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A Critical Examination of the Therapeutic Architecture Potentials at the Psychiatric Hospital Yola, Nigeria

Manga, P. M., Yamte, V. J. and Yawate, V. E.
Department of Architecture Modibbo Adama University, Yola

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Corresponding author
Manga, P. M.
mangapauljr@yahoo.com

Abstract:
In recent years, there have been efforts to improve mental health services in Nigeria, including the establishment of metal health policy and mental health action plan in 2013. Despite evidences and researches present that imply that the atmosphere and design of a place can affect the psychology and the mood of humans, there seem to be more drug administration and movement restriction preference over environmental and other inert factors that could contribute to the healing of the psychiatric patients. Hence, this research focused on the survey of the Psychiatric hospital Yola towards exposing the level of application of the therapeutic potentials of the environment to contextually compare with the standards obtainable from previous researches where a qualitative research approach through visual survey was employed. The psychiatric hospital Yola failed below requirement to induce therapy on its occupants, making healing totally dependent on the administration of drugs any other form of therapy. An interview with a psychiatrist exposed a concern of patients taking longer than expected time to heal or response to medication. Consequently, some patients who previously visited the hospital now created level of resistance to be returned for subsequent consultations as some speak of the hostility of the environment.

Keywords: *Therapeutic architecture, Psychiatric hospital*

1. Introduction

Nigeria like many other countries has a significant mental illness burden; which constitute for as high as 1 in every 20 Nigerians having one form of mental illness or the other [1]. The world health organization (WHO) stated in 2015 that Nigeria had an estimated 4 million people which accounted for about 4.3% of the total population of the country living with a mental disorder [2]. There are significant challenges in providing adequate mental health care in Nigeria. The mental health system in Nigeria faces several challenges, these challenges range from shortage of mental health professionals to inadequate funding to stigmatization and discrimination to the availability of mental health services. Hence, there seem to be less attention given to the environmental contributing factor in the healing process of psychiatric illness. In recent years, there have been efforts to improve mental health services in Nigeria, including the establishment of metal health policy and mental health action plan in 2013.

However, more needs to be done to address the mental health needs of Nigerians [1]. Mental health spaces are intended to contribute to the therapy of its occupants as such there must be a due consideration to environmental factors that will promote the desired effect. In the recent years despite evidences and researches present that implies that the atmosphere and design of a place can affect the psychology and the mood of humans. It remains paramount to consider the environmental therapeutic input in the healing of psychiatric patients in any given environment in addition to the medical treatment given to the psychiatric patients. Adamawa State being one of the states in the northeastern Nigeria that was ravaged by the *Boko Haram* insurgence has been high on the psychiatric illness index. This is because the effects of the insurgence presented enormous psychological consequence which resulted to different degrees of psychiatric illness [3]. Hence, the need for research into the therapeutic potentials of psychiatric hospitals in Yola which possesses one of the extreme weather conditions in Nigeria.

2. Research Methodology

For the purpose of answering the research questions a comparative analysis was done to know the extent of the application of therapeutic architecture in the psychiatric hospital Yola and the standard obtainable from previous researches. The psychiatric hospital Yola was specifically chosen as a case study for the sake of minimizing the population of the study and thus the sample to ensure effective and efficient results and finding. Hence, it was chosen as representative sample because the psychiatric hospital can be reached easily and that it is the only government owned psychiatric hospital in the state. To answer the questions and reach the research objectives some data were collected through interviews with therapists and doctors specializing in psychiatric illness and addiction in addition to the physical survey of the facility. Furthermore, data were also collected through previous literature from books, academic journals, periodicals, and reports.

Consequently, at the end the results that emerged were analysed through a contextual comparative analysis between the case study and international psychiatric hospitals.

3. The Role of Architecture in Therapy

According to Unwin [4] Architecture is generally regarded as the art of designing buildings. Hence, the field contains theoretical frameworks that explain various concepts some of which will be discuss in this paper. Presently, especially in Nigeria; the concept of modern architecture has become phenomenon the populace has come to admire and reckoned with. However, Mona and Kaleed [5] viewed this concept as generally a shift from conventional aesthetics which seeks to go beyond standard practice by focusing on location, layout, and function. Hamilton and Watkins [6] opined that the term 'modern' is more than simply dissatisfaction with what has previously been the case. Hence, this paper focuses majorly on the function of architecture in aiding therapy for psychiatric patients. Mona and Kaleed [5] stated that architecture tends to be therapeutic when you consider aesthetics, designs, colour, layout and spaces. Most studies that have been done on therapeutic potentials of architecture were conducted on patients occupying one bedroom and two bedrooms with access to light and those without access to light. The findings show that structural environment can help boost emotional wellbeing, decrease infections, and even prevent falls, while rooms with ample light are shown to have positive effects on patients than those without [5].

