Exploring Patient Experience: A Phenomenological Qualitative Approach to Enhance Post-Operative Healing Environments in Healthcare Management

Jasdeep Singh[1], Mohd Roslan Ismail[2], Vijayesvaran Arumugam[3], Adlina Suleiman[4]
School of Postgraduate, International Medical University[1,2,3,4]

jasdeep_singh85@hotmail.com[1]
MohdRoslan@imu.edu.my[2] (Corresponding Author)
Vijayesvaran@imu.edu.my[3]
AdlinaSuleiman@imu.edu.my[4]

ABSTRACT

The healing environments in healthcare establishments are crucial to facilitating natural healing processes. These environments are divided into four categories: internal, external, behavioural, and interpersonal. The study investigates the post-operative healing process by investigating physical environment elements and interpersonal relationships between care providers, family members, and patients. The participants in the study indicated that having a sense of control, positive distractions, and strong interpersonal relationships were essential for their healing. These findings are consistent with previous healing environment theories. However, the study also recognises that not all patient demands can be met, and the physical environment of hospital rooms can sometimes limit patients' sense of control. For example, poorly designed controls and alarm buttons can cause stress and deter patients' healing. The study also highlights the importance of positive distractions, such as encouraging patient mobility and providing healing spaces like libraries, healing gardens, or patient lounges. Finally, the study emphasises the importance of interpersonal relationships between patients, care providers, and family members in recovery. These relationships can significantly aid a patient's healing by offering physical and emotional support.

Keywords : *Healing environment, healthcare, MOH, IR4.0, Evidence Based Design (EBD), Post operative ward*

1.0 Introduction

A healing environment has long been characterized as the physical (external) structure of a healthcare facility. With the adoption of salutogenesis, modern healthcare systems are designed to promote intrinsic healing factors within the physical, behavioral, and inter-personal environments of a healthcare facility. This concept was first introduced by Florence Nightingale in 1859 but designs of healthcare environments were dominated by studies in infection control. In the 20th

century, the 'modern movement' focused on hospital designs being based on "functional, control of scale, quality of material and friendlier environment".

The emergence of evidence-based design has gained significant standing as a foundation towards the science of healing environments, in which Roger Ulrich "identified stress as a major obstacle to healing and advocated that healthcare facilities should be designed to support patients in coping with stress by providing a sense of control of their environment; access to social support and to positive distractions in the physical surroundings". Owing to the revolution of technology and increased standards of living, healthcare facility designs have shifted from a 'volume-based' market towards a more patient centric, and 'value-based' designs, with a more holistic approach, incorporating various type of designs, aimed towards improving the overall patient healing experience and broadening the scope of in-patient healing capabilities to include 'non-medical factors.

From the early 1970s, Malaysia's healthcare facilities have undergone various reviews and rigorous transformations to its physical environment as it began with the design concept of healthcare facilities being a 'home away from home' in the early 70's and 80's. With the gradually shifting towards being more patient-centric care in the early 90's. In the early to mid-2000's, with advancement in technology, hospital designs began integrating technology, especially integrating this technological advancement from the sector of information technology (IT), with framework of Hospital Putrajaya, termed the IT hospital & Hospital Selayang, the first paperless hospital in Malaysia.

As of today, the Malaysian Ministry of Health (MOH) have issued new visions and mission statements, aiming to create a more holistic environment for patients with high quality healthcare, with postmodern tropic architecture, natural daylight and ventilation with courtyards and landscape gardens. Taking advantage of the opportunity of the Malaysian Industrial Revolution 4.0 (IR4.0), health care managers are always on the lookout for ways of improving their health care services and attaining higher patient satisfaction levels, adoption of a holistic healing environment, especially in a post-operative environment, would provide a realistic and sustainable method of achieving these goals and objectives.

The research gap noticed by the researcher was that most of these studies conducted failed to capture the patients' perspective from a lived experience to correctly identify the patients current "point of view" of what is needed to facilitate their recovery in a post-operative environment and from a patient's perception, the elements to fulfill them.

