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Landscape Architecture: Aesthetics Value and the Influence of Garden Spaces on Hospital Users in Southwest, Nigeria

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Abstract

This study specifically evaluated the aesthetics design characteristics and determined the influence of the regular visit to garden spaces on hospital users in Southwest, Nigeria. This study was carried out at the first-generation Federal University Teaching Hospitals (FUTH) in southwest, Nigeria and employed both qualitative and quantitative methods of data collection which involves the use of structured questionnaire to collect data from the patients and staff of the (FUTH). Also, semi-structured interview (SSI) was conducted and used to support the information from the questionnaire. A total sample size of 575 respondents was randomly selected for questionnaire across the FUTH while only 557 questionnaires were returned for the analysis. Descriptive statistical analysis was done using frequency distribution, percentage distribution, weighted mean scores, standard deviation, and ranking. The result of the study showed that the aesthetics are averagely attractive and regular visits to the hospital garden, promote interaction & reduce working stress. The in-patients expressed that regular visit to the hospital garden reduce headaches & tiredness. The result of this study helps to provide the information that will transform the aesthetic design, construction strategies and management of therapeutic gardens in the Healthcare sector in the Federal University Teaching Hospitals, Nigeria.

Keywords: aesthetics, garden, hospital, landscape, Nigeria

1. Introduction

The medical and economic benefits of landscape had the greatest impact on the hospital design in the past century, evidence regarding the effects of treatments or services on patients' satisfaction had gained much more importance. With a growing understanding of the importance of the physical environment for the quality of hospital care and safety of patients and staff, the interior and exterior spaces of hospitals are beginning to be considered, particularly in scenic and more green areas, as a productive complement to the interior areas which are reserved for patient treatment and have traditionally been

prioritized. As a result of this new, holistic approach to medicine which entails alleviating the fears and disorientation of patients that may hinder medical treatment, the hospital has come to be seen today as a necessarily comforting and stress-free environment, created with a broader, patient-oriented sense that encompasses both master planning and landscaping.

Recently, landscaping (aesthetics and gardens) at hospitals have increasingly come to be considered as an integral part of a healthcare environment. The study emphasized on the importance of creating a concept of patient-focused hospital as therapeutic environment which provides physical, emotional and spiritual comfort to all groups of users (Nedučin, Krklješ & Kurtović-Folić, 2009). This attention on the physical and psychological healing effects of landscaping at hospitals has provided us new opportunities and challenges. Thus, how to plan the aesthetics environment that people in hospitals value and enjoy is an appropriate topic for humanitarian practice of quality healthcare. The diversity of feature types identify the setting's capability of offering multiple functions of physiotherapy and social support, such as gathering, interacting with others, and exercising (Marcus & Barnes, 1999). While there is a strong assumption that there is a relationship between users' roles and their preferred features in landscaping at hospitals, little empirical evidence has been established for a scientific link between the two variables (Chang & Chien, 2017). Thus, these spaces should offer an experience that is in an absolute contrast to being inside and, as such, they might have a significant impact on one's health improvement. (Nedučin, Krklješ & Kurtović-Folić, 2009). The features may provide opportunities for relaxation, social, low-impact and vigorous activities such as walking, stretching, talking, contacting with nature, running, contemplation, viewing, and playing.

Studies have recommended designing features that provide positive experience to encourage interest, stimulate senses, and arouse curiosity for people in healthcare settings (Marcus, 2007; Chang & Chien, 2017). Tangible landscape, aesthetics and garden features, such as plants, water bodies, verandas, conservatories, airing courts, ornate, aviaries, pagodas, trails, and playgrounds provide environmental clues for visitors to evaluate the compatibility between their own purposes and what the environment can offer (Chang & Chien, 2017). Hospital users experience positive health outcomes from connection to natural environment, access to daylight and landscape views (Ulrich, 1999). For example, vegetation stimulates both emotional and physical responses, such as reducing stress, restoring attention (Van den Bosch, Östergren, Grahn, Skärbäck & Währborg, 2015) and revitalizing senses (Naderi & Shin, 2008). Spatial aesthetic factors, such as a friendly interior spaces such as pictures & color design paintings, art work, sculptures, decorations, mosaic works, water decorations fountains with adequate accessibility, a visible view and the creation of an inviting entrance (Marcus & Barnes, 1999; Shackell, 2012).

The emphasis in this research was given to various aesthetics issues and the influence of visiting garden on the hospital users. Also design considerations that may assist in generating a supportive, secure and nonthreatening atmosphere of the hospital surroundings was suggested. In addition, creating an environment that would be friendly and less stressful for patients and simultaneously more creative and restorative for hospital staff are the key elements and issues that need to be addressed in this study.