This research intends to expose the effects of the fusion of architectural designs and natural aspects such as in-built and exterior landscape to have significant therapeutic effects on humans particularly those with psychiatric illness. The term 'therapeutic' is linked to psychiatric hospitals and rehabilitation centres. Hospitals that have been designed to perform therapeutic functions should of necessity contain therapeutic properties. According Mona and Kaleed [5] these therapeutic properties have influenced a new architectural approach that is commonly known as evidence-based design. Hamilton and Watkins [6] suggest that evidence-based design is the process of the accurate, astute and careful use of present best evidence from practice and research in making vital decisions about the design of a building. Furthermore, evidence-based design has become prominent in health care design because most hospitals aim to construct 'healing setting' for their patients [4]. Consequently, Hamilton and Watkins [6] stated that when designing health care facilities such as psychiatric hospitals such design should be done base on the knowledge of therapeutic impact of certain physical attributes of designed spaces on patients, practitioners and visitors as a guide. Therapeutic architecture is grounded on the conviction that the setting in which people live, especially the design, has far-reaching effect on people's emotional well-being. However, the structural design of the building, whether it is attractive, comfortable and functional base on therapeutic desired effect is and most always is the emphasis in psychiatric hospital design. It is also worth noting that Neuropsychiatric treatment in Nigeria is majorly drug administration oriented with less consideration to environmental therapeutic impact.

Study shows two distinct schools of thoughts on therapeutics to further add that the most important issue to hospitals in relation to modern architecture is having a natural setting and good ventilation. It is safe to note that until recently, the physical properties of hospitals were normally overlooked in Nigeria. Morgenthaler [7] stated that one of the successes of evidence-based design is that it has revived some of the lost qualities of structure layout such as 'nature feel' in hospitals. Hamilton and Watkins [6] mentioned on evidence-based designs that centre on nature's aspects are comparative. Hence, the University of North Carolina reported as regards inpatient rehabilitation facilities that a carefully selected colour scheme with ample lighting and art work helped improve the mood of drug patients [6]. Colour brings out a positive reaction from a social and emotional perspective, and various colours are known to have specific emotional outcomes on individuals. Hence, the colour aspect is considered when painting walls since it also has to have interaction with background colour and natural light [8]. Hamilton and Watkins [6] further stated that when evidence-based design became more acceptable to people, all facets that could be linked to the environment were accepted as proof. This went beyond patient's emotional wellbeing, but it also included their physical wellbeing such as living in spaces that were less prone to causing physical injuries, fresh air, technology that helped reduce medical errors, and improved acoustics are considered as proof [6].

According Morgenthaler [7] while evidence-based research aims to understand individual responses, it emphasizes innate reactions over mapping individual's opinions. These innate reactions are considered objective evidence, which are not clouted by social or cultural bias. As a result, this objective evidence has narrowed down the scope of assessing therapeutic architecture, closely tying it to the traditional understanding health, architecture and therapeutic environment. Therefore, this study was limited to psychological and medical effects that would be adequate to reveal emotional outcomes linked to psychiatric patients. Studies show that adequate proof of the presence of natural physical properties such as trees in or out of the facility has positive influence of an individual's health and wellbeing. Chandra [9] is of the view that particularly viewing the environment through the window or from a screen can decrease stress levels and pain. Hence, the presence of plants inside a rehabilitation facility can lift individuals' mood and decrease symptoms of physical ache. Moreover, though there are less well-established evidence that proves the health advantages of direct connection with nature according to Chandra [9] the minute contribution of a therapeutic environment should not be neglected. Additionally, proper ventilation can help boost the mental state of patients. Nonetheless, the evidence for health advantages of natural light was deemed as weak and ambitious, while the evidence for health advantages of a quiet and serene environment were deemed as indirect [9].

