



COMPARATIVE ASSESSMENT OF STRUCTURES AND TREATMENT PROCESSES IN PUBLIC AND PRIVATE HIV TREATMENT CENTRES IN PORT HARCOURT, RIVERS STATE

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ABSTRACT

Background: HIV treatment centres use the WHO standard policies and guidelines to conduct HIV testing services, and anti-retroviral treatment to people living with HIV. The purpose of the study was to assess and compare structures and treatment processes in public and private HIV treatment centres in Port Harcourt, Rivers State.

Materials and Methods: This was a comparative cross-sectional study carried out in both public and private HIV treatment centres in Port Harcourt, Rivers State. The sample size of 10 public and 10 private HIV treatment centres were used for this study. A stratified sampling method was used to randomly select ten public and ten private HIV treatment centres from existing forty-six (46) public and forty (40) private ART facilities in Port Harcourt metropolis, Rivers State. Public and private HIV treatment centres included in the study were all that had existed for 6 months, still functional and render HIV treatment to a minimum of 5 patients per week. Other treatment facilities that did not meet this criteria were excluded. The study tool was pretested in other HIV treatment centres that were not selected for the main study. The tool was validated by performing Cronbach's alpha (α) using 24 items tool for measuring the structure and 10 items tool for measuring the process; hence 0.902 and 0.736 were obtained for structure and treatment process respectively. A semi-structured interviewer checklist was used to assess structures of the treatment centres and evaluate the treatment process. The assessment the structure and evaluation of HIV treatment process was completed in a period of eight (8) weeks. Data was entered into the Statistical Package for Social Sciences (SPSS) software version 21 in numeric codes and analyzed using SPSS version 21. Comparative analysis for public and private HIV treatment centres were done. Ethical clearance for the study was obtained from the Research and Ethics Committee of the University of Port-Harcourt. Written permission from Rivers State Primary Health Management Board, Department of Planning, Research and Statistics (DPRS) and Rivers state Ministry of Health was obtained to cover the various health facilities used. Verbal permission/ consent were obtained from the directors of the private treatment centres.

Result: A total of 20 facility assessment checklists were used to assess the public and private HIV treatment centres. The result indicated that public versus private structures of facilities had median scores of 11 versus 6.5 for utilities, 30.5 versus 22.5 for equipment, 24 versus 18.5 for commodities and the overall structural score of 65 versus 46. There was a statistically significant difference between the various structural domains and the health facility type: Utilities (5.60; $p=0.02$); Equipment (10.08; $p=0.002$); Commodities (6.27; $p=0.01$); Overall Structural scores (7.02; $p=0.01$). Also, (public versus private facilities) had median scores of (39 versus 34.5) with interquartile range of 39-46 for public facilities and (30-37) for private facilities. A statistically significant association was observed between HIV treatment process in public and private facilities (10.87; $p=0.001$). The HIV treatment process in public versus private facilities had median scores of (39 versus 34.5) with interquartile range of 39-46 for public facilities and (30-37) for private facilities.

Conclusion: Based on findings in this study, the researchers conclude that the public HIV treatment centres had good structures in offering HIV service delivery. The public HIV treatment centers had a better HIV treatment process than the private HIV treatment centres. The non-governmental organizations should be encouraged to take responsibility of equipping private facilities with the needed structure which in turn will enhance HIV treatment process.

KEYWORDS: Public, Private, HIV treatment centres, Port Harcourt, Rivers State.

INTRODUCTION

Global trends in HIV infection demonstrate an overall decrease in HIV prevalence and substantial declines in

AIDS related deaths largely attributable to the survival benefits of antiretroviral treatment (Kharsany, 2016). Success in HIV prevention in sub-Saharan Africa has the potential to impact on the global burden of HIV

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(Kharsany, 2016). Apart from substantial progress in scaling up antiretroviral therapy (ART), sub-Saharan Africa accounted for 74% of the 1.5 million AIDS related deaths in 2013 (Centers for Disease Control and Prevention, 2011). However, Nigeria still ranked as one of the countries with the highest burden of HIV infection in the world, next to India and South Africa even with all efforts made towards improving the structures and HIV treatment processes in various centres (Tobin-West, & Isodje, 2016).