2. Literature Review

2.1 The Aesthetics Design Value of Hospital Space

The study of aesthetics in the hospital environment was evaluated and generally considered to be less than satisfactory by the patients (Caspari et al., 2007). Daykin et al. (2008) posit that participatory arts in healthcare; art forms such as music, drama, play, and dance influence the overall hospital performance. Golembiewski (2010) identified features such as views to the outside, leas t images of nature, and a variety of lighting options. In a related study, Mourshed & Zhao (2012) discovered aesthetics design features such as availability of daylight, space pleasant color, exterior landscaping, presence of coordinated art objects, and presence of coordinated art objects. Also, Caspari et al. (2007) conducted a study to find out how the patients evaluate the aesthetics quality in the general hospitals. The aesthetics influential factors identified from the literature include the evaluation of paintings, pictures, tapestries, sculptures, decorations, mosaic works, and water decorations fountains, etc. The results in general showed that aes thetic surroundings

are important for health and wellness.

Similarly, Tsai, Wang, Liao, Lu, Sun, Lin, & Breen, (2007) examined hospital outpatient perceptions of the physical environment of the outpatient waiting areas of obstetrics-gynaecology and paediatrics in one medical centre. Four dimensions of the physical environments of the outpatient waiting areas such as visual environment (lighting, ground and landscape design, furniture layouts, colour design, and space design); hearing environment (noise level, volume of paging, and broadcast services); body contact environment (air freshness, temperature, seating comfort, and sufficiency) and cleanliness of the physical facilities (holistic cleanliness, and cleanliness and air freshness of restrooms). The finding showed that the overall environment was improved by ancillary physical facilities such as a wall-mounted television, newspapers, health education brochures, water, and access to wheel chairs; lighting, landscape design, furniture layouts, color design, and space design, air freshness, temperature, seating comfort, and sufficiency and cleanliness (Tsai, Wang, Liao, Lu, Sun, Lin, & Breen, 2007).

2.2 The Hospital Garden and Its Influence on Patients and Staff

According to Ulrich, (1999), Hospital Gardens serve as safe and meditative environments for healing and recuperation date back to the medieval period, and have traditionally been features of hospitals, hospices, rehabilitation centers, and nursing homes. The forgotten garden in today's medical arena might be thought of as analogous to the ignored psyche and spirit in the treatment of illness. The value of a garden and the role of the psyche in healing are both difficult to quantify or prove (Marcus, 1995). But just as alternative or complementary medicine is beginning to reexamine the intricacies of the mind-body connection, so also are the design professions beginning to rediscover the therapeutic possibilities of sensitive garden design.

The wide range of activities related to healing gardens may be passive or active: looking at the garden from a window, sitting, eating reading, doing paperwork or taking a nap in the garden, prayer and meditation, walking to a preferred spot, gardening, exercise and sports, and children's play (Macus, 2007).

The gardens are conducive to stress relief, relieving physical symptoms, and enhancing the feeling of well-being of hospital staff and patients. Mitrione & Larson, (2007) stated that successful healing gardens make use of certain fundamental design principles such as enhance feelings of control; have a prevalence of green material; encourage exercise; provide positive distractions, this shows that stress levels among patients have been shown to decrease when they are in the presence of plants, flowers, and water features as well as when they are engaged in gardening (Yucel, 2013). Part of the healing gardens fundamental design principles include creation of maximum intrusions which posit that gardens should be designed to minimize negative factors like urban noise, smoke, and artificial lighting, in favor of natural lighting and sounds (Yucel 2013). Many types of hospital garden have been mentioned in the literature for example Yucel, (2013) recognized meditation gardens, viewing gardens, the viewing/walk-in garden and Edible gardens which is also known as healing garden.

The study emphasized on the healing garden which could be developed to a new dimension if herbs, fruit plants and vegetables are grown together with the usual planted vegetation in an easily accessible space. This "edible garden" should be simple and balanced, but designed in a repeating pattern with wandering paths demarcating public and private spaces (Parcell, 2012). Patient satisfaction with hospital services today extends beyond medical care and encompasses a whole hospital experience. However, the advent of new hospital architecture, especially the new physical arrangements designed to assist in healing have, in many respects, increased the exposure of hospital buildings to natural hazards (Akinluyi, Fadamiro, Ayoola & Alade, 2021).

Many influences of hospital garden have been discovered from the literature, according to the Green Guide for Health Care, (2007) the implementation of healthy ecosystems in hospital outdoor spaces have significant social, psychological and physical benefits derived from physical and visual connection to natural environment, however, the provision of natural features and gardens has positive effects on staff and patients. The study of Caspari, Eriksson & Naden (2007) undertaken in an X-ray ward reported the impact of installing groups of green plants along with full spectrum daylight bulbs. This intervention was associated with reductions

in sick leave, tiredness, headaches and sore throats (Caspari, Eriksson & Naden (2007). Another study evaluated by Varni, Burwinkle, Dickinson, Sherman, Dixon, Ervice, Leyden & Sadler, (2004) revealed that staff who visited the hospital garden reported positive benefits in stress reduction. This validates the necessity for the provision of areas where the staff could recover, relax, and network with colleagues (Dalke & Little, 2006; Joseph, 2006b). By promoting staff interaction, a culture of communication, information sharing and teamwork can be promoted which is believed to be the cornerstone of a safer and more effective healthcare service (Joseph, 2006b).

