation of HIV/AIDs prevention programs has been successful is significantly higher than the expected average in the Southern Senatorial District of Cross River State.

Table 1: One Sample T-test Results Showing the Extent Monitoring/Evaluation of HIV/AIDs Prevention Programs Has Been Successful

Variable	Group	N	Mean	SD	Mean d	t	p
Monitoring/evaluation of HIV/AIDs prevention programs	Population	–	15.00	–			
					2.06	4.95	.00
	Sample	239	17.06	6.44			
df = 238; 95% CI of the mean difference (1.24; 2.88)							

Source: Akah, Ekpo, and Owan

To validate the test of this hypothesis, a post-hoc power test (Cohen 1988) was performed using the G*Power program (Erdfelder et al. 2009; Mayr et al. 2007; Faul et al. 2007). An effect size (d = 0.32), with a statistical power of 0.999 was obtained at the 0.05 alpha level. This implies that our one-sample t-test analysis was 99.9 percent accurate in the rejection of the null hypothesis; hence the chances of having committed a type I error is almost non-existent (see Figure 1).

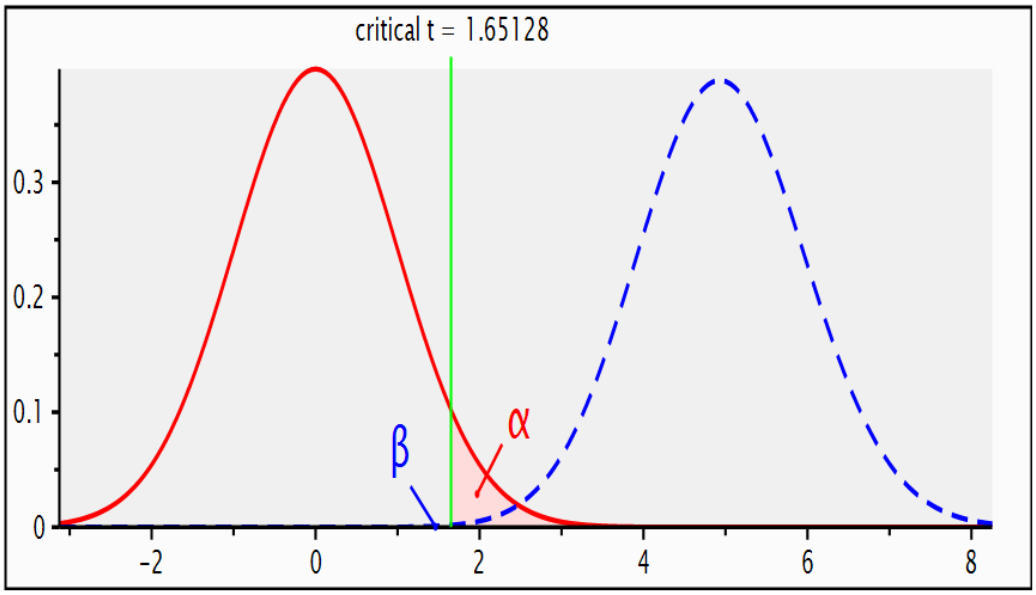

Figure 1: Central and Non-Central Distributions of the One-Sample T-test Analysis in Table 1
Source: Akah, Ekpo, and Owan