2.0 Literature Review

2.1 Post-operative ward

Surgical interventions usually require patients to be admitted for a few days in either the private, semi-private or general ward setting, to help facilitate the pain accompanied from the surgery. Often during this stage of the recovery process, patients tend to have heightened amount of stress, difficulty sleeping, feeding themselves and sometimes even being immobile after the surgery, patients find it difficult to care for themselves (Apfelbaum, 2003; Rosenberg-Adamsen, 1996).
Studies have shown that these situations can increase complications of a post-surgery situation and effect the healing process of the patient. Patients that suffer from post-operative pain tend to have

increased levels of stress during their healing process (Desborough, 2000), which overtly hinders their sleep, increasing the level of pain and causing further complications, such as "ineffective breathing" (Chouchou, 2014), and decreasing the pain management regimen they are currently undergoing (Vaughn, 2007).

As of today, most methods employed by hospitals to facilitate the recovery process and relieve the pain of a surgical procedure has a major reliance towards pharmacological interventions, with "opioids-based analgesics being the mainstay" (Rawal, 2016). These postoperative interventions though come with their own set of draw backs, potential side effects and adverse drug events, which lengths the patients stay in the healthcare facility and increases the cost (Oderda, 2007; Wheeler, 2002). Due to these limitations, there has been an increase in interest towards developing a healthcare design that can "positively encourage the healing process and well-being of patients" (Dijkstra K. P., 2006; Ulrich R. S., 2008) which is termed healing environments.

2.3 Healing environments & Evidence-based design

The concept of healing environment was first brought to light by Florence Nightingale, who encouraged nurses to "manipulate the patients' environment" to be more focused towards more therapeutic approaches of the patients "sick room" (Nightingale, Notes on Nursing, 1859) with suggestions towards ventilation, adequate lighting, quiet surroundings and a healthy diet would enhance a patients recovery process. Since then, social scientists' have been examining various elements of influence of the healing environment towards the well-being of the patients, in terms of how the interactions of patients' interactions were influenced by their arrangement of seats. (Sommer R, 1958).

In the early 1960s, the research on concept of healing environments has used evidence- based design (EBD), to further strengthen its scientific foundation. According to Ulrich, the use of EBD "a process for creating healthcare buildings, informed by the best available evidence, with the goal of improving outcomes" (Ulrich R. S., 2004). Using the EBDs' scientific methods, a review of the literature to determine links between the hospitals' physical setting onto a patients' clinical outcomes, with support towards improving staff efficiency and hospital safety (Ulrich R. S., 2008).

This concept of a healing environment was further expanded on by The Samueli Institute, in which general guidelines of what needs to be incorporated into a 'optimal healing environment' (Sakallaris BR, 2015). A framework was established of the 4 environments with 8 concepts which would optimize the healing process for the stake holders (Sakallaris BR, 2015). The constructs of this study go into great detail on each of the concepts and the effect they have on the patients' well-being during hospitalization.

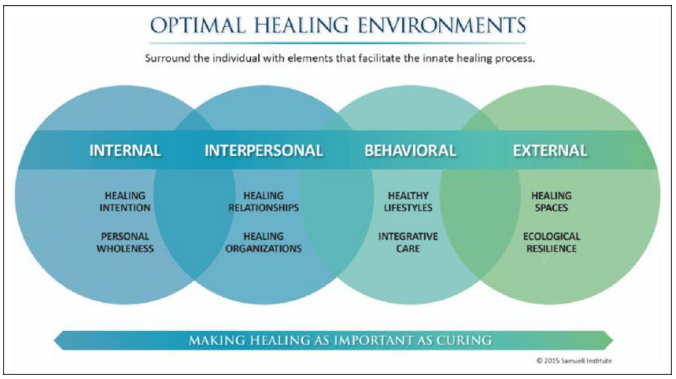

Figure 1: Optimal Healing Environment Framework
Source: Samueli Institute, 2015

In relation to the OHE framework, the most vital aspect for the healing process to occur is in having an interpersonal relationship, be it with family and friends or the care providers with a vast majority of the studies conducted have focused their attention on the relationship established between the care provider and patient.

The care provider and patient relationship has been categorized as a vital pillar for the healing process of a patient (Miller & Crabtree, 2005), these relationships are based on form of communication employed by the care providers and can be further enhanced by encouraging and motivating words used, all of which have a significant impact towards the patients' healing process (Chez & Jonas, 2005). This form of patient-care provider relationship is based solely on trust and is integral to the patient's general wellbeing during hospitalization.