Also, the presence of the gardens can be one of the most positive aspects of psychiatric treatment. It was believed that viewing the landscape had positive effects on the patients, and therefore buildings were designed so the landscape could be viewed from inside the building as well (Akinluyi, Fadamiro, Ayoola & Alade, 2021). Design features included verandas, conservatories, airing courts, ornate, aviaries, pagodas, and even a Chinese gallery. The theme of gardens includes open spaces within the precincts of the hospital. Subthemes include therapeutic gardens, Alzheimer's facility, historical perspective, moral therapy, landscapes, therapeutic relationships, natural environments, directed attention, attention restoration theory, restorative experience, and environments for renewal/s tress relief (Ulrich et al., 2004).

3. The Study Area: The Southwestern Nigeria

The southwest part of Nigeria consists of six states Oyo, Osun, Ekiti, Ogun, Ondo, and Lagos states. The study areas selected are basically the states where the first-generation Federal University Teaching Hospitals is situated; namely Lagos, Oyo and Osun states (Figure 1). Therefore, University College Hospital, Ibadan, Lagos University Teaching Hospitals, Lagos and Obafemi Awolowo University Teaching Hospital, Ile-Ife, emerged as the Federal University Teaching Hospitals (built between 1950s and 1970s) in Southwest Nigeria (Table 1).

The University College Hospital, (UCH) Ibadan, Oyo in Oyo State is located at latitude7^0 23'99''N and longitude 3^0 54' 59.99''E. It was established by an act of parliament in November 1957 in response to the need for the training of medical personnel's and other healthcare professionals for the country and the West African Sub-Region. The Lagos University Teaching Hospital (LUTH) located at latitude 6^0 51'.75''N and longitude 3^0 35'38''E in Idi-Araba, in Surulere Local Government Area of Lagos State was established in July 1962. Also, Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife falls within the latitude 07^0 30' 0.0 to 07^0 31'6.71'' N and within the 4^0 33' 0.0'' to 3^0 34' 30.64''E. Conceived as a clinical facility for the Obafemi Awolowo University medical school, it was established in July 1975. The philosophy provides for an integrated health care delivery system with emphasis on comprehensive health care such as primary, secondary and tertiary services, designed to secure improvement in the physical, mental and socio-economic wellbeing of Nigerians.

Table 1. Federal University Teaching Hospitals in Southwest Nigeria

S/N	Hospital Name	Year of Establishments	State Located	Town Located	Manager
1	University College Hospital, Ibadan,	1952	Oyo	Ibadan	Federal Government
2	Lagos University Teaching Hospital (LUTH), Idi-Araba	1962	Lagos	Lagos	Federal Government
3	Obafemi Awolowo University Teaching Hospital, Ile-Ife	1975	Osun	Ile-Ife	Federal Government

