

A Study of Private Hospital's Waiting area

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Abstract

A serious look at our hospitals and clinics shows that the space was not built for human comfort and is difficult for maintaining and cleaning. Windowless, dull, depressing environment and lack of natural light can increase patients' stress and anxiety. The aim of this research is to realize and investigate the hospital design problems in hospital's waiting area in aspects of space planning, furniture design and material and finishes. Waiting areas are the first places which give impact on customers and patients, and if these spaces neglected to consider the impact towards the stress and anxiety of the customers and patients, undesired consequences will arise. This research studied aspects on the space planning, furniture design and use of material and finishes of waiting area. Investigating these factors will help to provide information to enable designers and hospitals to provide for their customers and patients as guests to the premise. This can change the patients' thoughts and perception of the hospital. A case study was carried out on a private hospital, Darul Eshan Medical Center (DEMC) Shah Alam, Selangor, Malaysia. Observations, physical measurements and site observations were carried out. In-depth interview with experts and questionnaires for users were also carried out. Data collected were analyzed.

Keywords: Waiting areas, Hospitals, Planning, Furniture design, Material, Finishes

Introduction

Background of the study

Hospitals in industrialized countries around the world are typically large institutions with separate wards for different kind of health problems and treatment procedures (Sarafino, 2006). Griffin (2012) mentioned that hospitals are a vital part of society's infrastructure as important as schools or the police department.

During the 20th century, hospitals began to take on additional roles. Not only do modern hospitals provide care for the sick and ailing, and clinical education for the entire continuum of healthcare professionals, many also serve as an institution of health education for entire neighborhoods, communities, and regions. The hospital today provides education for both professionals and amateurs (Griffin, 2012).

Based on (McCullough, 2010) explanation, it is difficult to design healthcare interior because it must fully be understand the ins and outs of medicine and technology to truly grasp the needs of patients and medical staff. The patient room, the waiting room, and physician's office each have a specific purpose where the design and use must be complementary and durable.

The Malaysian healthcare system is, similarly to the German system, divided into two sectors: the public and the private healthcare sector. Both healthcare sectors are still expanding 70% of healthcare services are provided by public sector which is heavily subsidized by the government and used by the majority of the Malaysian population. The private healthcare sector (30%) offers

both curative and rehabilitative services and is financed strictly on a fee-for-service basis (APHM, 2011).

Based on APHM (2012) there are 220 private hospitals in Malaysia. Medical expertise in the private healthcare sector in Malaysia ranks among the best in the region and most private hospitals have internationally recognized standards. All private medical centers are required to be approved and licensed annually by the Ministry of Health (MOH).

Waiting time is considered to be an important determinant of patient satisfaction. Patient satisfaction is a concept that has been receiving increasing attention reflecting an evolving focus in the service-oriented health care market. Yeddula (2012) stated that if the healthcare organizations could improve patients' views of the time they spend waiting, then patients will have less frustration experience time and may feel more satisfied with the services.

Found on Malkin (1982) explanations the good environment makes us feel better, and feeling better is the key to getting better. Ruga (1989) declared that the important goal of designers should be to promote wellness by creating physical surroundings that are psychologically supportive.

Problem statement

Due to Malkin (1982, p.19) description the waiting area is where psychology plays a significant role. To see a doctor patients have to wait in the waiting area for a while, during which they are sitting they have quite time to look around and check everything in the waiting room. Therefore the unpleasant factors will impact on them and increased their stress and anxiety.

Waiting is a universal experience that everyone can describe in some personal way in relation to their own lives. Katz (1991) and Dansky (1997) emphasized that the patients consider the waiting as inactive, wasted or lost opportunity time, and the patient satisfaction decreased with longer waiting times.

Making the waiting experience relaxing and enjoyable should be the goal of every hospital administrator. By insuring user time is maximized, it will result in a higher customer satisfaction level.

Objectives

The objectives of this article are:

- To study in space planning in hospital's waiting area.
- To investigate furniture design in waiting area.
- To study interior materials and finishes which are used on floor, ceiling and wall at waiting area.

Significance of study

This study will provide information regarding to private hospital's waiting area.

This study will be beneficial to architects and designers who would like to relate this information on their work and make an improvement.

It also can be beneficial for people who work in healthcare space and patients who spend more much time in waiting area.