A further aspect that has very limited literature and was not taken into account in the interpersonal environment in the OHE framework, is the patient to patient or interpatient relationship. This form of relationship tends to occur more frequently in the general ward setting. This form of interactions can help a patient, especially those without family support, by 'helping to pass the time', giving emotional and physical support to one another, and at times even helping in understanding how to cope with their current situation (Dag, 1989).

In terms of local literature regarding the subject of the healing environment in correspondence to the view point of a patients' experience and needs in a postoperative environment has not been covered, majority of these studies are focused from the perspective of an architectural or interior designs (Samah, 2013; Kamali & Abbas, 2012; Aripin, 2006; Idris, 2018; Aripin, Othman, & Nawawi, 2015; Said & Bakar, 2005). Hence most of these studies are based on the qualities of quantitative research and tend to either only examine one aspect, the external environment, to determine key indicators and effects of the environment towards the patient, using primarily survey questionnaire to elicit data.

From this, two studies took a quantitative approach using observational methods to determine the healing environmental physical factors in accordance towards patient healing (Abbas & Ghazali, 2011; Said & Bakar, 2005), both of which covered the pediatric ward, and the effects of a garden space towards patient healing, there were no interviews of patients were conducted. Another

quantitative study using survey questionnaires by Oi-Zhen (2015) examined the effects of the external environment towards patient healing, in which the authors patient and staff satisfaction toolkit, and the importance of privacy was conveyed (Oi-Zhen, 2015).

The research gap noticed by this researcher was that most of these studies conducted failed to capture the patients' perspective from a lived experience to correctly identify the patients current "point of view" of what is needed to facilitate their recovery in a post-operative environment and from a patient's perception, the elements to fulfill them.

3.0 Research Methodology

The study used a qualitative research design to gain insight into people's perceptions of their environment (Geraci, 2017; Stuckey, 2013). This approach was chosen as an alternative to analysing complex and quantitative data. Specifically, the study employed a phenomenological approach to understanding the participants' experiences and how they perceived them. This method allowed for a deeper exploration of the situations under investigation and provided a more comprehensive understanding of the environment. The study involved conducting semi-structured, in-depth interviews with participants who had lived experiences in a post-operative healing environment. The researchers determined that a minimum stay of three days was necessary for participants to provide a basis for comparison. The interviews took place in the Klang Valley region, which has many hospitals in Malaysia and lasted between 30 and 45 minutes. All interviews were conducted online using ZOOM, Microsoft Teams, and WhatsApp video calls. The data collected through these interviews were analysed using thematic analysis to identify recurring themes and patterns.

4.0 Data Analysis and Findings

Ten adults were interviewed for this study, with two participants admitted to a government hospital and eight to a private hospital. Six interviewees stayed in a private room, three in a semi-private room with at least four other occupants, and one in a general ward with 16 to 20 other patients. Of the participants, six were female, and four were male. To protect their anonymity, the interviewees were identified using numbers as initials.

From the data collected, three distinct themes emerged from the data, each representing categories of a patient's lived experiences in a post-operative environment, as illustrated in figure 1.

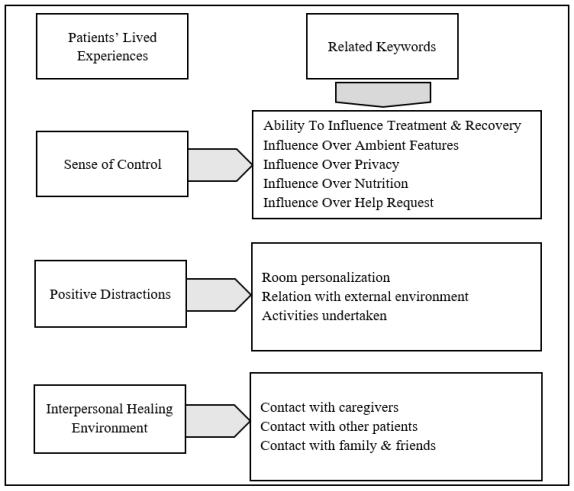

Figure 1: Patients' Lived Experiences Themes

4.1 Sense of Control

4.1.1 Ability to Influence Treatment and Recovery

Most of the interview participants noted that they were well-informed by their caregivers about their current health conditions. They fully explained the available treatment options and the risks involved. These caregivers' contributions enabled the participants to contribute to their recovery process.

