Exploring Healing Architecture Approach to Enhance the Design of a Medical Facility

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Abstract
It has been known for a long time that the environment (natural and altered) is closely related with health and its ambient/environmental conditions affect human health. Therefore, Architecture deals with the design, modification of the natural environment for use by humans. The extent of modification and the results of such modifications ultimately affects the outcome of usage of the natural environment either positively or negatively. Furthermore, Keeping Green(sustainable) is a key factor that cannot be over emphasis in the design of a medical facility. This study therefore seeks to explore the rudimental approaches that is key in achieving a healing design of hospitals through a sustainable approach ranging , use of open court yard, vegetations, proper orientation and lot more as it will be illuminated in the study. This study is subjected for further review and study.

Keywords: Sustainability, Healing Architecture, Environments

1. Introduction

Architecture serves as the primary driver in the evolution of civilizations as well as healthcare facilities. However, the relationship between architecture and healthcare facilities as well as architecture and healing; has been neglected through the various eras of evolution. Since architecture greatly influences the development of other sectors of human life, can architecture influence the output of healthcare in healthcare facilities? Can architecture influence healing? To what extent does architecture facilitate healing process? These are the various strings of questions that has not been given proper thought and accompanying research and as such, will be discussed in this research.

'Healing architecture' is a term that refers to a sense of continuous process, in creating an environment physically healthy and psychologically appropriate.

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Thus, this thesis explores the role of architecture towards enhancing healthcare delivery through the concept of 'healing architecture.

Evolution of Hospitals (in Nigeria)

Western medicine was not formally introduced into Nigeria until the 1860s, when the Sacred Heart Hospital was established by Roman Catholic missionaries in Abeokuta. Throughout the ensuing colonial period, the religious missions played a major role in the supply of modern health care facilities in Nigeria. The Roman Catholic missions predominated, accounting for about 40 percent of the total number of mission-based hospital beds by 1960. By that time, mission hospitals somewhat exceeded government hospitals in number: 118 mission hospitals, compared with 101 government hospitals.

Mission-based facilities were concentrated in certain areas, depending on the religious and other activities of the missions. Roman Catholic hospitals in particular were concentrated in the southeastern and Midwestern areas. By 1954 almost all the hospitals in the Midwestern part of the country were operated by Roman Catholic missions. The next largest sponsors of mission

hospitals were, respectively, the Sudan United Mission, which concentrated on middle belt areas, and the Sudan Interior Mission, which worked in the Islamic north. Together they operated twenty-five hospitals or other facilities in the northern half of the country. Many of the mission hospitals remained important components of the health care network in the north in 1990.

The missions also played an important role in medical training and education, providing training for nurses and paramedical personnel and sponsoring basic education as well as advanced medical training, often in Europe, for many of the first generation of Western-educated Nigerian doctors. In addition, the general education provided by the missions for many Nigerians helped to lay the groundwork for a wider distribution and acceptance of modern medical care.

The British colonial government began providing formal medical services with the construction of several clinics and hospitals in Lagos, Calabar, and other coastal trading centers in the 1870s. Unlike the missionary facilities, these were, at least initially, solely for the use of Europeans. Services were later extended to African employees of European concerns. Government hospitals and clinics expanded to other areas of the country as European activity increased there. The hospital in Jos, for example, was founded in 1912 after the initiation there of tin mining.

2. Healing Architecture

As the words implies, healing has to do with wholeness or the process of making or becoming sound or healthy again, while architecture can easily be seen asthe art, science or practice of designing and constructing buildings. Both words can be integrated as the later can be enhanced by the former.

In the bid of achieving an architecture that heal, architects must be allowed to embrace intuition—the tacit knowledge of intuition they have accumulated over time. This intuitive knowledge is the fruit of the direct exchange they have with the surrounding physical environment through their experiences—in everyday life, in education, in professional practice, and so forth. Intuition is personal and subjective, but it is an essential tool in the architect's work. By establishing a constructive dialogue with healthcare providers, the architect's sketches, models, and ideas can be exposed to critical evaluation, questioning, and discussion. This minimizes the risk for arbitrarily designed buildings

Podbelski L (2001) ascertain that the term*Healing Architecture*" indicates that the built environment has the ability to impact patients' health and psychological well-being. Features such as bright rooms, access to natural daylight, big windows, local plant life and outdoor views can improve the healing process by giving patients a psychological and physical lift.

Hyttel, K. (2010). Ascertain that, Healing environments historically have often been places where nature itself was deemed to have a great impact on healing and recovery. These ideas have been expressed in a variety of ways throughout history. Buildings for healthcare and rehabilitation have often been located in peaceful, beautiful places with dramatic views of landscapes and bodies of water. Nurturing the land and working in fresh air has been a model for many mental hospitals.

Healing architecture for healthcare facilities describes a physical setting that supports patients and families through the stresses that develop as a result of illness, hospitalization, medical visits, the healing process or bereavement. The concept implies that the physical healthcare environment can make a difference in how quickly patients recover or adapt to specific acute and chronic conditions.