The HIV treatment centres are facilities that uses the WHO recommended or the standard policies and guidelines to conduct Human Immunodeficiency Virus (HIV) Testing Services (HTS), and offer other treatment services to HIV patients in health facilities by an organized HIV and AIDS Core Team (HACT). The treatment centres through their team facilitate in-patient and out-patient prevention, treatment, care and support services to PLHIV including but not limited to antiretroviral therapy, HIV testing services, clinical management, patient monitoring, and other care and support services (USAID, 2018).

The process of HIV treatment service delivery include the full range of services that should be provided together with HIV testing: counseling (pre-test information and post-test counseling); linkage to appropriate HIV prevention, treatment and care services, and other clinical and support services; and coordination with laboratory services to support quality assurance and the delivery of correct results. HIV testing services should be provided in line with WHO' essential 5 Cs: Consent, Confidentiality, Counselling, Correct test results, and Connection/linkage to prevention, care and treatment (WHO, 2016). The outcome of HIV service delivery has continuously improved over the years with the introduction of anti-retroviral therapies (ARTs). This has increasingly made HIV a chronic manageable disease (Dorfman & Saag, 2014). According to Donabedian, quality of care can be assessed as a triad of structure, process and outcome (SPO) constructs. Donabedian (2003), defines structure as the professional and organizational resources associated with the provision of health care (e.g. availability of medicines/equipment and staff training). Process as the things done to and for the patient (e.g. defaulter tracing and hospital referrals).

The public hospitals are funded and managed by government primarily to provide health services to the populace. Private hospitals are funded by individuals and organizations to provide health services as well as make a profit. In Rivers State, the treatment of HIV started with few tertiary hospitals but later cascaded down to public secondary hospitals and then to private secondary hospitals. These hospitals were all supported by partners to provide free HIV treatment. HIV drugs have remained free in both public and private hospitals. However, following the withdrawal of funding for some laboratory tests, patients have to pay for these services in some public and private facilities. The amount paid for laboratory services is lower in public hospitals due to government subsidies than in private hospitals (Umeokonkwo et al., 2018). Most of these public and private hospitals are faced with several challenges ranging from poor human resources, lack of enough equipment for medical procedures and poor environmental conditions. These are known to be

associated with the poor patients' satisfaction (Umeokonkwo et al., 2018). HIV treatment services are affected by non-compliance which is a major obstacle to the effective delivery of health care.

Nigeria is a long way off meeting the global target of enrolling 90% of people diagnosed with HIV on antiretroviral treatment (ART). Just 33% of all people living with HIV were receiving treatment in 2017. Among children this is even lower, with just 26% on ART (UNAIDS, 2018). Of the people on HIV treatment, only 24% had achieved viral suppression in 2016. (UNAIDS, 2018). Poor treatment coverage and adherence means that the number of AIDS-related deaths in the country has remained high with 150,000 deaths in 2017 (UNAIDS, 2018). Although Nigeria adopted a 'test and treat' policy in 2015, which means that anyone with a positive diagnosis is eligible for treatment, this is far from a reality. Efforts however have been made to scale-up treatment access, and 212,000 more people were enrolled on antiretroviral treatment between 2016 and 2017 (UNAIDS, 2017).

In 2015 there were only 1,078 facilities providing HIV treatment which is not enough for the number of persons living with HIV in Nigeria (NACA, 2017). In spite of the addition of more facilities in providing HIV services over the years, there are still new infections and some are still dying. Each year billions of dollars is spent by developing countries, international agencies, and developed nations on these programs. While health programs have clear goals, evidence documenting their progress, impact, and outcomes is lacking. In several countries Nigeria inclusive, services offered by private health care facilities are considered to be superior to those offered in a public health care facilities, it is however unclear if this is true for HIV services. This is because there is paucity of research information evaluating or comparing structures and treatment processes in public and private HIV treatment centres.