> *"….he discussed with me like I want a normal delivery, or I wanted C-section, and he gives me a proper explanation. So what is the expectation when I want to try for normal delivery... And also, what are they expecting if I'm going to go into...if I'm going to choose C section, so that part it was good, because a proper explanation from the doctor and also he gave me options, like, you know, like, I can choose what I want…"*
>
> (Interview Participant 8)

Furthermore, caregivers play a vital role in supporting education and encouragement towards the participants. An explanation of the do's and don'ts, for example, fostered participants towards self-care actions, increasing independence.

> *"….They would help me with the wheelchair, they would they help me to walk you know every day, they would come into my room and help hold my hands and help me walk around. So, in that sense, definitely. By the time I came home, I think I was independent. I was on my own then.. all thanks to them…"*
>
> (Interview Participant 4)

Participants preferred to be informed on the timing of their medical check-ups and series of medications. This made them more comfortable and prepared them physically and mentally for medical visitations.

> *"....they were quite timely, and they were quite organised..... I knew that, you know, today, the doctor is going to be on round said, between, say, five or six. So, in my head, I already knew that, you know, the doctor might come in any time and also check my temperature to give me my medicines every two hours, the nurses would come in."*
>
> (Interview Participant 4)

Some participants mentioned the unexpected visits and poor explanation of medication being administered, which often left them anxious and induced higher stress during their stay.

> *"...and what time is the visting hour... I feel that everything all that is important for patient also, because when you're in the hospital, and you're wondering that what's happening around you.. . So, I think you'll be better if they can actually explain all these in the day one. Rather than patient to ask the nurses each time, or like, you know, how to go about it..."*
>
> (Interview Participant 8)

4.1.2 Influence Over Ambient Features

Ambient factors such as light, sounds and temperature positively and negatively influenced the participants' recovery. These factors varied based on individual preferences and the participants' recovery stage. For example, some participants did not mind the noise from the hallway as it reassured them that they were not alone, while others found the beeping sounds from a medical device an annoyance and deterrence to their rest. Another conflict point was the amount of sunlight that entered the room during their recovery process. In the initial stages, when they were recovering, they found it a disturbance to their rest, while others found that it gave them a positive boost of energy that they required.

> *"I could completely control the room temperature... I think that's a very good thing, you know, otherwise, it tends to get too cold, and you become uncomfortable... switch off the AC whenever I wanted to, you know, lower the temperature, or increase it... I think I had quite a good control of my room".*
>
> (Interview Participant 4)

Most participants felt restricted by not being able to self-regulate these ambient features independently, having to ask for assistance from their relatives or nurses to help them adjust these features. This led to a reluctance to proactively seek assistance to change the ambience to their preference.

> *"you will feel miserable, you know, a bit, when there's everything you need to depend on somebody to know, especially when there's nobody accompanying you. And you will be waiting for the person to come, then you can adjust the lighting, you can adjust everything you see your surrounding. Which I think like not very convincing or not very convenient for the patient".*
>
> (Interview Participant 8)

Some participants confined to the bed found difficulty accessing light switches or accessing the temperature control. Some were attached to a wall that was only accessible with ambulation and without a remote option.

> *"I can't do my own and there wasn't any, that's was the only thing because there wasn't any button on the on the hospital bed itself for me to adjust. So, I need somebody to stand by beside me to adjust the lighting and the the door and all…"*
>
> (Interview Participant 8)

It should be noted that suggestions by the participants recommended that control devices be either portable, closely located to the bed or have an 'app' from which they could directly control these features from their mobile phone, increasing their control over the room environment.

> *It will be better if you know if they give us option where there's a remote where we can adjust the lighting ourselves. Then adjust the bed ourselves or the call Bell?, Or were they... like intercom where I can you know, just press the call Bell and talk to the nurses over the nurses counter. Rather than you know, I just press the call Bell and wait for the nurses to come. That would be better because like this I need somebody to be there with me to adjust the lighting and especially after the post-op."*
>
> (Interview Participant 8)

> *"we always hold our phone wherever we go. is much more convenient for the patient, if they can adjust looking from the phone".*
>
> (Interview Participant 6)

4.1.3 Influence Over Privacy

Privacy was regarded to be a cornerstone towards the participants' recovery. The participants that were awarded in a private room portray the comfort of healing in their private space, having their own attached washroom and not needing to be concerned about being seen or overheard.