Care/Support and the Monitoring/Evaluation of HIV/Aids Program

The second objective of the study was to estimate the influence of care/support on the monitoring/evaluation of HIV/AIDs prevention programs. We hypothesized that there is no significant difference in monitoring/evaluation of HIV/AIDs prevention programs based on the level of care/support provided in the Southern Senatorial district. Using responses to the survey, we classified the level of care/support into three ordinal levels - high, moderate, and low levels. The dependent variable—monitoring/evaluation of HIV/AIDs prevention programs—was continuous. The one-way analysis of variance (ANOVA) was adopted in testing the hypothesis at the 0.05 level of significance. Table 2 shows that 116, 80 and forty-three respondents perceived that the level of care/support provided to HIV/AIDs patients was high, average, and low, respectively. The monitoring/evaluation of HIV/AIDs prevention programs was higher in areas with a high level of care/support than areas where care/support is moderate and low, respectively. The analysis of variance revealed a significant difference in the monitoring/evaluation of HIV/AIDs program among three groups with varying levels of care/support ($F_{[2, 236]} = 23.07$, $p = .00 < .05\alpha$). The null hypothesis was rejected based on this evidence, whereas the alternative hypothesis was accepted. This means there is a considerable variation in the monitoring/evaluation of HIV/AIDs prevention programs based on the level of care/support provided.

Table 2: One-Way Analysis of Variance Result of the Influence of Care/Support on the Monitoring/Evaluation of HIV/Aids Prevention Programs

Levels of Care/Support	N	Mean	SD	SE	95% CI
High	116	18.93	6.26	.58	(17.78, 20.08)
Moderate	80	17.19	5.90	.66	(15.87, 18.50)
Low	43	11.77	4.86	.74	(10.27, 13.26)
Total	239	17.06	6.44	.42	(16.24, 17.88)
Source ofVariation	SS	Df	MS	F	Sig.
Between Groups	1611.87	2	805.94	23.07	.00
Within Groups	8243.31	236	34.93		
Total	9855.18	238			

Source: Akah, Ekpo, and Owan

A post hoc power analysis for the ANOVA test results in Table 2 was performed. The result of the analysis at .05 alpha level yielded a power (1 – β err) value of 0.993. This suggests that there is a 99.3 percent probability that the null hypothesis be rejected (See Figure 2). Due to the significant difference obtained in the omnibus result of the one-way ANOVA, the Tukey HSD test of multiple pairwise comparison was performed. The Tukey HSD test revealed that although the monitoring/evaluation of HIV/AIDs prevention programs was higher where there was a high rate of care/support, the mean difference (1.74, p = .11) was not statistically significant compared with areas having a moderate level of care/support. However, between the high and low category of care/support, there is a significant mean difference (7.16, p = .00) in the monitoring/evaluation of HIV/AIDs prevention programs (in favor of the high category). Furthermore, there is a significant mean difference between the average and low category of care/support (5.42, p = .00) in the monitoring/evaluation of HIV/AIDs prevention programs. Therefore, the significant F-value was significant due to the differences between high vs. low and average vs low levels of care/support (See Figure 3).