MATERIALS AND METHOD

Study Area

This study was carried out in both public and private HIV treatment centres in Port Harcourt, Rivers State. Rivers State is one of the 36 states of Nigeria. According to census data released in 2006, the state has a population of 5,198,716, making it the sixth-most populous state in the country (Nigeria Administrative Division, 2014). Its geography is divided into upland and riverine with 23 Local Government Areas; four of which can be said to be urban while the rest are mostly made up of rural settlements (Omosivie, 2019).

Port Harcourt is the capital and largest city of Rivers State. The urban population is about 2.7 million people. It lies along the Bonny River and is located in the Niger Delta. As of 2016, the Port Harcourt urban area has an estimated population of 1,865,000 inhabitants, up from 1,382,592 as of 2006 (Arizona & Chinedu, 2011). Port Harcourt is the leading hub for medical services in Rivers State. Many healthcare facilities including hospitals and research facilities are located in Port Harcourt. (National Institute for Health and Clinical Excellence, 2014).

There are about 46 public and 40 private ART sites of HIV treatment centres in Port Harcourt. The public HIV treatment centers included in study were University of

Port Harcourt Teaching Hospital (UPTH), Rivers state University Teaching Hospital (RSUTH), MPHC Elekahia, MPHC Rumuigbo, MPHC Ozuoba, MPHC Rumukwrushi, MPHC Church Hill, MPHC Mgbunduku, MPHC Orogbum and MPHC Rumuodumaya. The private HIV treatment centers were PAT FARE, Palmars Hospital, Vinkas, Springs Hospital, St Martins Hospital, St Patrick Hospital, Chijiman Specialist, Health of the Sick, Morning Star Clinic and Meridian Hospital.

$$N = \frac{2 \times (Z_{\alpha/2} + Z_{\beta})^2 \times p_1 (100 - p_1) + p_2 (100 - p_2)}{(P_1 - P_2)^2} \quad (\text{Wang and Chow, 2007})$$

The following assumptions were made; N= sample size; $Z_{\alpha/2}$ = critical value of the normal distribution at $\alpha/2$ (1.96); Z_{β} = critical value of the normal distribution at β (0.84); p_1 = public HIV treatment centres; p_2 = private HIV treatment centres. The sample size of 10 public and private HIV treatment centres were used.

Sampling Method

Multistage sampling method involving two stages was used in the study. The first stage was stage involved a stratified sampling method was used to 10 public and 10 private HIV treatment centres from the forty-six (46) public and forty (40) private ART facilities in Port Harcourt metropolis by simple random sampling of balloting. The selected Public HIV treatment centres were; UPTH, MPHC Rumuigbo, MPHC Ozuoba, Rumukwrushi MPHC, Rumuodumaya MPHC, MPHC Church Hill, MPHC Mgbunduku, MPHC Elekahia, MPHC Orogbum, and RSUTH. Private were; Pat Fare hospital, Palmars hospital, Vinkas hospital, Spring Hospital, St Martins Hospital, St Patrick's hospital, Chijiman Specialist, Health of the Sick, Morning Star Hospital, Meridian Hospital.

Study tool and Validation

A semi-structured interviewer-administered checklist was used for the study. The Interviewer administered checklist comprised of three sections: Section A obtained responses on health facility information. Section B obtained responses on Structures: Personnel staff / physical facilities. Section C obtained responses on the HIV treatment processes in public and private HIV treatment centres in Port Harcourt, Rivers State. Earlier before assessment of structures and evaluation of the treatment process, pre-test of the study tool was carried out in one public and one private of randomly selected HIV treatment centre.

Data collection/Analysis

Study Design

It was a comparative cross-sectional study involving public and private HIV treatment centres that had existed for 6 months, still functional and render HIV treatment to a minimum of 5 patients per week.