4. Therapeutic Architecture and Psychiatric Healing Process

Therapeutic architecture according to many researchers has developed and been accepted as part of the solution against the austerity of health care facilities, which idea embodies the dream and prospect of designing spectacular architectural spaces that promote healing. For instance, Morgenthaler [7] that the concept of therapeutic architecture does not suggest that the architecture by itself has the capacity to heal patients, but rather, architectural manipulation of structures and space can allow for other environmental factors such as sound, colour, views, smell and light all of which contribute to a therapeutic environment to be prominent for healing purpose. Psychiatric patients can feel better if they occupy spaces that have favourable colours, wide windows that allow them to view outside, and spaces that restrict noise that would be considered loud.

Furthermore, Morgenthaler [7] opined that architectural designs that are inclined towards serene spaces would be good designs for constructing rehabilitation centres. However, other studies by [8], [4] and [10] confirmed that the conventional design approach employed in certain rehabilitation centres contributes to elevated stress levels and pose s risks to the well-being of both patients and staff, particularly in terms of excessive noise due to high population of patients and staff, small rooms especially for inpatient facilities, poor lighting, and small spaces. Therefore, psychiatric patients would surely benefit from therapeutic architecture but hospitals and rehabilitation centres that ignore the role of therapeutic architecture either have no idea about the implications of such designs, or claim that the cost of building is very high [10]. Studies showed that modern hospital facilities produce better patient results. Huisman [11] also noted that while considering drug rehabilitation facilities, the length of stay of drug addicts was lessened by upgrading the physical properties of the building facilities. Therapeutic architecture should not create the notion of long-term absence from real life but should be considered as a home away from home, a road that leads to social inclusion and individual control [12].

4.1 Colour Psychology

Incorporating colour scheme into therapeutic architectural design is essential as it plays a significant role in our daily lives and possesses the ability to influence our perception and interaction with our surrounding. Basson [12] discovered that both architecture and colour have the ability to visually stimulate patients and the surrounding society; this can provoke and elevate positive or negative emotions. These emotions according to Basson [12] are triggered through our mental perceptions of colours in relation to the association of these colours with certain past personal events or cultural beliefs. Society's emotional response to colour is based on shared psychological associations of certain emotions to certain colours. Jos and Van Leewan [13] opined that colour is the component occupied by an object, which produces various effects on the sense of sight as a result of the manner in which the object reflects light. According to Jos and Van Leewan [13] colour study in architectural designs revolves around aesthetics on surface finishing but studies are now widening to consider therapeutic architecture not only along colour scheme, but also change of impression of space, interaction with sense of sight, arousal of feelings, and the quality of colour used.

Furthermore, Chrysikou [14] discovered that colour therapy has been identified as an effective approach for enhancing mood and mitigating stress. This concept can be applied to hospitals where psychiatric patients suffer high stress levels and mood changes. Hence, colour and structural designs have the capacity to visually stimulate individuals, and this can be manipulated to promote positive or negative mood as such patient's response to colour depends on his or her psychological association of specific emotions to specific colours [8]. Therefore, architecture utilizes the power of colour in therapeutic settings to stimulate specific emotional response. According to Chrysikou [14] the effects of colour go beyond its aesthetic properties; it affects people both emotionally and psychologically because it stimulates the nervous system which translates into a good mood that in turn promotes healing. Through her studies on various colours, Chrysikou [14] found that bright colours have the tendency to raise blood pressure, stimulate autonomic functions and increase pulse rate, thereby directing attention outward. On the other hand, however dark and softer colours have a calming effect and promote inward attention [14]. Therefore, it is important to recognize that colours and light are interconnected, they have distinct characteristics. When incorporating colours in treatment facilities, the primary focus should be on their therapeutic and healing purposes

Figure 1: Psychiatric Hospital Yola, Nigeria
Play of Colour Contrast (Field Survey, 2023)

The psychiatric hospital Yola, basically have a combination of two colours on the interiors of the walls and a white colour ceiling finish which according what is obtainable in colour psychology is generally weak to induce healing of its occupants. The need for the power of colours to be integrate into modern healing environments to evoke and stimulate certain emotional responses cannot be overemphasised as such it can be used as a tool to manipulate and control the experience of space as desired. According to Figure 1.2 below the colour combination on the world can only encourage loathing, disgust and boredom and a bit of joy and anticipation. This however, cannot be compared with other colours that enhance trust, optimism, serenity, and acceptance etc. in terms of the therapeutic result expected [12].

