CONFIGURING A FAMILY FRIENDLY INPATIENT SETTING

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Graphical abstract
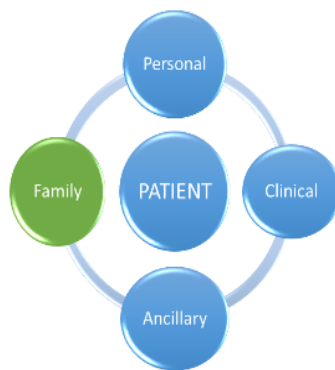
Abstract

The hospital facilities are not structures designed just to accommodate clinical functions and facilities, however they are combination of organized systems working together to meet other diverse functional requirements within the hospital complex. For the hospital to meet the requirements of such wide range of issues, attention has to be paid to each and every component making the hospital whole from the early stages of the design process, especially user needs and preferences. Among the patient's needs is social support from family. Family presence and participation in caring for their relatives have been identified to have significant impact on restoration, however little or no consideration is given for their accommodation. This study is aimed at exploring the space-activity patterns of familial caregiving activities in a hospital ward spaces that will guide design process. Principles of behavioural mapping was employed in male and female wards of one of the tertiary hospitals in Nigeria. Findings shows that four major spaces within the ward setting where such activities are dominant. Thus proper planning and configuration of such spaces with provision for family will go a long way in promoting and encouraging their presence and participation that will consequently improve restoration.

Keywords: Design, family, caregiving, inpatient setting

1.0 INTRODUCTION

Hospital buildings have to be designed based on clinical and other functional requirements. Concentration in design of healthcare facilities was previously on meeting physical space requirements and service delivery, with little or no attention paid to non-tangible benefits of the patients, staff and visitors [1]. However, better understanding of the therapeutic effects of healthcare facilities on patient wellbeing and restoration led to a better appreciation of users' needs and satisfaction [2], especially the psychological and emotional need of the patients which are equally significant but not often considered especially in developing countries like Nigeria. A hospital spatial layout that take into consideration the social and cultural needs of the users, can serve as a very important tool in improving restoration and health outcomes [3]–[6]. Family presence and participation in care delivery is a treasured resource in Nigeria where they play a vital role in ensuring effective hospital ward operations. in addition, they provide the emotional and psychological support a patient requires. However most of the Nigerian hospital ward are faced with challenges of accommodating the patient family [7]. This necessitated the use of spaces in a way they were not designed for. This suggests the need to identify the spatial requirements of the familial caregiving with a view to making an informed decision during design.

2.0   HEALTHCARE   FACILITIES TRANSFORMATION TRENDS

The transformations in healthcare industry was initially triggered by advancement in medical expertise, technology and procedures [8], [9]. However, with the increasing interest in exploring fields of psychology, the extent to which physical environment can contribute to healing was identified. This triggered the interest in studying the impact of healthcare facilities on staff efficiency and patient outcome. Evidence based findings in this regard indicated the ability of pleasant and comfortable environment to promote restoration by reducing stress and creating a sense of well-being (Lawson, 2005; Sadler et al., 2008).

Furthermore, the ultimate goal of hospitalisation has been established to be satisfaction with hospital services [11], [12]. However, this does not involve medical care only, but the whole hospital experience [13]–[15]. To this end, concentration of the studies in the fields of psychology, medicine, nursing and architecture was aimed at achieving an optimum healing environment designed to promote harmony between mind, body, and spirit [16].

By applying the principles of optimum healing environment, healthcare facilities do not only provide for advancement in state-of-the-art medicine and technology, quality patient care and safety, but also provide conducive accommodation for staff, patients, and their family within a psychosocially therapeutic environment [17].

This trend manifested itself in healthcare facilities that introduced the spirit of nature into the hospital environment [18]. For instance, natural lighting and view window. Furthermore, it encourages social interaction among staff, patients and their families in addition to providing a hospital environment that promote and encourage social support from families and friends.

Considering the significance of social support in a patient's restoration, hospitals are now configured to provide for greater participation of the family in the care of their hospitalised relatives by providing family zones in single room accommodation [19], [20]. However, hospitals with multibed ward setting especially those found in developing countries find it difficult to accommodate family presence.

3.0   FAMILY AS A RESOURCE

Family participation in caring has been established to be the foundation of nursing care, however, it has not always been recognized as such [21]. Family involvement in nursing was believed to originate from patients' homes with family involvement and family-centered care being natural [22].

The transition of nursing care from homes to hospitals was as a result of great depression from World War II [23]. This transition did not only exclude the families from participation in caring for their sick members, but also from active participation in the events of birth and death [24]. With the advent of evidence based medicine, patient centered care (PCC) and family centered care (FCC) models were established. These models of care recognised the significant contribution of family in the caring for their sick ones [25]. This and other evidence based factors necessitated the reconsideration of family participation once again in restoration process. Their involvement this time around is more of collaboration, as it is informed and evidence based practice [26]. However, the extent of family participation in developing countries go beyond that.