Literature Review

Healthcare in Malaysia

When Britain granted independent Malaysia in 1957, Chee and Barraclough (2007) explained it donated a public hospital system originally developed for the care of expatriate and

local government officials but subsequently inclusive of the general population. Hospitals were generally in urban areas. Until well into the 1970s there were no corporate, for-profit, hospitals in Malaysia, although some small maternity and nursing homes were established by businesspersons in the wake of sustained economic growth. In 1983, the incoming Mahathir administration announced a privatization policy. In the mid-2000s, the basic structure of Malaysian health care remains a mixed private-public system.

The first private hospital in Malaysia was Gleneagles Medical Centre, Penang (GMC) was a modern acute care private hospital strategically located in the heart of Penang Island. Established in July 1973 and formerly known as Penang Medical Centre (PMC), it was a 227-bedded facility. In 1989 majority control of the company was taken over by Parkway Holdings Limited, one of Asia's largest private healthcare organizations that had a network of hospitals and integrated facilities that span the region. GMC was the first private hospital in the Northern region of Malaysia and the second private hospital in Malaysia to be awarded a 3 years Accredited Certificate by the Malaysian Society for Quality in Health in 2002 (APHM, 2012).

Waiting area

Waiting was one of the frustrations that often accompany a visit to the doctor. Based on Malkin (1982) description the waiting room was the patient's introduction to the medical or dental. It would establish immediate rapport and put the patient at ease. Well-designed facilities might increase positive emotions, which in turn could positively affect patient's health and well-being.

(Hosford & Roser 2008) believed that as patients have to wait in waiting area for a while the waiting room could be a place that was not only calm cool but also visually interesting. The waiting room would be a restful, non-institutional environment to reduce the patient's anxiety.

Due to Malkin (1982) description of the waiting area was where psychology plays a significant role. Dusty, antiquated furniture with torn and faded upholstery may simply be the result of a doctor's busy schedule and his or her reluctance to focus on it as an important aspect of patient care. To see a doctor patients had to wait in the waiting area for a while, during sitting they have quite a time to look around and check everything in the waiting room. Therefore whatever unpleasant had effect on them and increased their stress and anxiety.

Space planning

Waiting area might play an important role in reassuring or distressing patients. The first impression of the practice was given by the waiting room. It was the place where anxiety and worry about consultation and possible treatment were likely to be built (Lingham and Spencer 1997).

Design could serve to increase this patient's feeling of comfort and control, as well as his rate of recovery due to Kopel (2006, p.215) explanation by providing the following features in this new environment:

- A private room with colors, materials, and features typical of a home or hotel.

- Comfortable accommodations for visitors.

- Various sources of distraction (e.g. TV, radio, natural elements, a view).

- Areas in which to mix with other patients, as well as a garden he can visit or tend when he is able.

Furniture design

Recently, there were attention to furniture's impact on sustainability goals, the impact attached with the healthcare industry's emphasis on patient safety, had opened the door to a broader consideration about the role furniture might play to improve patient, staff, and resource outcomes. The majority of furniture required for healthcare environment was for seating, they must be comfortable because patient sit there for a while.

Based on Mccullough (2010) enlightenment, furniture finishes could have varied range but include wood, metal, laminate and composite material, consideration of area of use could lead the designers to the correct selection of a finishes.

Furniture features based on Dellinger and Malone (2011) statement:

Easy to clean, material for upholstery are impervious, surface are nonporous and smooth

Chairs has armrest, stable, no sharp edges, chair height is adjustable

Material link to nature, appearance is attractive

Improve environmental safety

Improve communication and social support for patients and family members.

Improve staff effectiveness, efficiency, and communication

Marberry (1997) explained there were some types of furniture which were used usually in healthcare interiors for instance:

1. Mayo chair ,
2. Kusch+ CO. ,
3. The Warren chair
4. Material and finishes

Infection control was an important impact on the use of material in hospital. Kliment (2006) description, the hospital design had changed from those materials and finishes that easily stain and must be replaced with the new one to more enduring materials with surfaces that were easily cleaned.

As the limit between materials and the environment, surface inspired the senses. It was the visual impression of the surface that dominates. Hegger (2006) categorized the nature of the surface to smooth, shiny or decorative. As the first impression was very important in patients it must be considered by designers. Out of date furniture, worn upholstery and grimy spots on the wall may give the patient a message that the doctor doesn't care about patient comfort based on Malkin (1982) statement.