Sample Size Determination

Sample size was obtained using comparative cross-sectional study design for two proportions; Formula used for calculating the sample size was;

The assessment the structure and evaluation of HIV treatment process was completed in a period of eight (8) weeks. The researchers recruited, two experienced research assistants who went through refresher training in research techniques and study procedures for two days, and also participated in the pre-testing and revision of the study tools. Data was entered into the Statistical Package for Social Sciences (SPSS) software version 21 in numeric codes and analyzed using SPSS version 21. Comparative analysis for public and private HIV treatment centres were done. Descriptive statistics such as frequency distributions, percentages, and inferential analysis to test for association was done; hence, p-value as $p < 0.05$ was considered statistically significant. Continuous variables was expressed as median \pm interquartile range while categorical variables was expressed as absolute frequencies. Mann Whitney U test will be used to compare domains of HIV treatment services between public and private centers. Fisher's Exact test was used to test for differences between private and private locations Results from analyzed data were presented in tables.

Ethical Considerations

Ethical clearance for the study was gotten from the Research and Ethics Committee of the University of Port-Harcourt. Written permission from Rivers State Primary Health Management Board, Department of Planning, Research and Statistics (DPRS) and Rivers state Ministry of Health was obtained to cover the various health facilities used. Verbal permission/ consent was obtained from the directors of the private treatment centres.

RESULTS

Comparison of findings of HIV Structures for public and private health facilities

Table 3.1: Utilities available at the Public and Private HIV Treatment Centre

| Characteristics | HIV Treatment Centre | | | | Fisher's exact p |
|---|----------------------|-------|-----------------|------|------------------|
| | Public n=10 | | Private n=10 | | |
| | Freq | % | Freq | % | |
| Electricity or Generator set | | | | | |
| Commodity not available | 0 | 0.0 | 3 | 30.0 | 0.011* |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 10 | 100.0 | 4 | 40.0 | |
| Portable Water | | | | | |
| Commodity not available | 0 | 0.0 | 2 | 20.0 | 0.011* |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 4 | 40.0 | |
| Toilet for Staff | | | | | |
| Commodity not available | 4 | 40.0 | 4 | 40.0 | 1.00 |
| Inadequate | 6 | 60.0 | 6 | 60.0 | |
| Adequate | 0 | 0.0 | 0 | 0.0 | |
| Toilet for clients | | | | | |
| Commodity not available | 4 | 40.0 | 4 | 40.0 | 1.00 |
| Inadequate | 0 | 0.0 | 1 | 10.0 | |
| Adequate | 6 | 60.0 | 5 | 50.0 | |
| Toilet for visitors | | | | | |
| Commodity not available | 4 | 40.0 | 4 | 40.0 | 0.179 |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 6 | 60.0 | 3 | 30.0 | |
| Facility for Inter and Intra communication | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.214 |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 10 | 100.0 | 7 | 70.0 | |
| Functioning computer and Internet connection | | | | | |
| Commodity not available | 6 | 60.0 | 6 | 60.0 | 0.371 |
| Inadequate | 0 | 0.0 | 2 | 20.0 | |
| Adequate | 4 | 40.0 | 2 | 20.0 | |

*Statistically significant ($p < 0.05$), Fisher's exact p=Recommended where value counts are < 5

Table 3.1 showed that (public versus private facilities); adequate electricity or generator set (10 versus 4), adequate portable water (10 versus 4), adequate; inadequate toilet for staff (0; 6 versus 0; 6), adequate

toilet for clients (6 versus 5), adequate toilet for visitors (6 versus 3) adequate facility for inter and intra communication (10 versus 7), adequate functioning computer and internet connection (4 versus 2).