> *"…there was enough privacy. And you know, whenever the nurses had to come in, they would knock and they would come in. So.. I had no issues whatsoever, in terms of privacy, it was very private. Yeah. No disturbance at all… I never felt that, you know, I didn't have privacy, or they were disturbing me".*
>
> (Interview Participant 4)

However, participants in semi-private or the general ward experienced limited or no privacy. With only a curtain available to them to help create a little bit of visual privacy, this did not prevent the feeling of anxiety in sharing personal information overheard by others.

> *"the room I stayed, there wasn't any lock on the door. So, when the nurses come in, right, they just knock the door and straightaway they come in... they don't basically, ask you like, you know, or "Can I come in?" You know?"*

(Interview Participant 2)

"You can still hear like, when the doctors came to see.. to check on the another patient, I can still hear the doctor.. talking..know what they're talking about.. So, in that sense, they can know what's wrong with you…and that made me slightly uncomfortable…"

(Interview Participant 6)

4.1.4 Influence Over Nutrition

The participants, given a menu and a variety of choices based on their dietary preferences, felt that these options benefited their recovery process and lightened their mood, especially those with a large variety of choices and being provided several meals a day.

"…. there was like a variety of choices. So, every day there would be like a pamphlet they would give us and then we could actually select what we wanted… they had good options for vegetarians as well. …They would have like a morning breakfast, then they would have lunch then evening snacks and then dinner…"

(Interview Participant 4)

"…they give you the whole menu and we also got confinement meals within the menu itself which is I was surprised how come they got confinement food in the menu. So, I think that part they are more specifically, you know, they're catering for patients needs. I mean, I feel that they understand the patient needs it's like more personal more personalised choices where you can even choose your confinement food there not necessarily to discharge and come home then you continue your confinement food... I was able to get it in the hospital itself…"

(Interview Participant 8)

Some participants were not given options and had to do with what was served, negatively impacting them as they felt a lack of control over their nutritional needs.

"the food that I get in the hospital, it's, it's not something that you can choose, there isn't like a menu for you to choose for the hospital meals."

(Interview Participant 2)

"they gave me a choice.. Are you veg or non veg.. Right.. so I told them I'm non veg. And from there, we only got to choose between fish and chicken. So yeah, only these two choices…which was very limited for me.."

(Interview Participant 6)

Some of the participants also felt that the food provided to them was sometimes lacking in taste and quantity. These participants reported requesting more food brought in by family and friends from outside the hospital.

> *"I didn't really enjoy the food and I don't think I ate the food. I only drank the soup. But I had my family members to come and bring some food for me. So, I ended up hardly eating the hospital food."*
>
> (Interview Participant 6)

> *"it can be really bland. So, and it's not your favorite food. So, it feels like oh, I don't want to eat this. So, my mom would get me like my favorite food, you know, from outside. And I enjoy eating. And I believe that really helped with my recovery process, because it's like, I'm eating something that I like, and the whole thing becomes more enjoyable. I mean, if you're eating something that is bland, and you don't like the food and you're not getting enough nutrition, your body, I feel like that also helps with the recovery process. But it's not just about nutrition, but it's just also a feeling that I'm Oh, I'm eating this food that I really like it! Yeah, so I believe that helped with a recovery process."*
>
> (Interview Participant 2)

4.1.5 Influence Over Help Request

The nurses' call button was identified as an essential tool for participants control as it further helped provide them with a sense of security during their stay.

> *"…. you know, I think every one hour I would be calling them. Yes, I they were very good. Like, the minute I would call them they would be there within five minutes to help me out. So, no complaints...gave me peace of mind…"*
>
> (Interview Participant 4)

However, some participants hesitated to use the nurse call button for their personal needs and only resorted to using it during distress or emergencies.

> *"Yeah, I think, when I didn't really use it as much, because I think it is a very, I guess, because you're not really given the assurance that, you're being told you're.. I was being I was told that, press the button if you need any help, but that isn't really much information on what pressing the button actually happens, or what, what it actually means. what actually goes on behind the scenes and everything. So, I was quite hesitant at first to press the button. There were.. I.. I would rather actually wait for them to come and ask what the problem was and just then tell them what the problem is. or deal with it when they come and ask.."*
>
> (Interview Participant 1)

Additionally, some participants suggested more personalised ways to connect with the nurses' station regarding their needs via applications through their handphones, bed screens or intercoms, saving time for both the patient and the nursing staff and increasing service efficiency.