Ceiling: For far too many years, the ceiling seemed to be the poor stepchild of healthcare design; it was often considered nothing more than a functional necessity, receiving whatever remained in the design budget after the balance of the facility had been carefully furnished. Today, ceiling was considered design opportunities, incorporating both forms and function (Marberry, 1997).

There were three types of commercial ceiling industry as Mathis said:

1. Metal ceiling
2. Gypsum board and plaster ceiling
3. Mineral fibre and fiberglass acoustical ceiling

Floor: For the floor finishes, there were some types as Malkin (2002) proposed:

1. Carpet
2. Vinyl composition tile
3. Ceramic tile
4. Vinyl Sheet

Carpet 's advantages based on Marberry (1997) statement were its ability to soften interiors and contribute to the healing environment in real ways. It could provide visual comfort, reduce noise, and gives both actual and visual warmth to the environment.

Wall: Wall could receive commercial vinyl wall covering. Although, in high profile design offices there were other more expensive option which were more durable than vinyl and richer in texture and appearance such as: Carnegie Xorel and Maharam tek-wall. Wall could be washable and finishes would be smooth be painted in different colors. Colors would be cheerful. Due to Holtzschue (2006) statement, color had been demonstrated that color strongly influences human emotions and physiology; different color had different feeling on people in particular area.

Research Methodology

In order to achieve the aim and objectives of the study, the researcher applied some methods to collect the primary data which were observation, in-depth interview and questionnaire.

On-site observation

Case study

The researcher had chosen one private hospital for case study in Malaysia. Data will be collected in order to develop further understanding of the issues. The multiple approaches by the researcher enable to understand what is happening in the situation and to strengthen the findings.

The case study will be in DEMC Specialist Private Hospital's waiting area in out-patient department. This hospital is located in no 4, Jalan Ikhtisas, Seksyen 14, 40000 Shah Alam, and Selangor, Malaysia. This hospital is also known as Darul Eshan Medical Center and one of the new hospitals in Selangor.

The observation on the selected case study site would be executed in order to understand the design aspect in hospital's waiting area (outpatient department). The observation would be done by the researcher's view and observation according to the aim and objectives. An observation checklist would be prepared before the observation activity.

The observation would be studied in space planning, people circulation at waiting area, look at furniture design for suitability, ergonomics material and finishes which applied on wall, ceiling and floor in waiting area in outpatient department of the building. The observation would be made on specific time, which was on weekend during day time where numbers of consumer would be there. Data would be collected and recorded by the researcher during all interactions between human and space during the observation.

In-depth interview with experts

There were two positions of experts that were interviewed by the researcher. At first, in order to understand the consideration of the principles and facilities in design a hospital's waiting area, the researcher interviewed the director Dr. Siti Noraida Mohd Habibullah (director clinical and ancillary services in DEMC Hospital). Next, the researcher would interview another expert Dr. Razman Abu Karim (Head of accident and emergency outpatient department) who had information working in the outpatient department and knew the patient's problems in that space. These two expert explained and discussed according to the questions. The question would be chosen according to the aim and objectives of this research.

There were two different questions that prepared were:

First expert:

Are there any guidelines on private hospital design?

What are the facilities that are provided at the entrance of the hospital?

What kind of facilities that are provided in out-patient department's waiting area?

What kind of complains do you normally receive from the patients and others?

Is there any complains about waiting time from customers in these areas?

What feature should have furniture used in hospital's waiting area? Is there any guideline for furniture design in hospital's waiting?

What kind of furniture that is provided in waiting area?

What material properties should be used in waiting area?

Second expert:

What kind of facilities that are provided in out-patient department's waiting area?

What kind of furniture must be provided in waiting area?

What material properties should be used in waiting area?

What kind of complain do you normally receive from patients?

What kind of safety factors must be offered in hospital especially in waiting area?

How can reduce the anxiety and stress in hospital especially in the waiting area?

Questionnaire

To complete the case study research with appropriate methods, data would also be collected from the patients and visitors who were in the hospital. About 30 copies of questionnaire would be circulated among the users (patients and visitors) of the selected case study site to get their opinion. The questionnaires were distributed to the consumer of the hospital in order to identify the output of the space designated for it. This was decided to ensure the best characteristics of a good design hospital.