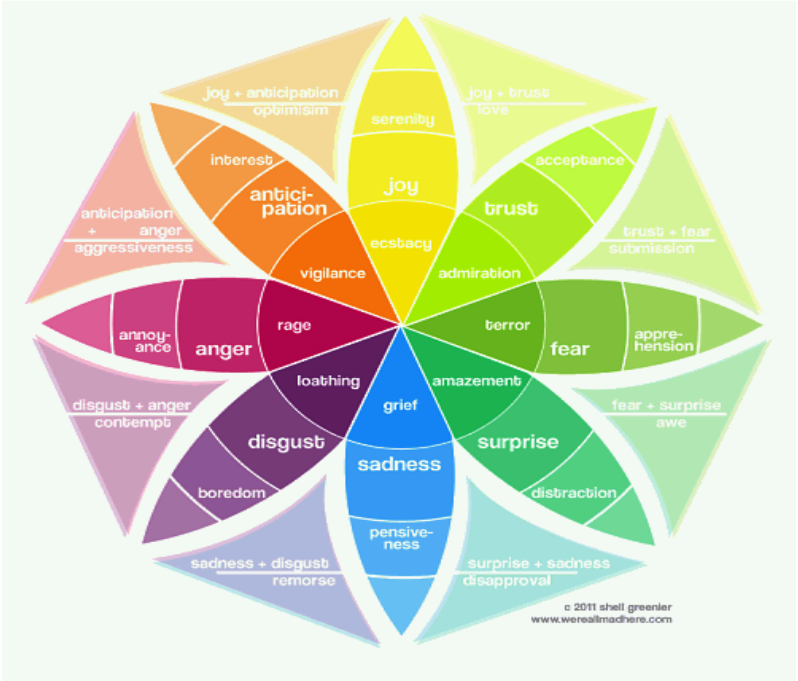

Figure 2: Colour wheel of emotional psychology [12].

Hence, with the aforementioned discoveries, architecture needs to change and adapt its traditional perceptions to create an environment that stimulates all the human senses and deviates from the past stigmatized approaches of design. Therapeutic architecture should not create the notion of long-term absence from real life but should be considered as a home away from home, a road that leads to social inclusion and individual control [12].

4.2 Connection to Nature

Humans have an innate affinity for nature, and research has shown that connecting with nature can have numerous physical, mental, and emotional benefits. The basophilic theory suggests that humans have an innate preference to connect with the natural world. Hence, in combination with experiments undertaken by [14] and various other scientists, this suggest that the integration of our natural surroundings into our living areas can induce healing and positive emotional changes, which have an indirect impact on stress levels, physical and emotional well-being [12].

Grinde and Patil [16] stated nature's inherent beauty has the ability to promote stress relief, improve moods and even induce mental restoration. [15] as cited by Basson [12] conducted a scientific experience highlighting the "the power of window." The study demonstrated that patients in hospitals experienced faster recovery when their room had a direct view of the external natural environment as opposed to plain wall. A window is not just a functional element for light and ventilation; it is also seen as a gateway that transport patients from their harsh reality to a contemplative space, offering a temporary escape. Grinde and Patil [16] also asserted that Society has begun to favour nature as a result of our association with nature as a restorative experience, while we associate our daily urban environment characterised by traffic, frustration, congestion, stress, crime and pollution generates a strong psychological longing for an escape. Furthermore, there is a concept of 'framing of views', engaging patients with specific elements like a water feature or a tree in the landscape, which allows for a moment of self-awareness, that serves as a distraction from pain and suffering.

Figure 3: Psychiatric Hospital Yola, Nigeria
Display of Connection to Nature (Field Survey, 2023)

This concept also generates comfort and relaxation, which allows a patient to heal faster by creating the perception of an environment, where patients view the external world rather than being viewed by others, thereby moving away from the inherent qualities of institutionalisation [12]. There is little or connection to nature to nature as far as the psychiatric hospital Yola is concerned, this as shown in the figure 1.3 is limited to scanty landscape that done without consideration. Even view of window to have the feel of nature form the interior is not possible because of the nature and sizes of window openings. Hence, restrictions in the movement of patients due to aggression that comes with the illness makes it almost impossible to all them freely move around as some are even chained. In this case connection to nature can be made possible by openings that directly connect the patients with nature outside with will in turn change isolation and restriction environment of the psychiatric hospital.