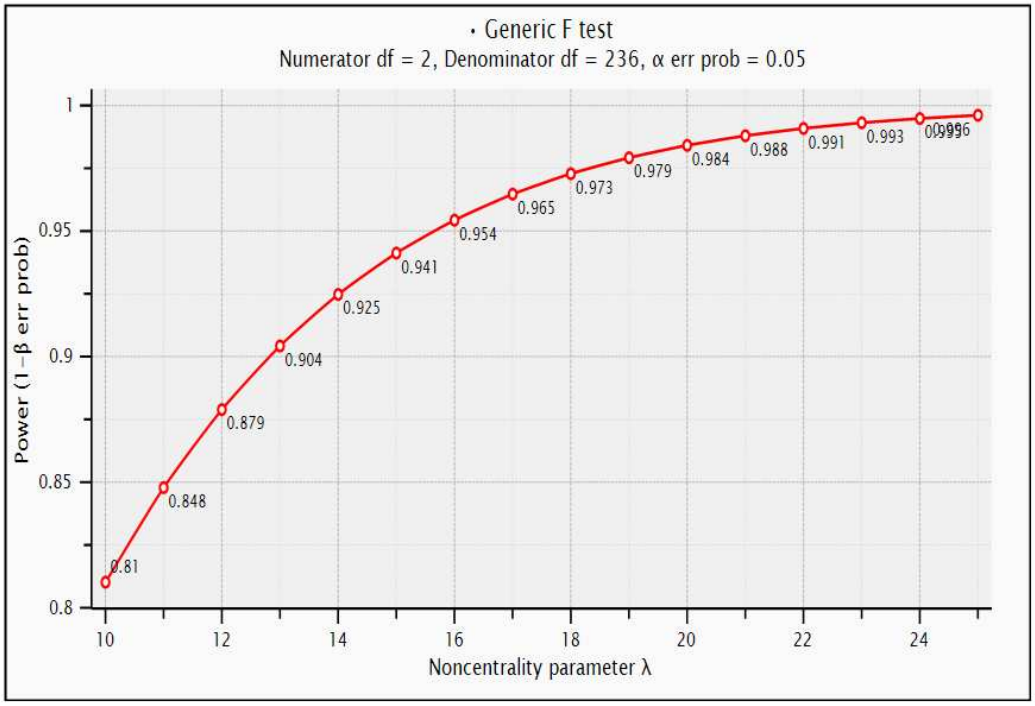

Figure 2: Plot of Generic F-test Showing Power as a Function of Non-Centrality Parameters
Source: Akah, Ekpe, and Owan

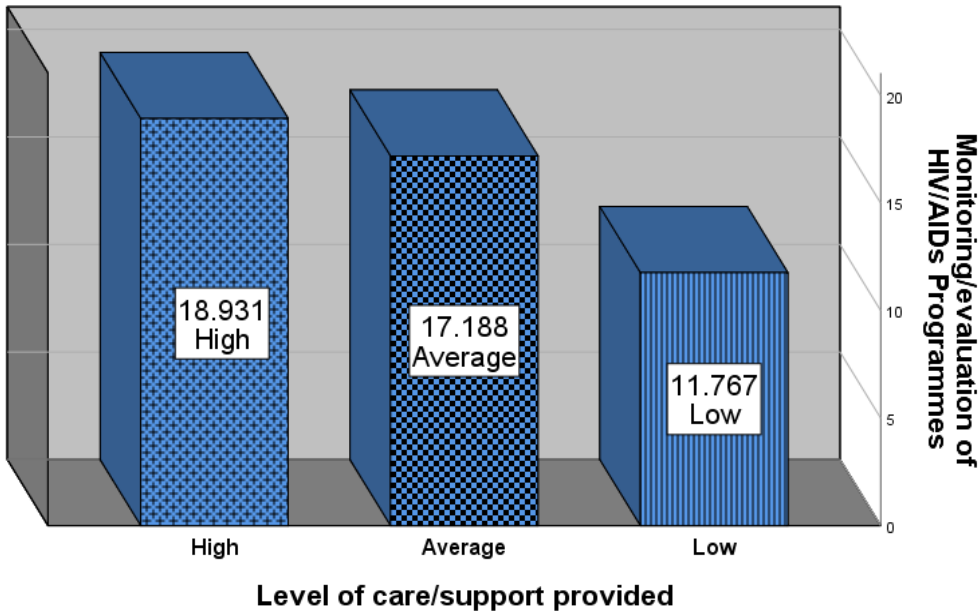

Figure 3: Simple Bar Chart Showing the Difference in the Monitoring/Evaluation of HIV/AIDs Prevention Programs Based on the Levels of Care and Support Provided
Source: Akah, Ekpo, and Owan

Location and the Monitoring/Evaluation of HIV/Aids Prevention Programs

The third objective of this study was to determine whether there is a difference in the monitoring/evaluation of HIV/AIDs prevention programs between urban and rural locations. We hypothesized that there is no significant difference in the monitoring/evaluation of HIV/AIDs prevention programs between urban and rural locations of health facilities. An independent t-test analysis was performed to compare the means in the monitoring/evaluation of HIV/AIDs prevention programs between urban and rural locations. Table 3 demonstrates that the monitoring/evaluation of HIV/AIDs prevention programs was more remarkable in urban (mean =18.55) than rural (mean =15.19) rural areas, with a mean difference of 3.36. Table 3 further shows that the p-value of 0.00 is smaller than the 0.05 alpha level at 237 degrees of freedom. Based on this finding, the null hypothesis was rejected, but the alternative hypothesis, which argues that there is a significant difference in the monitoring/evaluating of HIV/AIDs programs between urban and rural areas, was accepted. This is further illustrated in Figure 4 for easy understanding/clarity.