Data analysis

On site observation

Case study

The chosen case study was DEMC specialist private hospital in Shah Alam, Selangor, Malaysia. It was also known as Darul Eshan Medical Center and one of the new hospitals in Selangor. It located No. 4, Jalan Ikhtisas, Seksyen 14, 40000 Shah Alam, Selangor Darul Ehsan, and Malaysia.

The place was officially opened on July 1997. DEMC was also a fast growing healthcare group in Shah Alam offering a combined spectrum of medical tourism, primary care, specialist services and health wellness programs to serve the healthcare needs of our community, national and international customers. Catering to all kinds of Medical Tourism in Malaysia, the specialist center has a wide choice of medical packages to choose from.

The outpatient department waiting area was separated by nice glass wall. The registration counter was easily seen as well. There was a nice place to sit in back of the waiting area with nice artwork and nice laminated wall covering which made the space more comfortable for patients and visitors. There were two types of furniture for people which the liner chairs were located in front of space seemed to be comfortable with oily coating brown color finishes that could help to clean easily. Another one was in black leather which was at back of the space. The floor material was sheet colorful vinyl. The vinyl could absorb the sound and it was durable and non-slippery which was suitable for kids and elderly people. The ceiling and wall finishes were in white color to make the space big. There was a wall which separated the spaces and activities in the waiting area but with having windows which people could see inside that could help patients to see the inside activities and it could reduce patients stress and anxiety. There were also breast feeding and toilet in that space.

In-depth interview with experts

There were two experts that were interviewed by the researcher. The purpose of this interview was to get their idea and perception about design in hospital waiting area.

The first expert was Dr. Siti Noraida Mohd Habibullah (director clinical and ancillary services in DEMC Hospital). According to her answers, there was a strict guideline for hospital building structure and design based on MOH (ministry of health Malaysia). They tried to make a

space as good ambience and good facilities for visitors and patients based on their concept which was boutique hospital. The furniture which would be used in waiting area would be durable, comfortable, safe and easy to maintain. The material must be easy to clean and durable.

The second expert who was interviewed by the researcher was Dr. Razman Abu Karim (Head of accident and emergency outpatient department).he also believed that the furniture in the waiting area would be comfortable ,easy to clean and child friendly(no sharp edges) and hygienic. Material and finishes must be easy to clean, durable and non-slippery. Based on his idea it was important to provide a comfortable place with some entertainment facilities such as something to read, drink while people were in lobby or in the waiting area.

Questionnaire analysis

Section A of the questionnaire survey identifies the biographical data of the respondent's personal information such as gender, age, race, education level and occupation.

Table 1: Section A of questionnaire on interviewee profile of patients and visitors in DEMC specialist hospital

Variable		Nos	Percentage
Gender	Male	11	37%
	Female	19	64%
Age	10-15	0	0%
	15-20	3	10%
	20-30	11	37%
	30-40	10	33%
	40-50	3	10%
	50 above	3	10%
Race	Malay	26	87%
	Chinese	1	3%
	Indian	3	10%
	Other	0	0%
Education level	University	9	30%
	Collage	10	33%
	UPSR	0	0%
	PMR	0	0%
	SMP	4	13%
	STPM	7	17%
Occupation	Government	2	7%
	Private	18	60%
	Self employed	7	23%

According to this table, the majority on the respondents were female which formed 64% from the total respondents. Male respondents formed 37% from the total 30 respondents. This data showed that females are majority visitors and users of the studied sites and they were serious in their attempt to express their perception in hospital atmosphere. The majority of respondents were from the age group of 20-30 years old which formed 37% from a frequency of 30 respondents. The next age was 30-40 which 33% of total respondents were. From table above, most of the respondents

were Malaysians which formed 87% with a frequency of 30 respondents. This showed that all the respondents from the studied sites were all local users.

Table showed that most of the respondents were graduated from collage which formed 33% from 30 respondents and 30% of respondents graduated of university. The table above indicated that the majority of respondents worked in private which formed 60% from 30 respondents.

Results and Discussion

Site observation of case study

Concept

In this case, the interior environment of DEMC specialist hospital treat and serve people perfectly base on their concept design boutique hospital which meant a great service, service Understanding and service Familiarity.