Table 3.2: Equipment's available at the Public and Private HIV Treatment Centre

| Characteristics | HIV Treatment Centre | | | | Fisher's exact p |
|--|------------------------|-------|-------------------------|------|------------------|
| | Public n=10 Freq | | Private n=10 Freq | | |
| | | % | | % | |
| Building | | | | | |
| Commodity not available | 3 | 30.0 | 5 | 50.0 | 0.817 |
| Inadequate | 0 | 0.0 | 0 | 0.0 | |
| Adequate | 7 | 70.0 | 5 | 50.0 | |
| Couch bed for examination | | | | | |
| Commodity not available | 0 | 0.0 | 3 | 30.0 | 0.115 |
| Inadequate | 4 | 40.0 | 5 | 50.0 | |
| Adequate | 6 | 60.0 | 2 | 20.0 | |
| Existence of separate ward | | | | | |
| Commodity not available | 0 | 0.0 | 3 | 30.0 | 0.003* |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 3 | 30.0 | |
| Sphygnomanometer | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.724 |
| Inadequate | 0 | 0.0 | 2 | 20.0 | |
| Adequate | 10 | 100.0 | 8 | 80.0 | |
| Stethoscope | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.724 |
| Inadequate | 0 | 0.0 | 2 | 20.0 | |
| Adequate | 10 | 100.0 | 8 | 80.0 | |
| Thermometer | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 1.00 |
| Inadequate | 0 | 0.0 | 1 | 10.0 | |
| Adequate | 10 | 100.0 | 9 | 90.0 | |
| Weighing scale | | | | | |
| Commodity not available | 0 | 0.0 | 2 | 20.0 | 0.211 |
| Inadequate | 0 | 0.0 | 1 | 10.0 | |
| Adequate | 10 | 100.0 | 7 | 70.0 | |
| Height scale | | | | | |
| Commodity not available | 1 | 10.0 | 1 | 10.0 | 0.087 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 9 | 90.0 | 5 | 50.0 | |
| Facility has functional Ambulance | | | | | |
| Commodity not available | 7 | 70.0 | 6 | 60.0 | 0.192 |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 3 | 30.0 | 1 | 10.0 | |

*Statistically significant ($p < 0.05$), Fisher's exact $p =$ Recommended where value counts are < 5

Table 3.2 showed that (public versus private facilities); adequate building set (7 versus 5), adequate couch bed for examination (6 versus 2), adequate existence of separate ward (3 versus 3), adequate Sphygnomanometer (10 versus 8), adequate

Stethoscope (10 versus 8), adequate Thermometer (10 versus 9), adequate weighing scale (10 versus 7), adequate height scale (9 versus 5), adequate facility has functional ambulance (3 versus 1).

Table 3.3: Equipment's available at the Public and Private HIV Treatment Centre

| Characteristics | HIV Treatment Centre | | | | Fisher's exact p |
|--|----------------------|-------|---|------|------------------|
| Availability of waiting reception | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.090 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 6 | 60.0 | |
| Functional Neonatal Resuscitation | | | | | |
| Commodity not available | 3 | 30.0 | 0 | 0.0 | 0.113 |
| Inadequate | 4 | 40.0 | 3 | 30.0 | |
| Adequate | 3 | 30.0 | 7 | 70.0 | |
| Designated area for sick newborn | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.090 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 6 | 60.0 | |
| Availability of Equipment for Immunization | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.090 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 6 | 60.0 | |
| Availability of local or modern Sterilizing equipment | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.035* |
| Inadequate | 0 | 0.0 | 5 | 50.0 | |
| Adequate | 10 | 100.0 | 5 | 50.0 | |
| Refrigerator | | | | | |
| Commodity not available | 0 | 0.0 | 2 | 20.0 | 0.033* |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 10 | 100.0 | 5 | 50.0 | |
| Fetal Stethoscope | | | | | |
| Commodity not available | 0 | 0.0 | 3 | 30.0 | 0.003* |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 3 | 30.0 | |
| Counselling Room | | | | | |
| Commodity not available | 0 | 0.0 | 1 | 10.0 | 0.003* |
| Inadequate | 0 | 0.0 | 6 | 60.0 | |
| Adequate | 10 | 100.0 | 3 | 30.0 | |