Apart from playing various roles in supporting their hospitalized patients, it has been universally accepted that patient family and friends provide companionship, emotional support, and entertainment that the patient requires [27]. In addition, patient families in some countries provide meals to the patients, run errands, provide the physical support the patient required and support the activities of healthcare personnel where the resources are in chronic shortage [28]. Furthermore, family sometimes might be required by healthcare personnel to procure necessary medical and surgical essentials [29]. These have been identified to be an established local norms thereby making the expectations of healthcare providers and service users compatible.

Family members' presence and participation in caring accorded them opportunity to be vigilant on the patient's conditions and treatments during hospitalisation [30], [31]. Several studies have revealed numerous anecdotal examples of family members being the first to observe and bring to the attention of medical or nursing staff in case of any anomalies. This also increases patient safety by reducing the risk of fall [30].

Professionals in healthcare industry are likely to have varied opinions on the extent to which patients and family members are engaged in clinical activities. While some of them considered it as a challenge to their professional capability and obligation, some may see it to go against the patient and family's interest, especially if it involves round-the-clock family presence [32].

Ultimately there are circumstances encouraging the growing emphasis on the need for patients and family engagement [22]. Firstly, is the aspects relating to patient- and family-centered care that promotes shared decision making both reflects and accelerates the evolving patients and family's roles in healthcare by making them more active, informed, and influential, and secondly, establishing the fact that patient and family involvement can lead to better health outcomes, improved quality and patient safety, and ultimately assist in healthcare costs control [22].

Patients and families have been identified to have valuable experience, expertise, insights, and perspectives that can facilitate the transformational change required in healthcare and enhance the service quality and safety. Various clearly defined roles for patients and their family's participation in improving

quality and redesigning of health care must be in place in all health care organizations.

4.0   ASSESSING FAMILY NEEDS IN A HEALTHCARE SETTING

Addressing patient family needs is a significant aspect of caring for the patient which can be achieved when they are involved in the care, considering their contributions and input [33].

Findings from several studies have established the likelihood that meeting patient families' needs will lead to better outcomes for both patient and family [25] and ultimately increase satisfaction [11]. Even though the concentration of the studies is on the families of intensive care patients, the needs are however not so different in an inpatient setting [34].

Studies from nursing care have identified various needs expressed by families to involve needs for information, communication, reassurance, closeness, comfort, and support [25]. Those from psychology described the four different categories of family needs to be: cognitive, emotional, social, and practical [35].

Providing environment that is comfortable to both patients and families is believed to have psychological and emotional effect that in turn improve healthcare outcome [12], [36].

5.0   STUDY DESIGN AND SETTING

This study employed a qualitative research approach as used in social sciences to study space-activity relationship of a group of people within a setting [37]. The principles of behavioral mapping was used to document the patient family's activities and their movements in time and space [38], [39]. It is a method employed in recording observations of location-based human behaviors [38].

The study was carried out in male and female surgical wards of the Federal University Teaching hospital Gombe, Nigeria. It is a 450 bed capacity hospital. Ethical permission was obtained from the research and ethics committee of the hospital. The observation was carried out in an open hospital ward setting of 37 beds, partitioned by dwarf walls into six and four bed bays. Each of the ward had centralised nurse station and attached conveniences. The male and female wards were positioned adjacent to and mirror of one other. They were accessed from a common entrance foyer.

6.0   DATA COLLECTION

Three consecutive days observation was carried in three sessions of eight hours each daily. During the first day, the morning session was scheduled from 5am to 1pm, afternoon session between 1pm to 9pm on the second day and Night session scheduled 9pm to 5am on the third day respectively. The activities observed was early morning activities, post ward round activities, meals and as well as space-activity relationship. The sessions were conducted in each of the male and female wards. Average occupancy as at the time of the observation was 31 beds in the male ward, and 30 beds in the female wards.

Table 1 Observation schedule

Ward	Male Surgical Ward		
Day	1	2	3
Shift	1st	2nd	3rd
Round 1	6am-2pm	2pm-10pm	10pm-6am
Round 2	6am-2pm	2pm-10pm	10pm-6am

Ward	Female Surgical Ward		
Day	1	2	3
Shift	1st	2nd	3rd
Round 1	6am-2pm	2pm-10pm	10pm-6am
Round 2	6am-2pm	2pm-10pm	10pm-6am

The researcher was formally introduced to the nurses by the matron. The healthcare personnel attached to the wards were during the study were three nurses, two health assistants and a porter in each of the wards. Furthermore, patients and their relatives were also informed of the purpose of the study.

During an observation sweep, the observer who is familiar with the principles of behavioural mapping, walked around the ward in a predetermined way that allowed him have visual inspection of bedsides, corridors, foyers, courtyards and conveniences, where activities of interest were carried out. Place-centred instantaneous scans, a principal method of behavioural mapping [40] was employed because of its least invasiveness [41] The observer, at set intervals, quickly noted people's activities within a certain area and moves on to other areas, and each bed side was observed at least twice. For proper documentation, field notes and photographs were taken and manual annotations of the activities in relation to the spaces occupied were recorded on the floor plans. Similarly, the process was carried out in the female ward to observe consistency.

