

## Rehabilitation Centre-Warri: Post-Occupancy Evaluation of Selected Rehabilitation Centres in Nigeria

Afiari John Nwachukwu ([johnafiarinwachukwu@gmail.com](mailto:johnafiarinwachukwu@gmail.com))

Research Scholar and Corresponding Author

Teminijesu Isreal Oke, Lecturer and Ifeoluwa Akande, Lecturer, The Bells University of Technology, Ota, Nigeria



Copyright: © 2022 by the authors. Licensee [The RCSAS \(ISSN: 2583-1380\)](http://www.thercsas.com). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution Non-Commercial 4.0 International License. (<https://creativecommons.org/licenses/by-nc/4.0/>). Crossref/DOI: <https://doi.org/10.55454/rcsas.2.9.2022.008>

**Abstract:** *Healthcare facilities are built not merely to support and promote cutting-edge medicine and technology, patient safety, and high-quality patient care, but also to welcome patients, their families, and careers in a psychosocially supportive therapeutic atmosphere. The study assessed the post-occupancy evaluation of selected rehabilitation centers in Warri in order to propose a rehabilitation center that satisfies patients' needs. Explicitly, the study investigated the healing environments of the Warri rehabilitation centers-built years ago; examined whether space, day lighting, and other architectural features in the rehabilitation center facilitate the process; established the architectural design requirements necessary for creating an ideal healing environment for drug addicts and proposed the guidelines for improving rehabilitation centers in Warri. The study adopted thematic analysis, descriptive analysis, documentation analysis, and design as data analysis techniques. The finding established that the lighting of the rehabilitation centers needs to be enhanced and the space could be improved to be more ambiances. The study also revealed that day lighting, space and other architectural features in the rehabilitation center facilitate the healing process. In addition, the finding indicated that a pleasant atmosphere meets the patients' aesthetic, psycho-physiological, and ergonomic needs and characteristics. Lastly, contemporary rehabilitation is required in the country. From the findings, the study concluded that the rehabilitation center satisfies patients' needs with a little architectural maintenance. Thus, it is recommended that the management should expedite actions to illuminate the rehabilitation center and also re-paint the buildings as color matters in healing processes. Also, it is recommended that the government should upgrade the existing rehabilitation center in the country or build a modern rehabilitation center as designed in the study.*

**Keywords:** Healing Process, Patients, Rehabilitation Center, Warri

### Introduction

Healthcare facilities are built not merely to support and promote cutting-edge medicine and technology, patient safety, and high-quality patient care, but also to welcome patients, their families, and careers in a psychosocially supportive therapeutic atmosphere. Patient outcomes, patient happiness, patient safety, staff efficiency, staff satisfaction, and organizational outcomes are all influenced by the physical environment in which a patient receives treatment (Smith & Watkins, 2016). Noticeably, one of the hospital buildings is known as a rehabilitation center.

Rehabilitation is the process of helping an individual achieves the highest level of function, independence, and quality of life possible. Rehabilitation does not reverse or undo the damage caused by disease or trauma, but rather helps restore the individual to optimal health, functioning, and well-being ([Lakeland Health, 2017](#)). Also a rehabilitation center is a place that works to treat a range of illnesses, some of which are physical and others of which are brought on by drug usage or mental illness (Danuah-Amoah, & Charan, 2017). Some facilities include overnight housing options for patients receiving care. Some only provide services for outpatients. Numerous people will focus on either drug or physical recovery. However, patients may be kept apart in a physical rehabilitation center that offers residential services and pairs as a nursing home. For people who need a lot of physical rehabilitation, these residences are extremely beneficial.

Another feature of the rehabilitation center is the nature of the space; the space also facilitates the movement within the center cum the bed arrangement. Adequate space is required as a prerequisite condition for the treatment of the patients. Therefore, architecture's potential to affect our emotions is more nuanced than merely mimicking nature. Also, perception is significantly influenced by the types of patterns employed in design. This is unusual for the rehabilitation center, which is designed to make the transition from an injury, illness, addiction to drugs, alcohol, or smoking, or disease as easy as possible. Architecture choices made in the healthcare industry can have a big and enduring impact on a rehabilitation centre. On that note, the

relevance of the built environment for patient treatment indicates that serious attention should be paid to finding the optimal design approaches to support the mission of healthcare institutions (Kalantari & Snell, 2017). To help ensure optimal results in these facilities, healthcare architects are increasingly relying on evidence-based design, an approach that uses empirical research to identify the most effective design solutions. Post-occupancy evaluation is the main component of an evidence-based design to measure how effective is the new architectural designs in accomplishing their envisioned drive and purpose.