> *"….I guess a more personalised, I mean, you you did suggest two buttons, but having maybe a screen on each, with like different things that you can request*

or maybe different problems that you're facing, and you can get a personalised, very quick response. That would be very interesting to have as well, because then you have more direct connection with the nurses…"

(Interview Participant 1)

"…where you can immediately you know, because so if you could, even directly, you know, just press the intercom, then if we can directly convey the message to the nurses. Now, it's convenient for the patient plus nurses where they do need to walk up and down few times, they can straightaway get it done...when they come in, they really can come in with whatever the patient wants…"

(Interview Participant 8)

4.2. Positive Distractions

4.2.1 Personalised room

Most participants felt that during their hospitalisation, the need for distractions from the pain and stress of being in a post-operative state was necessary and would facilitate their recovery process. Participants in a private room were allowed to personalise the room towards their preferences, with the chairs and sofa being movable to accommodate their visitors.

"the sofa was just beside the bed. But that time, because it's actually facing the aircon directly. So my husband actually moved the sofa bed to the opposite side. So, so far, I mean, the hospital didn't say much. So I assume, I think we can personalise the room. On the contrary, the patients in semi-private rooms had less opportunities to personalise their room due to the other patients who were sharing their room. The only form of personalisation that they were afforded were in the form of placing flowers and well-wishing cards from their visitors around their bed space."

(Interview Participant 3)

Most participants describe their room as monotonous and sterile, with many suggestions ranging from warm lighting preferences to artworks and music being incorporated into their room space.

"They were the basic, you know,the cream and the beige kind of walls." "they did have paintings" "and they had her photographs and, you know, frames all over the room. So that was really nice.. made the room feel nice and look good".

(Interview Participant 4)

"..I remember it's pinkish, like, pinkish orange like that. So it's quite bright. So like not really dull like this. It's not so like sad thing that room… It's quite okay. to just stay in that room. You don't feel like a patient so much yeah"

(Interview Participant 3)

4.2.2 Connection with the external environment.

Participants agreed that having a window and an accompanying natural view would be integral to their recovery process. It helped remove their minds from their current situation and was a positive distractor. Most participants described nature as trees or a view of the sea being preferred.

> *"when I looked out the window, I all I could see was greens..um,like trees and greenery was quite good. It was relaxing, it was calming. You know, there was nothing much to distract me or to take away from my attention"" I was on like a very emotional trauma during that point in time. So I think the environment also looked very nice and was cozy".*
>
> (Interview Participant 4)

Patients understood and accepted that not all view preferences can be accommodated due to the nature of being in urban hospitals.

> *"it was another ward, I think. Another building, I think. Yeah. Yeah. Yeah, it wasn't. It's not It Wasn't that nice.something nice to see playing field or green trees would have been much better."*
>
> (Interview Participant 6)

Hence, when a natural view was not deemed possible, as sometimes the room they were in faced another building, the suggestions to use artwork and images or even music to replace the lost view was highly recommended amongst the participants .

> *"I enjoy music. Maybe they could have had something light and slow… peaceful music plays in the background would have made me more calm, I guess.."*
>
> (Interview Participant 6)

> *"will be better if you see more greenery view than you seeing road, it didn't have a positive sort of impact for me, I kinda of just opened the curtain to let the sun in rather than looked at the road.Yeah, I feel it'll be better. Like they can put some, you know, some interesting paintings in the room."*
>
> (Interview Participant 8)

4.2.3 Undertaking Activities

Regardless of the type of room, all participants of this study felt the need to have some form of 'healing space' outside their current environment, which was easily accessible and inviting.

> *"you know, I could take walks in the lobby, during the night time staying for four days, four and a half days in one room can also become quite frustrating for the patients. So I could go out, I could take rounds in the lob-, in the ward, and then I could talk to the nurses."*
>
> (Interview Participant 4)

Participants also suggested having a recreational space as either a library, a patient lounge, or a garden space, where patients could engage in social distraction or get some fresh air. It would considerably improve their recovery process, especially during the later phases of their recovery process.