Sources: Author Field Survey, 2019

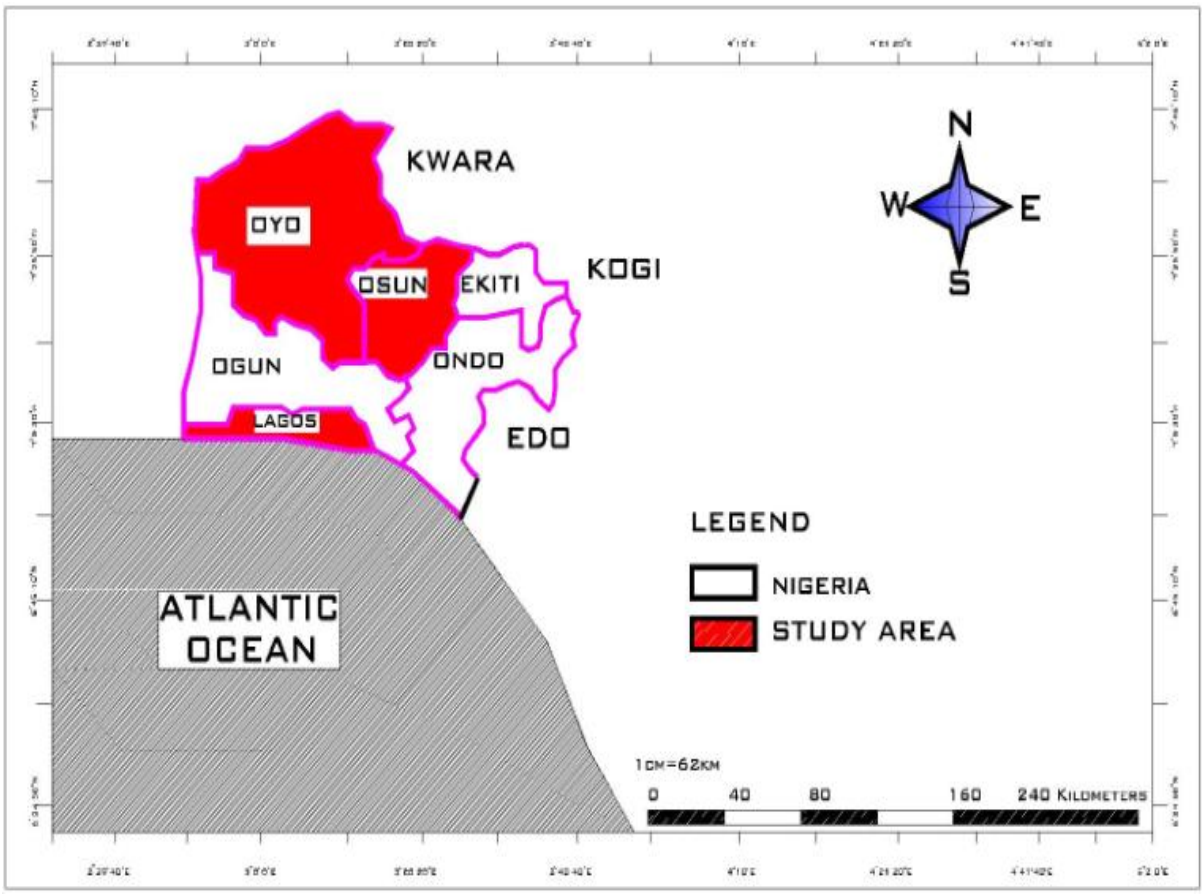

Figure 1. Map of the Southwest parts of Nigeria Showing the Study Area

Sources: http//www.nigerinmuse.com (Digitalized by the Author, 2019)

4. Research Methodology

This study adapted field survey approach with the use of structured questionnaires and semi-structured interviews which were used to obtain primary and secondary data from sources. The secondary data relating to maps and master plans of the study areas were obtained and digitalized from the Google map.com and http//www.nigerinmuse.com respectively. Also, the statistics data of the sample population were gotten from the Federal University Teaching Hospitals record's office. The population of users within the four (4) main departments selected randomly across the three (3) Federal University Teaching Hospitals in Southwest Nigeria constitutes the sampling frame for the study (Medicine, Paediatrics, Surgery, Obstetrics and Gynaecology) which amounted to (1,247). Krejcie and Morgan (1970) efficient method of determining the sample size from a given population was used to determine the sample size. In all, a total number of 575 copies of questionnaire were administered to the users in the three study areas. The sample size for the buildings were restricted to Four (4) buildings that accommodate 4 main departments which gave birth to other departments and also carried out pure clinical activities for medical treatment, namely paediatrics, surgery, medicine, obstetrics and gynaecology. Therefore, a total of Twelve (12) buildings were selected across the three study areas. All the three Federal University Teaching Hospitals that fall within the scope of the study were involved as a form of census and are also the first generation (built between 1950s and 1970s). Respondents were selected using purposive sampling for semi-structured interview. Tables and charts were involved in the presentations for descriptive statistics. Also, Content Analysis was used to support the data obtained from the study areas through the quantitative means. Statistical Package for Social Sciences (SPSS) version 25.0 was used to carry out the analysis.

5. Data Presentations and Analysis

This study reports the analysis and presentations of data obtained through a

primary source from the field survey in the study areas. The data were presented in two sections; the first section involved the presentation of data obtained on the aesthetics value of interior and exterior spaces while the second session reports the influence of regular visit to hospital garden spaces on staff and patients.

5.1 The Aesthetics Value of Interior and Exterior Spaces

The aesthetics of interior and exterior spaces ware measured by material quality shape, form, and texture color, decoration, and artworks. Pi and D'Angelo (2014) considered factors such as hospital entrances to create a unique and magnificent first impression, aspects of materials quality, color, decoration & artwork, shape, form & texture, construction, and technology determines the aesthetic of the hospital environment. Therefore, the aesthetics of interior and exterior spaces such as the beauty of the wards and clinical spaces, reception, waiting room, and record units, the attractiveness of the frontage pattern, environmental landscape, ceiling, interior finishes, stairs, and acoustics standard, wall & floor finish quality, materials for doors & windows were measured using shape, form & texture, material quality, and color, decoration & artwork based on the perception of staff, out-patients, and in-patients of the Federal University Teaching Hospital in Southwest, Nigeria. This is analyzed using frequency distribution, percentage distribution, weighted mean scores, standard deviation, and ranking.