Table 3: Independent T-test Results Summary Showing the Disparity between Urban and Rural Locations in the Monitoring/Evaluation of HIV/AIDs Prevention Programs

Variable	Location	N	Mean	SD	SE	t	p
Monitoring/evaluation of HIV/AIDs prevention programs	Urban	133	18.55	6.24	.54		
						4.15	.00
	Rural	106	15.19	6.21	.60		
d*f* = 237; mean difference = 3.36; 95% CI of mean difference = 1.76, 4.96							

Source: Akah, Ekpo, and Owan

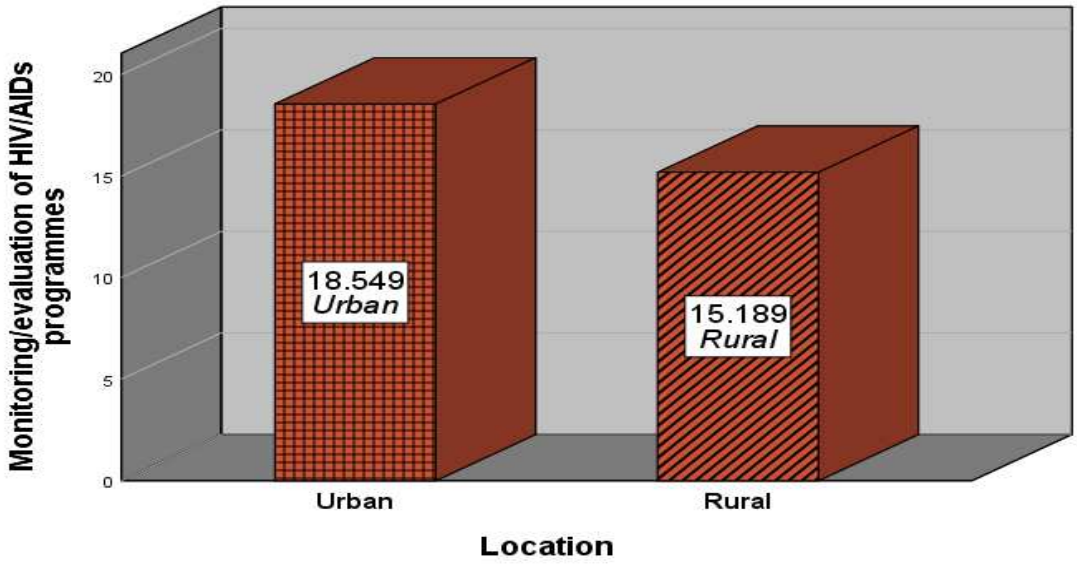

Figure 4: Simple Bar Chart Showing the Monitoring/Evaluation of HIV/AIDs Prevention Programs in Urban and Rural Locations
Source: Akah, Ekpo, and Owan