Information counter

The information was the first thing when people arrived to the lobby; the orange color of the counter finishes was attractive and helped the patents to find the information counter straightforwardly.

Questionnaire

User's profile

Table 2: Showing demographic on survey respondents in DEMC hospital

Variable		Nos	Percentage
Gender	Male	11	37%
	Female	19	64%
Age	10-15	0	0%
	15-20	3	10%
	20-30	11	37%
	30-40	10	33%
	40-50	3	10%
	50 above	3	10%
Race	Malay	26	87%
	Chinese	1	3%
	Indian	3	10%
	Other	0	0%
Education level	University	9	30%
	Collage	10	33%
	UPSR	0	0%
	PMR	0	0%
	SMP	4	13%
	STPM	7	17%
Occupation	Government	2	7%
	Private	18	60%
	Self employed	7	23%

Based on finding, it was showed that the population of study consisted of 30 patients at DEMC specialist hospital. Among the respondents, 19 (64%) of them were women and 11 (37%) were men. 11 (37%) of respondents were between the ages of 20-30 that responded to the

questionnaire, 10 (33%) other patients were between age 30-40, 3 (10%) respondents were around 15-20, 3(10%) in between 40-50 ages and 3(10%) were 50 above. As this DEMC specialist hospital was located in Shah Alam most users 26 (87%) were Malay. Based on findings, most of respondents 10(33%) graduated of college and university 9(30%). Most of respondent's occupations were private (60%) that seemed they wanted to pay more money for their convenient compared to the public hospital not only for good facilities but also for good services which DEMC had provided.

Interviews

Based on interviews which had done by researcher, the interviewee explained that to design the hospital there was a strict guideline based on the MOH (ministry of health) for location, design. In the waiting area the facilities were breastfeeding room, drinking facilities, toilet, and baby changing room and playing area.

The furniture features in the waiting area were safe, durable, comfortable, easy to maintain, child friendly (no sharp edges) and hygienic. Based on the interviewee answer there was not any guideline for furniture which used in the spaces except for children ward.

Material and finishes which applied in the waiting area would be non-slippery, hygienic, easy to clean, durable and easy to maintain.

The interviewee mentioned that there were some complains about the time and lack of furniture in the waiting area. They recommended that to reduce the anxiety and stress there must be some entertainments such as magazine or books to read, TV to watch and a place to have a drink.

Conclusion

This chapter will be a summary upon the sum of all the chapters previously discussed, as a part to conclude the initial objectives of this research together with the case studies made. The quality of the built environment has a highly important role to play in promoting health and well-being. Therefore, the healthcare design is important not only for the patients and visitors but also for people who make money to attract customers who appreciate the healthcare not only for building aesthetic and well-designed but also for good services which are provided to increase their outcomes. As mentioned earlier, the purpose of the this study is to investigate the design of the hospital waiting area through on space planning, furniture design and materials and finishes which are applied on wall , floor and ceiling.

Primary data were collected by randomly distributing questionnaires to 30 patients and visitors. The DEMC specialist hospital is one of the private hospital in Malaysia which are provided a great services based on its concept. According to the data gathered for this study, the main patients and visitors age range were 20-30 years old and most of them female and Malaysian. It could be related to the DEMC specialist hospital location which was in Shah Alam, Malaysia which some of the people were local.

Waiting area

Space planning

Waiting area design is another issue which is very important for people who spend much more time there. The size of space, enough furniture and appropriate materials and finishes which are going to be applied must be considered as well.

Furniture design

Base on result of this study, there was lack of furniture in the space and there were no entertainments to make patients or visitors occupied when they were waiting therefore, this issue must be considered in hospital design. There must be a straight path to lead to the registration counter without any trouble. Providing the enough space between the chairs and let patients pass

through easily because the result of this study show that the people were not satisfied about that and it can effect on them.

Materials and finishes

Materials used for the hospital waiting area interior is not only important in creating the desired setting for an aesthetic value, it also contributes to the factor of patients health. Hygienic, durable and easy to clean should be taken for a high consideration. Furthermore, the materials used should endure the traffic numbers of people coming in and out of the waiting area. It is important to select the appropriate materials based on the maintenance aspect and the users' comfort. The aesthetic of the space is another important point which must be considered. Use the different color of materials and finishes in space can impact on patients' mood and opinion of being in waiting area.

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