Post-occupancy evaluation (POE) refers to the process of evaluating a building systematically and comprehensively after completion and being occupied by the users (Agyekum, Ayarkwa, and Amoah (2016). Likewise, Tookaloo & Smith, (2015), posits that POE is a tool, which facility managers can use to identify as well evaluate the behavior of building performance. It is also an instrument used by experts for the diagnosis of buildings and facilities for the purpose of obtaining information useful in the management of the building (Ojile, Buba, Damina & Ka'ase, 2016). Information collected from POE also guides the design of new and related buildings. In the opinion of Aliyu, Muhammed, Muhammed & Singhry, (2016), POE refers to the measuring of a building's performance over the course of its life, from initial conception to occupation, with the goal of using the results to enhance future building designs. The view of the scholars on the POE slightly differs from that of Agyekum, et.al., (2016) because of emphasis on the life cycle of a building.

Despite the state government and federal government efforts to be on top of drug abuse cum another youthful menace, through a lot of intervention around drug abuse; the effects of the drug on the youth are on the increase and this necessitated building of more rehabilitation centers. The architecture of a healing environment is unique. Healing and treatment spaces need to have a therapeutic and relaxing feel for the users. Just like any other trend, building technology is dynamic. Over the years design for healing and treatment spaces has transformed. If the design and construction of rehabilitation centers is not prioritized, the patients' treatment may fail because the design interventions of these facilities do not necessarily conform to the current approved treatment for the addicts. To this end, the pertinent question is; "To what extent the rehabilitation center performs its function? Or does the rehabilitation center have adequate space? To answer the questions, the current study seeks to investigate healing environments of the Warri rehabilitation centers-built years ago; examine weather space, day lighting and other architectural features in the rehabilitation center to facilitate the process, and establish the architectural design requirements necessary for creating an ideal healing environment for drug addicts.

## Methods and Materials

A descriptive survey research design and case study were adopted in the study as the research framework that guides the data collection and analysis. The target population of the study comprised the entire staff of the selected rehabilitation centers in Warri. A structured questionnaire and observation schedule (checklist) were used as the research instrument. While a structured questionnaire was used to solicit information from the staff of the selected rehabilitation centers, the Mean Items Score (MIS) was used to answer the research questions and achieve the research objectives

## Results

### The environment of Warri rehabilitation Center

The findings revealed that the environments of the rehabilitation centers are not bad. However, the lighting of the centers needs to be enhanced and the space could be improved to be more ambiances. In addition, the building needs a touch of bright color as colour thematically enhances healing. In sum, the buildings are moderately fit for rehabilitation at the time of the study.

**Table 1: Descriptive Statistics for Day lighting and space and the healing process**

| Descriptive Statistics  |     |        |                |
|---|-----|--------|----------------|
|   | N   | Mean   | Std. Deviation |
| It is easier to treat patients in a room with daylight              | 125 | 4.6400 | .48193         |
| Rooms with daylight help patients feel more comfortable and at ease | 125 | 4.4640 | .60300         |
| Wards with the daylight help patients recover faster                | 125 | 3.6480 | 1.36344        |

|  |     |              |              |
|--|-----|--------------|--------------|
| Center   | 125 | 4.2480       | 1.16851      |
| The ambiance of the rehabilitation in the center has an effect on the patients' healing                        | 125 | 3.9360       | 1.16220      |
| Well-designed rehabilitation center with a quiet space has a positive effect on patient well-being and healing | 125 | 4.6960       | .46183       |
| Spaces within the rehabilitation centers give room for activities in providing services to a patient           | 125 | 3.9840       | 1.26990      |
| Space architecture is an internal part of the healing  | 125 | 4.7840       | .41317       |
| The architectural design of the space is adequate (ventilation, lighting, connection of spaces)                | 125 | 4.4880       | .63010       |
| A thermally comfortable environment  | 125 | 3.8320       | 1.14818      |
| <b>Cluster Mean</b>  |     | <b>4.272</b> | <b>0.114</b> |

Source: Researcher's Compilation (2022)

### Decision Rule

Based on the data collected through a 5 -points Likert Scale, the decision rule for the mean values is stated as follows; **Mean values < 3.50: Disagree and Mean values > 3.50: Disagree.**

Table 1 shows the analysis of space, day lighting and other architectural features in the rehabilitation center under study. Comparing the cluster mean value of 4.272 with the cut-off mean value of 3.50, it can be inferred that the respondents agreed that day lighting, space and other architectural features in the rehabilitation center facilitate the healing process in the study center.