*Statistically significant ($p < 0.05$), Fisher's exact $p =$ Recommended where value counts are < 5

Table 4.3 showed that (public versus private facilities); adequate availability of waiting reception (10 versus 6), adequate functional neonatal resuscitation (3 versus 7), adequate designated area for sick newborn (10 versus 6), adequate availability of equipment for immunization

(10 versus 6), adequate availability of local or modern sterilizing equipment (10 versus 6), adequate refrigerator (10 versus 5), adequate fetal Stethoscope (10 versus 3), adequate counselling room (10 versus 3).

Table 3.4: Commodities available at the Public and Private HIV Treatment Centre

| Characteristics | Location of HIV Treatment Centre | | | | Fisher's exact p |
|-----------------------------------|----------------------------------|-------|-------------------------|------|------------------|
| | Public n=10 Freq | | Private n=10 Freq | | |
| | | % | | % | |
| Gloves | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.090 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 6 | 60.0 | |
| Mask | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.724 |
| Inadequate | 0 | 0.0 | 2 | 20.0 | |
| Adequate | 10 | 100.0 | 8 | 80.0 | |
| Apron | | | | | |
| Commodity not available | 0 | 0.0 | 1 | 10.0 | 0.629 |
| Inadequate | 2 | 20.0 | 3 | 30.0 | |
| Adequate | 8 | 80.0 | 6 | 60.0 | |
| Google | | | | | |
| Commodity not available | 5 | 50.0 | 5 | 50.0 | 0.395 |
| Inadequate | 0 | 0.0 | 2 | 20.0 | |
| Adequate | 5 | 50.0 | 3 | 30.0 | |
| Protective Booths | | | | | |
| Commodity not available | 0 | 0.0 | 1 | 10.0 | 0.011* |
| Inadequate | 0 | 0.0 | 5 | 50.0 | |
| Adequate | 10 | 100.0 | 4 | 40.0 | |
| Trash Bin | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.214 |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 10 | 100.0 | 7 | 70.0 | |
| Safety Boxes | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.214 |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 10 | 100.0 | 7 | 70.0 | |
| Laboratory for Blood Tests | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.090 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 6 | 60.0 | |

*Statistically significant ($p < 0.05$), Fisher's exact $p =$ Recommended where value counts are < 5

Table 3.4 showed that (public versus private facilities); adequate gloves (10 versus 6), adequate mask (10 versus 8), adequate apron (8 versus 6), adequate Google (5 versus 3), adequate protective booths (10

versus 4), adequate trash bin (10 versus 7), adequate safety boxes (10 versus 7), adequate laboratory for blood tests (10 versus 6).

Table 3.5: Commodities available at the Public and Private HIV Treatment Centre

| Characteristics | HIV Treatment Centre | | | | Fisher's exact p |
|--|------------------------|-------|-------------------------|------|------------------|
| | Public n=10 Freq | % | Private n=10 Freq | % | |
| Availability of Records | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.214 |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 10 | 100.0 | 7 | 70.0 | |
| Urine Strip | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.090 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 6 | 60.0 | |
| HIV Test Kit | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.214 |
| Inadequate | 0 | 0.0 | 3 | 30.0 | |
| Adequate | 10 | 100.0 | 7 | 70.0 | |
| Facility has an uninterrupted stock | | | | | |
| Commodity not available | 0 | 0.0 | 0 | 0.0 | 0.090 |
| Inadequate | 0 | 0.0 | 4 | 40.0 | |
| Adequate | 10 | 100.0 | 6 | 60.0 | |
| Availability of Anti Shock Garment | | | | | |
| Commodity not available | 0 | 0.0 | 2 | 20.0 | 0.629 |
| Inadequate | 7 | 70.0 | 6 | 60.0 | |
| Adequate | 3 | 30.0 | 2 | 20.0 | |

*Statistically significant ($p < 0.05$), Fisher's exact p =Recommended where value counts are < 5

Table 3.5 showed that (public versus private facilities); adequate availability of records (10 versus 7), adequate urine strip (10 versus 6), adequate HIV test kit (10

versus 7), adequate facility has an uninterrupted stock (10 versus 6), adequate availability of anti-shock garment (3 versus 2).