Discussion of Findings

In this study, the monitoring/evaluation of HIV/AIDs prevention programs were analyzed taking into consideration care/support and location. Our result highlighted a high extent of success in the monitoring/evaluation of HIV/AIDs prevention programs in the southern senatorial district of Cross River State. This finding is attributed to the high rate of success in the estimation of risk of transmission per contact using available resources (such as data, facilities, expertise) and the evaluation of the duration of infection from people with HIV/AIDs. The healthcare facilities also demonstrated capacity in determining the quality of people with HIV/AIDs using available facilities, the management of data and reports on the rate of mother to child transmission using databases, and the possibility to collect quantitative and/or qualitative data about HIV-related situations from health centres. Therefore, if all of these services and activities are possible to a high extent at the moment, it is no surprise that this study's findings appeared this way. This result is consistent with other studies that have documented a decrease in the incidents of HIV/AIDs due to technological advancements among other factors (Adejimi et al. 2018; Hanum et al. 2021; Olusola, Olaleye, and Odaibo 2021; Bosh et al. 2021; Jenness et al. 2021). The conclusion also confirms the findings of another research, which found that, while there are still some problems, significant progress has been achieved toward ending the HIV/AIDS pandemic as a consequence of advances in HIV prevention and treatment (Jones, Sullivan, and Curran 2019). As evidence for the documented success rate, it was earlier reported that the yearly number of AIDS fatalities decreased as a consequence of a significant increase in access to HIV treatment in recent years (Katz et al. 2013).

Nationally, 67 percent of those living with HIV are aware of their status, 88 percent are undergoing treatment, and 86 percent of those undergoing treatment have viral suppression. As a result, AIDS-related deaths among adults of all ages and children decreased by 77 percent and 79 percent, respectively (Girum, Wasie, and Worku 2018). It was further revealed by Girum and colleagues that by 2020, 79 percent of people living with HIV will be aware of their HIV status, with 96–99 percent of HIV-infected people receiving ART and more than 86 percent having viral suppression. This finding explains why the monitoring/evaluation of HIV/AIDs prevention programs in this study suggested a high extent. The findings, however, contradicts other studies that documented that the rising frequency of sexually transmitted illnesses, especially HIV/AIDS, demonstrates that previous attempts to combat the pandemic have been insufficient even with antiretroviral therapy (Kalichman, Eaton, and Kalichman 2021; Mosha et al. 2022; Jing et al. 2022; Thitipatarakorn et al. 2022). The disparity in results might be related to variations in the factors included in the investigations. Besides, contextual factors in the areas where the studies were conducted might be another reason. Nevertheless, the result of the present study aligns with the CIPP framework of program evaluation that emphasizes that contextual factors be considered during evaluations.

This study established that care/support has a significant influence on the monitoring/evaluation of HIV/AIDs prevention programs. This finding indicates that high success rates in monitoring/evaluation may be attributed to high levels of care/support provided to people living with HIV/AIDs. This result may be due to the favorable climate surrounding patients shown love, care and support. Thus, such infected individuals may be readily willing to participate in self-report surveys administered by the monitoring and evaluation teams. Furthermore, caregivers may be able to understand the psychology and sociology of people living with AIDs, which may enable them to provide useful information to researchers, public health scientists, and monitoring/evaluation teams to reach meaningful conclusions for decision-making purposes. This result is consistent with the evidence of UNAIDs that the identification of HIV-related diseases requires care and aid services, regardless of the capacity to have access to antiretroviral medicine (UNAIDS 2016). This result is consistent with the findings of Cluver

et al. (2014) that a $5-family-food voucher boosted consent to home-based HIV testing by 29 percentage points.

Another research indicated that those with feeding incentives had higher HIV testing and compliance rates a year later than people without a voucher, which confirmed the long-term effects of the Food Incentive on the increase of HIV counseling and testing rates (Tanser et al. 2021). Besides, another study proved that attending and parental supervision of an HIV support group would reduce non-adherence (from 54% to 27%), viral load and opportunist infections in young people living with HIV (Cluver et al. 2016). Another study also reported that the combination of care and delivery of at least two meals a day (known as "cash plus treatment") decreased non-compliance by 18 percent (Girma, Assegid, and Gezahegn 2021). Therefore, WHO guidelines issued in 2016 call for a complete support and care package that include commitment aid, counselling and testing, legal, social, and financial help, emotional and psychological support and access to contraception and health services (WHO 2016).