### Architectural Design Requirements for Rehabilitation Centers

After reviewing relevant architectural journals, it was discovered that a pleasant atmosphere should meet the patients' aesthetic, psycho-physiological, and ergonomic needs and characteristics. As a result, typical rehabilitation should include the elements of spatial comfort, visual comfort, and functional comfort. Patients in a rehabilitation center will benefit from the components' psychological and physiological comfort. Following research of relevant architectural publications, it was discovered that a pleasant atmosphere should meet the patients' aesthetic, psycho-physiological, and ergonomic demands and characteristics. Thereby, spatial comfort, visual comfort, and functional comfort should all be included in normal rehabilitation. Patients in a rehabilitation facility will benefit from the components' psychological and physiological comfort.

### Discussion and Conclusion

The study assessed the post-occupancy evaluation of selected rehabilitation centers in Warri in other to propose a rehabilitation center that satisfies patients' needs. Observation analysis, descriptive analysis (mean and standard deviation), documentary analysis, and design were adopted as data analysis techniques in the study. The study revealed that the lighting of the rehabilitation centers needs to be enhanced and the space could be improved to be more ambiances. The environment of the rehabilitation center in Warri is environmentally friendly; however, the building requires slight maintenance in terms of lighting and painting of the building. The aforementioned concepts of "lighting" and "colour" are germane and very effective in improving the medical diagnosis of patients as documented in architecture literature.

Also, the study established that day lighting, space, and other architectural features in the rehabilitation center facilitate the healing process in the study center. In contrast to the lighting system, day lighting is an architectural design that allows natural light into buildings and around buildings. In real life, it means positioning windows, reflective surfaces, and other transparent materials in such a way that natural light effectively illuminates interior spaces during the day. Depending on the opening windows, fenestration, and orientation of the building, according to architectural literature, daylight plays a vital role in providing illumination in the healthcare facility. In the rehabilitation facility, it is to provide a soothing atmosphere for people to heal. "Spaces" at the rehabilitation center were another architectural component taken into consideration. Similar to other architectural elements, rehabilitation gardens and parks offer spaces where patients can rest in the apprehension of nature and engage in physical activity in addition to receiving

medical care. Rehabilitation facilities can thereby promote recovery by promoting independence, including patients and their families, and improving the rehabilitation process.

Lastly, the study indicated that a pleasant atmosphere should meet the patients' aesthetic, psycho-physiological, and ergonomic needs and characteristics. As a result, typical rehabilitation should include the elements of spatial comfort, visual comfort, and functional comfort.

## Conclusion

The study is concluded as: the post-evaluation of the Warri rehabilitation center, it was deduced that the environment of the center is environmentally friendly. Still, the building requires slight maintenance in terms of lighting and painting. Day lighting, space and other architectural features in the rehabilitation center facilitate the healing process in the study center. In a rehabilitation center, a pleasant atmosphere should meet the patients' aesthetic, psycho-physiological and ergonomic needs and characteristics.

4

## References

- Agyekum, K., Ayarkwa, J., Amoah, P. (2016) Post-occupancy evaluation of postgraduate students' hostel, *Journal of Building Performance*; 2016; 7(1): 97-104.
- Aliyu, A. A., Muhammad, M. S., Girgiri, M., Singhry, I. M.(2016). A review of post-occupancy evaluation as a tool and criteria for assessing building performance. Proceedings of the Academic Conference on Agenda for Sub-Sahara Africa, 4(1)
- Kalantari S, & Snell R. (2017). Post-Occupancy Evaluation of a Mental Healthcare Facility Based on Staff Perceptions of Design Innovations. *HERD*.10(4):121-135
- Lakeland Health (2017). The Future of Health Care. Lakeland Health Annual Report A World-Class Facility Fit for a 15 Top U.S. Health System.
- OjileP.,Buba I.,Damina G. B., &Ka'ase E. T. (2016). Post Occupancy Evaluation of New College of Environmental Studies Buildings at Gesse Campus, WaziriUmaru Federal Polytechnic, Birnin Kebbi. *IOSR Journal of Environmental Science, Toxicology and FoodTechnology*, 10 (12), 65-69
- TookalooA.,& Smith R. (2015). Post Occupancy Evaluation in Higher Education. *International Conference on Sustainable Design, Engineering and Construction. Procedia Engineering* 118, 515 – 521