Table 3.6: Summary scores for structures in public treatment facilities

| Domain | Maximum Possible Scores | HIV Treatment Centre | |
|---------------------------|-------------------------|--------------------------|-------|
| | | Public n=10 Median | IQR |
| Utilities | 14 | 11 | 8-11 |
| Equipment | 34 | 30.5 | 30-31 |
| Commodities | 26 | 24 | 23-25 |
| Overall Structural scores | 74 | 65 | 62-68 |

IQR: Interquartile range

Table 3.6 shows that in the public, utilities had a maximum score of 14, with a median of 11 and interquartile range of 8-11. Equipment had a maximum score of 34, with a median of 30.5 and interquartile range of 30-31, commodities had a maximum score of

26, with a median of 24 and interquartile range of 23-25. However, over all structural score gave a maximum score of 74, with a median of 65 and interquartile range of 62-68.

Table 3.7: Summary scores for structures in private treatment facilities

| Domain | Maximum Possible Scores | HIV Treatment Centre Private n=10 | |
|----------------------------------|-------------------------|-----------------------------------|--------------|
| | | Median | IQR |
| Utilities | 14 | 6.5 | 6-10 |
| Equipment | 34 | 22.5 | 20-28 |
| Commodities | 26 | 18.5 | 17-23 |
| Overall Structural scores | 74 | 46 | 40-67 |

IQR: Interquartile range

Table 3.7 shows that in the private, utilities had a maximum score of 14, with a median of 6.5 and interquartile range of 6-10. Equipment had a maximum score of 34, with a median of 22.5 and interquartile range of 20-28, commodities had a maximum score of

26, with a median of 18.5 and interquartile range of 17-23. However, over all structural score gave a maximum score of 74, with a median of 46 and interquartile range of 40-67.

Table 3.8: Comparison between scores for Availability of Structures in Public and Private HIV treatment Centres

| Domain | Maximum Possible Scores | HIV Treatment Centre | | | | Mann-Whitney test (p-value) |
|----------------------------------|-------------------------|----------------------|--------------|--------------|--------------|-----------------------------|
| | | Public n=10 | | Private n=10 | | |
| | | Median | IQR | Median | IQR | |
| Utilities | 14 | 11 | 8-11 | 6.5 | 6-10 | 5.60 (0.02)* |
| Equipment | 34 | 30.5 | 30-31 | 22.5 | 20-28 | 10.08 (0.02)* |
| Commodities | 26 | 24 | 23-25 | 18.5 | 17-23 | 6.27 (0.01)* |
| Overall Structural scores | 74 | 65 | 62-68 | 46 | 40-67 | 7.02 (0.01)* |

IQR= Interquartile range

* Significant difference with p-value <0.05

Table 3.8 showed that public versus private facilities had median scores of 11 versus 6.5 for utilities, 30.5 versus 22.5 for equipment, 24 versus 18.5 for commodities and the overall structural score of 65 versus 46. Also, the table showed a statistically significant difference

between the various structural domains and the health facility type: *Utilities* (5.60; p=0.02); *Equipment* (10.08; p=0.002); *Commodities* (6.27; p=0.01); *Overall Structural scores* (7.02; p=0.01)

Table 3.9: Summary of Treatment Process in Public and Private HIV treatment centres.

| Domain | Maximum Possible Scores | HIV Treatment Centre | | | | Mann-Whitney U test (<i>p-value</i>) |
|--------------------|-------------------------|----------------------|-------|-----------------|-------|---|
| | | Public n=10 | | Private n=10 | | |
| | | Median | IQR | Median | IQR | |
| +Treatment Process | 51 | 39 | 39-46 | 34.5 | 30-37 | 10.87 (0.001)* |

* Significant difference with *p-value* <0.05

Table 3.9 showed that (public versus private facilities) had median scores of (39 versus 34.5) with interquartile range of 39-46 for public facilities and (30-37) for private facilities. There was a statistically significant association between HIV treatment process in public and private facilities (10.87; *p*=0.001).