4.3 Light and Shadow

Apart from colour and connection to nature literatures, therapeutic architecture also addressed light as an element of wellbeing as such in practice; lighting has been used to differentiate functional areas [17]. Day light and the rays from the sun are recognised as elements capable of fostering healing and therefore should form an integral part of the design of buildings constructed specifically for rehabilitation. It has been proven that patients exposed to an amplified concentration of natural sunlight perceive less stress, require less medication and even experience less pain. Sunlight can also be perceived as a form of psychological motivation in its utilisation in the creation of a healthy, therapeutic environment [18]. It has been proven that the use of materiality, light and colour have been proven to benefit these patients, who favour natural light and flooring free from pattern within the design [17]. A space can so easily be altered through the play of light and always in combination with forms, colours and natural elements. By manipulating and adapting the quality of light, it becomes possible to induce a transcendent state of consciousness in individuals, which can subsequently be remembered and recalled in memory, after its lived experience [12]. Furthermore, people with moderate to severe dementia and indeed those with schizophrenia will tend not to venture into an area if they cannot see the area, thus the need for high levels of lighting is essential [19].

Figure 4: Psychiatric Hospital Yola, Nigeria
Play of Light and Colour Contrast (Field Survey, 2023)

However, Contrasts in light, texture and signage are factors helpful in patients' navigation in hospital interior spaces [19]. However, there seem to be a generalised approach to the luminous quantity of light allowed into the patients' area in the psychiatric hospital Yola with no preference to individual difference and requirements per individual. Hence, there must be a design approach deliberately restricting or allowing the desired luminous quantity as required per space.

4.4 Sound and Smell

Sound also plays a significant role in psychiatric hospitals, both in terms of therapeutic interventions and the overall environment making sound therapy is a common modality used in psychiatric hospitals to promote relaxation, reduce anxiety, and improve well-being [11]. Psychiatric hospitals often have dedicated sensory rooms where patients can engage with different sounds and sensory experiences. These rooms however, may have interactive sound installations, such as music therapy equipment, sound-producing objects, or white noise machines [20]. Golden et. al [20] further stated that these environments aim to provide a safe and controlled space for patients to explore and regulate their sensory experiences making mandatory for psychiatric hospitals to strive to maintain a calm and quiet environment to support patients' mental well-being. Hence, Noise levels are carefully managed to minimize unnecessary distractions and promote a healing atmosphere at the same time staff members and visitors are often encouraged to speak softly and limit disruptive sounds within the facility and spatial consideration to effect in other to shield selected spaces for sound proofing or reduced sound penetration [20]. Hence, making the architectural design of psychiatric hospitals takes into account sound considerations using acoustic materials, such as sound-absorbing panels in common areas and patient rooms to reduce noise reverberation and ensure privacy. Huisman [11] also exposed that proper acoustic design helps create a more comfortable and conducive environment for patients. It's important to note that psychiatric hospitals prioritize the overall well-being of patients and strive to provide a supportive environment through various therapeutic interventions and carefully managed soundscapes [20]. Soundscape involves intentional design and integration of sound elements within a space to create a desired atmosphere [11]

Figure 5: Psychiatric Hospital Yola, Nigeria
Display of openings and spatial connection (Field Survey, 2023)

Sound and smell are usually controlled easily if the sources are determined and treated appropriately and, in this case, sustainable design solutions are best recommended. The display or interplay of interconnecting spaces with no sound proof buffers as shown in Figure 5 above clearly indicates an unrestricted movement of sound with spaces in the hospital. Additionally, toilets positioning as seen in figure 1.1 and other sources of smell are not done in such a way that smell is treated away from the patients' area, thus reducing the therapeutic potentials of the hospital.

5 Conclusion

The data collected through physical survey and interview of specialist in psychiatric cases deposed how the psychiatric hospital Yola compares to the ideal environment that enhances therapy on its occupants. The variables; in this case therapeutic architecture potentials that was pivotal to the survey were col our psychology, connection to nature, access to light and shadow and then the aspect to sound and smell. Hence, in regards to the aforementioned parameters the psychiatric hospital Yola failed below requirement to induce therapy on its occupants, making healing totally dependent on the administration of drugs any other form of therapy. An interview with the specialist in the area of medicine exposed a concern of patients taking longer than expected time to heal or response to medication and some instances some never recuperating. Consequently, some patients who previously visited the hospital now created high level of resistance to be returned for subsequent consultations and further treatment as some speak of the hostility of the environment to them. Considering some therapeutic architecture parameters to usher a conducive environment to make drug administration more effective is very important.

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