Furthermore as outline below are certain protective measures must always be imbibe towards achieving a sustainable architecture that will heal Her patient in this Hospital.

1. roofs with deep overhang and ceiling space should constitute impermeable membrane to act as barrier against rain and sun hence, high pitch and deep ceiling space is recommendable

2. solar ray could be minimized by introducing glazed materials, sun shading devices to reflect the sun rays

3. the plinth of the building should be raised to a minimum of 300mm from ground covers to shield against flooding, erosion, etc

4. vegetation for shading against sun, driving rain, dust, noise, and anti-erosion cover

6. Orientation: The ideal building orientation should be in the east west axis to:

1. Minimize heat gain by orienting the narrow face of the building to the east-west to reduce surface exposure where roof overhang is ineffective to shield it

2. having the largest face block to the prevailing wind which enhances cross ventilation cross ventilation the primary aim of cross ventilation is to maximize wind pressure for air movement in buildings especially in the warm humid climate to enhance stack.

3. Goals of Healing Architecture

Roger U (2012), The goal of all healing environments is to engage patients in the process of self-healing and recovery. As a result, these spaces are designed to be nurturing and therapeutic to reduce patient and family stress. In bid, to promoting recovery, architecture can be said to be healing if it aims at the following:

- Eliminate environmental stressors, such as noise, lack of privacy, poor air quality and glare.
- Connect patients to nature by providing outdoor views and other natural features, including interior gardens and water elements.
- Enhance the patient's feeling of being in control by offering options and choices – these may include privacy versus socialization, lighting level, type of music and quiet versus active waiting areas.
- Encourage opportunities for social support, such as providing appropriate seating in patient rooms, privacy for small groups and overnight accommodations in patient rooms.
- Provide positive distractions, such as interactive art, fireplaces, aquariums, internet connection, music, or soothing video or light installations suited to the healthcare setting.
- Inspire feelings of peace, hope, reflection and spiritual connection.

Benefits of healing architecture

Recent examples have shown how thoughtful architecture and design focused on promoting healing can have a measurable impact on patient recovery, including shorter hospital stays, fewer infections contracted in the hospital and reduced pain.

According to Roger U,(2012), in his founding explains that gallbladder surgery patients assigned to a room with a window view of a natural setting had shorter postoperative hospital stays as compared to patients in similar rooms with windows facing a brick building wall.

According to a study by the Environmental Design Research Association, during the weeks that posters of realistic nature scenes were hung in the multipurpose lounge of an acute psychiatric clinic, the administration of "as-needed" injections to manage patients who exhibit "aggressive and agitated" behavior was 70 percent lower than when the walls were blank. These results also apply and are even improved when patients are in contact with actual views of nature.

The above speaks to the fact that the natural environment enhances or accelerate the healing processes which is need by all class of patient.

Healing architecture can also encompass strategies intended to reduce the spread of infection. A recent trend in the healthcare industry is to grade hospitals based on the likelihood of a patient incurring an infection in the facility that is different from the medical issue for which the patient was admitted. According to The Leapfrog Group, an independent nonprofit committed to pursuing quality, safety and transparency in the U.S. healthcare system, 1 out of every 25 patients develops an infection while in a hospital. According to a study by the Environmental Design Research Association.

Healing architecture starts with a focus on improving the patient experience and outcome. In order to bring healing architecture to life in healthcarefacilities, it's important to adopt a holistic planning approach that includes input and feedback from the end users in addition to the design, construction and operations teams.

Adoptive element of Healing Architecture.

Below are element that should explored in the architectural design of buildings that will aid healing.

Bioclimatic Design Element.

BiologicalDesign of a building is the approach of maximizing the utilization of natural environment phenomena, aiming at optimal thermal and visual comfort, while reducing the energy demand.

Holistic Sustainability.

Sustainability is the development capable of meeting the needs of the present in such a way that the ability of the future generation to cover for their will not be compromised.

Harmonizing Spaces

Space layout, the placement of a building in a location, and the inner arrangement of individual rooms in the building, can greatly influence the architectural result.

Building Health

The building envelope functions as our third skin, that is to say it constitutes a limit-filter to the passing elements and our contact with the external environment.

Radiation

Matter Is Condensed Energy. Therefore, The Human Body Interacts with Matter In Its Environment Through Electromagnetic Waves.

Sacred Geometry

Function Depends on Form, And Form on Geometry. This Relation Can Be Observed in The Architecture of Plants, Organs and All-Natural Elements.

4. Conclusion and Recommendation

Conclusively, keeping green is the whole essence of healing architecture. Healing architecture as earlier explains in above chapters are imperative as it cannot have less importance. In achieving an architecture that heals, it must derive the true value from nature health and must ensure a sustainability at his peak. To make the heal, it must keep green and imbibe natures attribute.

The careful studying of all the elements of a sustainable architecture in the light of it been green foster the emission natural characteristics that will keep it alive and as such: when the environment is alive, the patient will stay alive.

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