DISCUSSION

Assessment of structures in HIV treatment centres

This study found that public HIV treatment centres had significantly higher median scores for overall facility structure and components of structure such as utilities, equipment and commodities, compared to private HIV treatment centres. This finding is in keeping with reports by Donald et al., (2015) who had similar findings. Also, there is similarity between findings in this study findings by Umeokonkwo et al., (2018). However, research by Kathryn et al., (2017) found that private facilities had more advanced equipment, better utilities but similar supply of commodities. This may be due to the fact that public HIV facilities in this study had not received much attention in terms of structural upgrade or equipment provision (FMOH, 2003). Study findings reflect the focus and attention from NGOs and government agencies for the control of HIV-AIDS in the state on ensuring that public facilities live up to basic standards in terms of structure since the bulk of PLHIVs are managed by government facilities. Private facilities are however expected to meet up with basic standards in terms of facility utilities, commodities, and equipment. Government and NGO support may need to extend to private facilities to facilitate this. Based on the findings in this study, it is implied that a better HIV service delivery may be obtained in the public facilities compared to the private facilities.

HIV Treatment Processes in Public and Private HIV Treatment Centres

Findings in this study revealed that treatment processes in public HIV treatment centres had significantly higher median score and interquartile ranges than the treatment processes in private health facilities. This was seen in the larger number of response that more doctors in public were good at explaining the reason for medical tests, certain about the test they carried out, provided complete medical care and that patients in public treatment centres accessed adequate medical care they

needed without being set back financially. This is similar to the finding by Yibeltal et al (2014) on treatment processes which revealed that improved processes such as health system strengthening, community mobilization, provision of care and support services and allowed scaling up of ART services led to the increase in number of people receiving ART. This study found that cost played a major role in establishing all that PLHIVs obtained in the facilities and the quality of services delivered. While the public facilities offered these services to the patients at no cost the difference was the case for private facilities. HIV screening and testing was obtained at little or no cost as well as anti-retroviral drugs which was given to them for free at the public health facilities whereas same service was paid for by these patient at the private facility, this is in line with findings by Deribew et al., (2018). Similarly, findings by Long et al., (2016) is in keeping with the findings in this study. However, these findings were not similar to the findings by Moyo et al., (2016). This study findings revealed that some of these services are better in public compared to private facilities such as; defaulter tracking was much easier as this was seen to be done by personnel's specifically trained for it. Peer educators who are also PLHIVs are engaged by the NGOs to track and educate other PLHIVs. This very act was found to remove stigmatization and also allow both the poor and middle class to access care. Some private treatment centres partner with the NGOs to provide adequate care but result still show better processes in the public treatment centres. On the basis of these findings, it can be deduced that the public facilities had better treatment process than the private treatment centres.

4.3 Limitations

This study is limited by the number of HIV treatment facilities used in this study. This number may not give a true representation or the true picture of the facilities in Port Harcourt, Rivers State.

It was difficult having access to all the structures in some of HIV treatment centres.

4.4 CONCLUSION

Based on findings in this study, the researchers conclude that the public HIV treatment centres had good structures available in offering HIV service delivery however the private HIV treatment centers had capacity for better structures. The public HIV treatment centers

had a better HIV treatment process than the private HIV treatment centres.

RECOMMENDATION

The non-governmental organizations should be encouraged to take responsibility of equipping private facilities with the needed structure which in turn will enhance HIV treatment process.

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