5.1.1 Shape, Form, and Texture

The shape, form, and texture of the aesthetics of interior space are analyzed using frequency and percentage distribution. The mean of each of the sub-variable is analyzed with their respective standard deviation and ranking of each of the variables. For staff, the attractiveness of the frontage pattern and environmental landscape has the highest weighted mean score among the variables used to measure the shape, form, and texture of the aesthetics of the interior spaces with the value of (3.789) and the standard deviation (1.281) being rated "averagely attractive" by the frequency and percentage distribution of 60 (30.6 percent). The second highest variable is the beauty of the reception, waiting room, and record units (3.758 wms; ±1.319 std) being rated "averagely attractive" by 61 (31.1 percent); the beauty of the wards and clinical spaces (3.742 wms; ±1.310 std) being rated "averagely attractive" by 66 (33.7 percent), and ceiling, interior finishes, stairs, and acoustics standard (3.701 wms; ±1.337 std) being rated "averagely attractive" by 65 (33.2 percent). This shows that the staff of the three study areas feel that the shape, form, and texture of the exterior aesthetic and interior spaces are averagely attractive with the frontage pattern and environmental landscape being rated the highest.

For the out-patient, ceiling, interior finishes, stairs, and acoustics standard is rated the best in the shape, form, and texture aesthetics of the interior spaces with the weighted mean score of (3.807) having the standard deviation of (1.023) being rated "well attractive" by 60 (24.8 percent); attractiveness of the frontage pattern & environmental landscape (3.745 wms; ±1.122 std) being rated "well attractive" by 72 (29.8 percent); the beauty of the reception, waiting room, and record units (3.721 wms; ±1.107 std) being rated "well attractive" by 69 (28.5 percent), and beauty of the clinical spaces (3.627 wms; ±1.206 std) being rated "well attractive" by 77 (31.8 percent). The above results from the out-patients of the three study areas feel that the shape, form, and texture of the interior spaces are well attractive with the ceiling, interior finishes, stairs, and acoustics standard being rated the highest.

For in-patient, the attractiveness of the frontage pattern &environmental landscape (3.678 wms; ±1.183 std) being rated "averagely attractive" by 41 (34.5 percent), and the beauty of the wards spaces (3.446 wms; ±1.254 std) being rated "well attractive" by 34 (28.6 percent). This shows that the in-patients affirmed that the aesthetics of the exterior spaces (frontage pattern & environmental landscape) are averagely attractive and interior spaces (the beauty of the wards) well attractive.

In general, the shape, form, and the texture of the aesthetics of the interior spaces are being rated by the attractiveness of the frontage pattern & environmental landscape which has the highest weighted mean score of the value (3.746) with a standard deviation of (1.193) being rated "averagely attractive" by the frequency and percentage distribution of 154 (27.6 percent), and the second-highest variable which is regarded as the least of the two variables considered is the beauty of the wards and clinics with the mean value of (3.632) having the

standard deviation of (1.258) and the frequency and percentage distribution of 146 (26.2 percent) being rated "averagely attractive" (See Table 2).

5.1.2 Material Quality

The aesthetics of interior spaces in terms of material quality used in the study areas were analyzed and displayed in Table 2. According to staff, the material quality aesthetics of the interior spaces are measured using different variables where the beauty of the reception, waiting room, and record unit has the highest weighted mean score of (3.802) and the standard deviation of (1.313) being rated "averagely attractive" by 63 (32.1 percent); followed by the beauty of the wards and the clinical spaces (3.729 wms; ±1.265 std) being rated "averagely attractive" by 58 (29.6 percent); attractiveness of the frontage pattern & environmental landscape (3.722 wms; ±1.287 std) being rated "averagely attractive" by 72 (36.7 percent), ceiling, interior finishes, stairs, and acoustics, standard (3.691 wms; ±1.313 std) being rated "averagely attractive" by 64 (32.7 percent); wall and floor finish quality (3.572 wms; ±1.412 std) being rated "averagely attractive" by 65 (33.2 percent), and materials for doors and windows (3.546 wms; ±1.380 std) being rated "averagely attractive" by 69 (35.2 percent). The staff response indicates that the material quality aesthetics of the interior spaces are averagely attractive for usage with the beauty of the reception, waiting room, and record unit being rated higher.

For out-patients, ceiling, interior finishes, stairs, and acoustics standard (3.884 wms; ±1.023 std) being rated "well attractive" by 79 (32.6 percent); Attractiveness of the frontage pattern & environmental landscape (3.838 wms; ±0.999 std) being rated "well attractive" by 84 (34.7 percent); Beauty of the clinical spaces, and Beauty of the reception (3.738 wms; ±1.084 std) being rated "well attractive" by 70 (28.9 percent), and beauty of the reception, waiting room and record units (3.736 wms; ±1,057 std) being rated "well attractive" by 73 (30.2 percent). This implies that the material quality aesthetics of the exterior (frontage pattern & environmental landscape) and interior spaces (ceiling, interior finishes, stairs, and acoustics standard, beauty of the clinical spaces, reception, waiting room, and record units) are well attractive to the out-patients.

For in-patients, Wall & Floor finish quality (3.821 wms; ±1.128 std) being rated "well attractive" by 36 (30.3 percent); Materials for Doors & Windows (3.795 wms; ±1.183 std) being rated "well attractive" by 38 (31.9 percent); Attractiveness of the frontage pattern & environmental landscape (3.718 wms; ±1.070 std) being rated "well attractive" by 41 (34.5 percent), and Beauty of the wards Spaces (3.584 wms; ±1.116 std) being rated "averagely attractive" by 31 (26.1 percent). The response of the in-patient shows that the material quality aesthetics of the interior spaces are well attractive.