## 7.0   METHODOLOGICAL VALIDITY

The methodological rigor was ensured by prolonged engagement in the field [42]. In order to achieve consistency and validity, the whole process was repeated in both male and female surgical wards after two weeks by observing the activities of newly admitted patients. The observation for each session was repeated in both male and female surgical wards to ensure consistency.

8.0 DATA ANALYSIS

In order to generate patterns from the space-activity relationship and identify the affordances of hospital ward setting to the typologies of family care actions, the data obtained through annotations was analysed qualitatively using comparative content analysis by way of matrix [43]. Furthermore, Information recorded as field notes and photographs were analysed using constant comparison analysis [44]. Data obtained in the female surgical ward was compared to that of male surgical ward for conformability [37].

  Activity was identified to be the major social unit in the analysis. It is the tag used in organising the actions and as well, used as a way of making sense out of it [37], [45]. Moreover, it was as well used as the major unit of analysis in order to match the main purpose of the study, which was, identifying themes and patterns from the space-activities relationship in the course of patients and their family's interactions. To achieve data reduction, and comprehension, codes were generated accordingly in recognition of when and where such activities took place [46]. Furthermore, the salient activities as they relate to culture were grouped to form categories [47].

9.0 RESULTS AND DISCUSSION

Findings from this study revealed the most dominant spaces used by the patient families in the process of caring for their hospitalised relatives. The results as presented in Table 2 shows that most of the activities carried out by the patient families are by the bedside. Family commitment to providing care to his hospitalised relatives requires them to assist in activities that are personal and clinical in nature. The prominent personal activities identified involves psychotherapy, feeding and religious attendances. Furthermore, presence of family by the bedside accorded them opportunity to assist in activities that are clinical in nature. For instance, monitoring and reporting patient condition, performing assigned tasks. This implies that, achieving family friendly inpatient setting requires making adequate bedside provision in terms of space and facilities that will ensure close proximity and comfort to the patient families. This is consistent with the recommendation by [48].

　Furthermore, religious attendances and some aspects of family solidarity were observed to be prevalent in the hospital foyer. This finding is synonymous with caring practices in turkey [29]. This suggests the need for ancillary facilities in hospital ward that should include spaces for storing personal belongings, religious attendances and social interaction. This is believed to support the presence and participation of the families in the hospital. Additionally, it was found that patient relative's camp and tree shades have been used by the patient families for their domestic activities. Domestic care activities involving washing of clothes, feeding among others have been known to be an established norm in many developing countries [28], [32].

  This implies the need to configure hospital wards with adjacent spaces that provide, support and encourage family's presence and participation. Provision of domestic and outdoor recreational facilities will go a long way in making the patient's stay in the hospital a comfortable and less boring one.

Table 2 Family transaction spaces

Themes	Congragetional Prayer	Individual Prayer	EOL supplication	Meditation	Consolation	Social interaction	Keeping patient in company	Interpretation	Feeding	Laundrying	Food Preparation	Reception	Admission proceedures	Transfer	Escort	Turning Bed ridden	Bed bath	Assigned task	Procurement of drugs	Vigilance
Categories	Spiritualism					Family solidarity		Lang	Domestic care				Physical Support					Clinical Participation		
Bedside	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Foyer	✓	✓				✓	✓					✓	✓							
Camp	✓	✓				✓				✓	✓									
Open Spaces	✓	✓				✓	✓		✓											

The Nigerian hospital wards configured based on the early 6o's British healthcare model has no provision for the family presence and participation in care. The findings from this study identified a transformed model of care involving the patient's family that is not compatible with the familial caregiving practices (Figure 1), which suggest the customization of the hospital ward spaces that accommodate the familial caregiving activities in order to avoid sprawl.
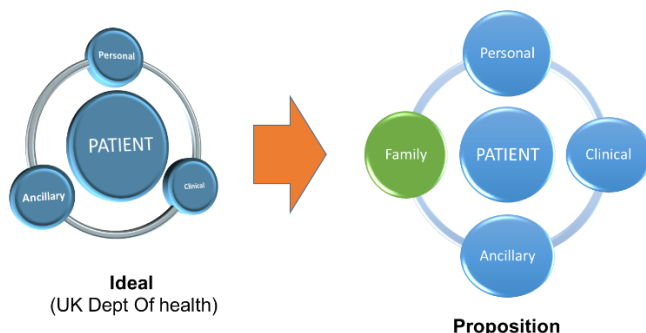
Figure 1 Transformation of hospital ward Space requirements

10.0 STUDY LIMITATIONS

Considering the fact that hospitals are of different types, sizes and categories with different types of wards accommodating various forms of illness and age categories, this study was is limited to male and female adult surgical ward setting of a tertiary public hospital.

11.0 CONCLUSION

Achieving a customised ward setting with defined spaces that function harmoniously requires the identification of the space-activity patterns of family care actions. The principles of behavioural mapping identified the areas with concentration of the family care actions thereby revealing how and when such activities shape the ward spaces. This suggest that Nigerian ward settings are incomplete without space for familial caregiving.

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