Through the third finding, this study uncovered that location played a substantial role in the monitoring/evaluation of HIV/AIDs prevention programs, in favour of urban areas. This result might be explained by the disparity in the distribution of health staff, facilities, and services between urban and rural locations. It is more likely that there is a higher concentration of health facilities, resources, and services in urban than rural areas. This evidence provides support to the urban-rural gap in access to medical services widely documented in other studies (Kim et al. 2021; Amiri et al. 2021; Laksono, Wulandari, and Soedirham 2019; Laksono, Rukmini, and Wulandari 2020; X. Wang et al. 2018; Myers 2019; Pereira et al. 2021; Strowd et al. 2021). This explains why monitoring/evaluation of HIV/AIDs prevention programs will be a lot easier in urban areas (with quality resources) than in rural areas (with inadequate or poor-quality infrastructure and resources). This agrees with another study that the HIV/AIDs outbreak is moving to places where the populations are scattered, and the health services are restricted by the socio-economic, geographical, and cultural factors, as well as an evolved epidemic of injection medicine (Schafer et al. 2017).

Other studies in Sub-Saharan Africa have also discovered that transport and opportunity expenses are vital determinants for persons eligible for HIV treatment to begin antiretroviral medication (Tweya et al. 2020; Ahmed et al. 2018; Bruser et al. 2021; Frijters et al. 2020; Nuwagira et al. 2021). This study has further highlighted the importance of the CIPP theory that basic inputs and processes are required to produce desired output (Stufflebeam 1971). Thus, to reduce regional disparities in HIV prevalence, it has been recommended that factors that led to regional differences be addressed (Blanco et al. 2020; Lu et al. 2021; Shadmi et al. 2020; Sullivan et al. 2021). By implication, effective monitoring/evaluation of HIV/AIDs prevention programs in both rural and urban areas require a level playing ground. However, this study faces the limitation of a small scope and sample. This means that the applicability of the findings may not extend beyond the scope covered. This implies that future large-scale research is required to address this limitation.

Conclusion

Predicated on the results of this study, it was concluded that the monitoring/evaluation of HIV/AIDs prevention programs in the Southern Senatorial District of Cross River State had recorded a significant level of success. There is a disparity between urban and rural areas in the monitoring/evaluation of HIV/AIDs prevention programs in the district. However, care/support proved to be an important factor influencing the monitoring/evaluation of HIV/AIDs prevention programs. This implication of this conclusion is that public health workers have a role in promoting the extent to which these challenges can be mitigated within their jurisdiction for effective and quality service delivery. Theoretically, this study validates the CIPP model of evaluation that contexts, inputs and processes are very important in determining the success of

any program evaluation. Therefore, healthcare practitioners, policy makers, actors, and surveillance teams must consider these critical elements in the design and implementation of monitoring frameworks. The study has also contributed to the literature on HIV/AIDs, especially in tracking and surveillance.

Recommendations

Based on the conclusion of this study, the following recommendations were advanced:

1. Private philanthropists, foreign donor agencies (such as World Bank, UNAIDs, WHO), government, and non-governmental organizations should provide funds to all HIV/AIDs control centers, public health facilities, and situation centers for the monitoring/evaluation of HIV/AIDs prevention programs in the Southern senatorial district of Cross River State.
2. Parents and guardians should ensure that non-infected siblings display the right kind of attitudes (such as love, care, and support) toward affected relatives. People living with HIV/AIDs should not be relegated or seen as the worst set of people in rural and urban areas; the government should persistently supply antiretroviral drugs to public health facilities to grant internal support to the immune system of people living with HIV/AIDs at all times.
3. There should be even distribution of medical facilities, resources, and personnel to urban and rural areas to promote equity and access to materials needed to contain or mitigate the pandemic spread across all locations. This will make the fight against HIV/AIDs holistic instead of concentrating efforts only in the urban areas. The Federal and State government should provide social amenities such as motorable roads to all rural communities for easy access by external monitoring and evaluation teams.

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