The further result displayed the overall response of all the respondents which indicates that the attractiveness of the frontage pattern & environmental landscape is rated the highest of the two variables used to measure the material quality of the aesthetics of the interior spaces among the study areas having the mean of (3.774) and the standard deviation of (1.118) being rated "averagely attractive" by the frequency and percentage distribution of 141 (25.3 percent), and the second which is the least of the mean is the beauty of the wards and clinical spaces (3.703 wms; ±1.157 std) being rated "averagely attractive" by 145 (26.0 percent). The material quality used in the interior spaces of the three study areas is averagely attractive (See Table 2). The concept of materials quality was adequately supported by Ching (2005) which opined that interior spaces within buildings are defined by the architectural elements of structure and enclosures which include doors, ceilings, walls, windows, doorways, and stairways. These, however, have great productivity, health protection, safety, and welfare of the space users.

5.1.3 Color, Decoration, and Artworks

Among the staff, the color, decoration, and aesthetics of the artwork of the interior spaces are being determined using different variables. The variables used are analyzed using different methods of descriptive statistics. From the variables used to measure the color, decoration, and artworks aesthetics of the interior spaces, the beauty of the reception, waiting room, and record units are ranked the highest of all the variables with the weighted mean value (3.891) and the standard deviation of (1.327) being rated "averagely attractive" by 59 (30.1 percent); Attractiveness of the frontage pattern & environmental landscape (3.821 wms; ±1.317 std) being rated "well attractive" by 67 (34.2 percent); Beauty of the wards and Clinical spaces (3.805 wms; ±1.298 std) being rated "averagely

attractive" by 61 (31.1 percent); Ceiling, interior finishes, stairs, and acoustics standard (3.776 wms; ±1.359 std) being rated "averagely attractive" by 60 (30.6 percent); Wall & Floor finish quality (3.639 wms; ±1.375 std) being rated "averagely attractive" by 63 (32.1 percent), and Materials for Doors & Windows (3.566 wms; ±1.359 std) being rated "averagely attractive" by 67 (34.2 percent). This shows that the color, decoration, and artworks aesthetics of the interior spaces are averagely attractive with the beauty of the reception, waiting room, and record units are ranked the highest of all the variables.

For out-patients, ceiling, interior finishes, stairs, and acoustics standard (3.897 wms; ±1.076 std) being rated "well attractive" by 68 (28.1 percent); beauty of the reception, waiting room, and record units (3.809 wms; ±1.061 std) being rated "well attractive" by 63 (26.0 percent); attractiveness of the frontage pattern & environmental landscape (3.808 wms; ±1.087 std) being rated "well attractive" by 74 (30.6 percent); Materials for Doors & Windows (3.788 wms; ±1.053 std) being rated "well attractive" by 74 (30.6 percent); beauty of the clinical spaces (3.766 wms; ±1.098 std) being rated "well attractive" by 71 (29.3 percent), and Wall & Floor finish quality (3.710 wms; ±1.118 std) being rated "not available" by 62 (25.6 percent). This shows that three (3) out of the four (4) colors, decorations, and artwork of the interior spaces are well attractive while the color, decoration, and artwork of the doors for the materials for doors and windows are not available.

For in-patient, Materials for Doors & Windows (3.797 wms; ±1.235 std) being rated "well attractive" by 36 (30.3 percent); Wall & Floor finish quality (3.773 wms; ±1.113 std) being rated "well attractive" by 36 (30.3 percent); Attractiveness of the frontage pattern & environmental landscape (3.695 wms; ±1.171 std) being rated "well attractive" by 33 (27.7 percent), and Beauty of the wards Spaces (3.630 wms; ±1.992 std) being rated "averagely attractive" by 36 (30.3 percent). This demonstrates that the color, decoration, and artworks aesthetics of the interior spaces are well attractive even though ward space is averagely attractive.

The overall response of all the respondents indicates that the attractiveness of the frontage pattern & environmental landscape is rated the highest of the two variables used to measure the color, decoration, and the artworks of the aesthetics of the interior spaces among the federal teaching hospitals in Southwest, Nigeria having the mean of (3.789) and the standard deviation of (1.188) being rated "averagely attractive" by the frequency and percentage distribution of 145 (26.0 percent) and the second which is the least of the mean is the beauty of the wards and clinical spaces (3.751wms; ±1.192 std) being rated "averagely attractive" by the frequency and percentage distribution of 143 (25.7 percent). This means that the aesthetics in terms of forms and Shape, form, texture, materials quality, color, decoration, and artworks used in the study areas are averagely attractive.

The SSI results obtained from LUTH revealed that the shape, form & texture of the interior spaces are very good. However, the quality of the materials used for wall finishes is old and it requires renovation and refurbishment. Good decoration and artwork well placed in spaces and more decoration of space were also experienced. The form and shape of the clinical & ward spaces are very good, no decoration was observed in the spaces. The colors of the clinical & ward spaces are old and it requires replacement. The SSI information obtained from the respondents at UCH confirmed that the family medicine department interior spaces have different colors. They are adequately beautiful in terms of shape, form, texture, material quality, and artwork. Though, there is no much decoration in the interior spaces, decorations, and artwork used is also old. The material quality is old and the color used has started fading away. There is a need to repaint paint some of the walls again and more decorations are needed in the interior spaces. The Information obtained through the semi-structured interview (SSI) at OAUTHC reveals that the aesthetic of the interior spaces in terms of shape, form, texture, material quality, and artwork is very poor. However, Ghazali and Abbas (2011) recommended a more comprehensive consideration to create a healing interior, which includes, color, artwork, and decoration remain critical factors that determine the physical environmental quality of a healthcare environment. In addition, Dijkstra et al. (2006) also agreed that design conditions that promote the betterment of users' health and wellbeing should include the use of color in spaces, and application of art and lighting within an interior space (See Table 2) (See

Appendix V plates 32 and 7) (Appendix V pates 38 & 39) (Appendix VI pates 47, 44 & Plate 1.0).

Table 2. Aesthetics of Interior Spaces

	Shape, form, and texture			**Materials quality**			**Color, decoration, and artworks**		
Staff	**wms**	**Std**	**Rank**	**wms**	**std**	**rank**	**wms**	**Std**	**rank**
The beauty of the wards and Clinical spaces	3.742	1.310	3	3.729	1.265	2	3.805	1.298	3
The beauty of the reception, waiting room, and record units	3.758	1.319	2	3.802	1.313	1	3.891	1.327	1
The attractiveness of the frontage pattern & environmental landscape	3.789	1.281	1	3.722	1.287	3	3.821	1.317	2
Ceiling, interior finishes, stairs, and acoustics standard	3.701	1.337	4	3.691	1.313	4	3.776	1.340	4
Wall & Floor finish quality				3.572	1.412	5	3.639	1.375	5
Materials for Doors & Windows				3.546	1.380	6	3.566	1.359	6
Out-patient	**Shape, form, and texture**			**Materials quality**			**Color, decoration, and artworks**		
The beauty of the Clinical spaces	3.627	1.206	4	3.738	1.084	3	3.766	1.098	5
The beauty of the reception, waiting room, and record units	3.721	1.107	3	3.736	1.057	4	3.809	1.061	2
The attractiveness of the frontage pattern & environmental landscape	3.745	1.122	2	3.838	0.999	2	3.808	1.087	3
Ceiling, interior finishes, stairs, and acoustics standard	3.807	1.075	1	3.884	1.023	1	3.897	1.076	1
Wall & Floor finish quality							3.710	1.118	6
Materials for Doors & Windows							3.788	1.053	4
In-patient	**Shape, form, and texture**			**Materials quality**			**Color, decoration, and artworks**		
The beauty of the wards Spaces	3.446	1.254	2	3.584	1.116	4	3.630	1.992	4
The attractiveness of	3.678	1.183	1	3.718	1.070	3	3.695	1.171	3

the frontage pattern & environmental landscape									
Wall & Floor finish quality	--	--		3.821	1.128	1	3.773	1.113	2
Materials for Doors & Windows	--	--		3.795	1.183	2	3.797	1.235	1
Overall	**Shape, form, and texture**			**Materials quality**			**Color, decoration, and artworks**		
The beauty of the wards and clinical spaces	3.632	1.258	2	3.703	1.157	2	3.751	1.192	2
Attractiveness of the frontage pattern & environmental landscape	3.746	1.193	1	3.774	1.118	1	3.789	1.188	1

Where 1 indicates not attractive, 2 – averagely attractive, 3 – not available, 4 – well attractive, 5 – excellently adequate, 6 – facilities not available, wms – weighted mean score, and std – standard deviation.

Source: Researcher's Field Survey, 2021

5.2 Influence of Regular Visit to Hospital Garden Spaces on Staff and Patients

The staff feels that a regular visit to the hospital garden will reduce sick leave since it has the value (1.842 mean; 0.365 std) being rated "no" by the frequency and percentage distribution of 165 (84.2 percent); reduce headaches and tiredness (1.842 mean; ±0.366 std) being rated no by 165 (84.2 percent); experience of in health improvement (1.730 mean; ±0.445 std) being rated "no" by 143 (73.0 percent), and promote interaction and reduce working stress (1.684 mean; ±0.466 std) being rated "no" by 134 (68.4 percent) as displayed in (Table 3).

Moreover, the in-patients believe that regular visiting the hospital garden reduce sick leave since it has the highest no from the inpatient respondents with the value (1.866 mean; ±0.343 std) being rated "no" by 103 (86.6 percent); promote interaction and reduce working stress (1.782 mean; 0.415 std) being rated "no" by 93 (78.2 percent); experience of in health improvement (1.731 mean; ±0.442 std) being rated "no" by 87 (73.1 percent), and reduce headache and tiredness (1.731 mean; ±0.445 std) being rated "no" by 87 (73.1 percent).

The above result affirmed that regular visit to the hospital garden does not reduce sick leave for both the staff and in-patient. The staff further confirmed that regular visits to the hospital garden, promote interaction & reduce working stress while the in-patients expressed that regular visit to the hospital garden cause their experience in health improvement and reduce headaches & tiredness. This result is in harmony with an evaluation study carried out by Varni, Burwinkle, Dickinson, Sherman, Dixon, Ervice, Leyden & Sadler, (2004) which revealed that staff who visited the hospital garden reported positive benefits in stress reduction. These could be done by promoting staff interaction, a culture of communication, information sharing, and teamwork which is believed to be the cornerstone of safer and more effective healthcare service (Joseph, 2006b).

Table 3. Regular Visiting to the Hospital Garden

	Descriptive Statistics				
Staff	**Yes**	**No**	**Mean**	**Std. dev**	**Rank**
Reduce sick leave	31 (15.8)	165 (84.2)	1.842	0.365	1

Reduce headaches & tiredness	31 (15.8)	165 (84.2)	1.842	0.366	2
Experience in health improvement	53 (27.0)	143 (73.0)	1.730	0.445	3
Promote interaction & reduce working stress	62 (31.6)	134 (68.4)	1.684	0.466	4
In-patients					
Reduce sick leave	16 (13.4)	103 (86.6)	1.866	0.343	1
Reduce headaches & tiredness	32 (26.9)	87 (73.1)	1.731	0.445	4
Experience in health improvement	32 (26.9)	87 (73.1)	1.731	0.442	3
Promote interaction & reduce working stress	26 (21.8)	93 (78.2)	1.782	0.415	2

Source: Researcher's Field Survey, 2021.

6. Research Implication, Conclusion and Recommendations

The aesthetics of interior spaces evaluated revealed generally that the aesthetics in terms of the shape, form and the texture, materials quality, color, decoration, and artwork rated highest with the averagely attractive frontage pattern & environmental landscape of the hospital environment. However, the staff rated the materials quality, color, decoration, and artwork beauty of the reception, waiting room, and record units the highest while the out-patients feel that the shape, form, and texture, materials quality, color, decoration, and artwork of the interior spaces are well attractive with the ceiling, interior finishes, stairs, and acoustics standard being rated the highest with averagely attractive in the three study areas.

Findings by the inpatients of the three study areas revealed that wall & floor finish quality, doors and windows materials of interior spaces are rated to be well attractive in terms of materials quality and color, decoration, and artworks respectively. However, the reception, waiting room, and record units, ceiling, interior finishes, stairs, wall & floor finish quality, materials for doors & windows need more aesthetic attention in terms of shape, form, and texture, materials quality, color, decoration, and artwork. Also, the Semi- Structured Interview (SSI) information obtained at UCH confirmed that there is no much decoration in the interior spaces, decorations, and artwork used is also old. The materials quality is old and the color used has started fading away, hence, there is a need to repaint some walls and more decorations are needed in the interior spaces. The (SSI) report at OAUTHC reveals that the aesthetic of the interior spaces in terms of shape, form, texture, material quality, and artwork is very poor.

Results from the aesthetics of the spaces show that the reception, waiting room, and record units, ceiling, interior finishes, stairs, wall & floor finish quality, materials for doors & windows in all the three Teaching Hospitals needs more aesthetic attention suggesting that as follows:

1) Aesthetic design parameters should be given more attention by the hospital designers and policymakers in the healthcare sectors.
2) The results of this study also showed that decoration in the interior spaces and artwork and material quality used is old while the color used for the walls had faded away, hence, needs for renovation and repainting of the affected spaces.

This finding shows that regular visit to the hospital garden does not reduce sick leave for both the staff and in-patient but promote interaction & reduce working stress according to the staff while the in-patients confirmed it cause their experience in health improvement and reduce headaches & tiredness. It also shows that regular visits to the hospital garden promote interaction & reduce working stress. However;

1) The Federal Government of Nigeria should engage the services of therapeutic professional landscape architects who have been instrumental in leading the design and development of Therapeutic Gardens in the Healthcare sector for the production and management of therapeutic gardens at all the Federal University Teaching Hospitals in Nigeria. Design principles for therapeutic landscapes should be strictly followed as it is more specific and relates to a particular aspect of the healing process in the hospital environment.
2) There is need to pay more attention to the design characteristics of all the teaching

hospitals most especially the design for aesthetics (exterior & interior). Planning of hospital garden spaces that would support, enhance and promote positive healthcare outcomes relies on the design considerations set up to meet strictly defined norms, regulations and criteria. They provide information and achievable measures which need to be incorporated as early as in the conceptual phase in order to fully integrate the use of hospital garden spaces into a hospital's routine.

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