> *"…i would have basically like, like, maybe a library of sort.. an old book section to read. Yeah. That would have been a good idea. But I don't think I had that*

> *option. Most of my reading materials was basically just magazines and the newspaper daily…"*
>
> (Interview Participant 5)

> *"if there was a garden where I could go for a walk, I would have enjoyed that, it would have been better...especially if its connected to the ward straight you know? When I come out from my room, if there was a garden I could go to for a little relaxation, that would have been better."*
>
> (Interview Participant 8)

Some hospitals have incorporated these designs into their facilities. However, poor communication between staff members to the patient about the accessibility of these areas seems like a missed opportunity. Hospitals that offered technology as a distractor, such as an internet access or television to help provide entertainment to the patients, were noted to be either limited or not operating well or inaccessible, leading to patients seeking other forms to distract themselves.

> *"TV and the bed was very comfortable… ready supply of hot water… So, I think all these amenities really make you feel at home so my stay was definitely very comfortable…."*
>
> (Interview Participant 4)

4.3 Interpersonal Healing Environment

4.3.1 Contact with Caregivers

The participants recognised that their contact with the caregivers was very important for their healing process and stay. It was implied that the attitude and understanding of the caregivers were of utmost importance in making them less anxious and reducing the stress of their conditions.

> *"the nurses who are handling me before the surgery, they were also Very, very good. They kept reassuring me that you know, it's okay the baby's fine. Nothing is wrong. Don't worry. So all that really helped me really, really helped me to calm down."*
>
> (Interview Participant 4)

The contact between the patients and their doctors was interpreted as a vital component of gaining information whilst understanding their current health conditions. Furthermore, it was distinguished that contact with the doctors gave patients confidence in the treatments they received and reassured them of their healing progress during their recovery. Even though these visits were sometimes short, patients understand that doctors are busy and have to attend to multiple patients. Still, the patients felt reassured if they were concise with the information provided.

> *"My doctor was really good. Like, you know, that's the reason we continued with him. And I think it's very important for the doctor to talk to you to tell you things you know, the doctors not is just going to answer your questions in like one word, then sometimes, you know, you're not comfortable. You want to ask*

> *him a lot, but then you're just not comfortable. But then I think my doctor was really good."*
>
> (Interview Participant 4)

Interestingly, contact between the patients and their nurses was deemed of utmost importance by the participants, as the nurses provided them with both the emotional and functional support required during their hospitalisation. The attitude, practical guidance and information provided by the nursing staff were essential to the participants' healing process.

> *"with nurses you feel like ..Oh, very personal connection, you feel they are only are there for you, they are going to take care of you. They're going to make sure that you know you're having your food and your medicines at the right time. They're coming in and checking your temperatures from time to time to see if all the parameters are correct. So I think nurses like you need to have good nurses around you."*
>
> (Interview Participant 4)

Furthermore, some participants felt that having a more constant group of nurses as their caregivers helped build trust and ease of communication without having to 'break the ice' or explain their likes and dislikes again.

> *"see them on daily basis. So that became more even more comfortable for me, you know, because it was not like there's a new nurse who's coming in every day. So I already knew how they are, how I could interact with them how comfortable I was. So I think that also makes a difference. You know, if you have a new nurse coming in every day, you're getting time get take time to get comfortable with that person. But that was not the case. It was the same nurse who would keep coming into my room in different shifts. So I was very, very comfortable."*
>
> (Interview Participant 4)

4.3.2 Contacts With Other Patients

Interaction between the patients in a semi-private room or a general ward depended on the recovery phase. Being naturally more introverted, some participants abstained from communicating with the other patients or kept it to a minimum. Some factors, such as a gap in age groups also contributed to a lack of communication.

> *"...I remember them being quite elderly.. And so I couldn't really talk to them much. Just basic stuff, I guess."*
>
> (Interview Participant 7)

For other patients, especially those without family support, having the support of other patients played a vital role in their healing process, as it helped them cope emotionally and functionally while sharing a similar experience helped them keep an eye out for each other. It should be noted that patient interaction helped them pass the time.

> *"everyone is like a family..so most of them are helping me alot to buy food, cause I really cannot eat PPUM hospital food, so I need someone to help me to buy, so my neighbour, patient, when their relative or daughter or son they come to visit them, the mother (other patient); will tell, "ask Rajesh what she wants because um, she cannot eat hospital food.. so helping her to buy some when you buy for me."*
>
> (Interview Participant 10)

> *"So there was another girl. She was around my age as well. And she seemed to be coping better than me. So she kind of supported me and helped me to take my food. Take my medicines. She was more encouraging, comparatively to the nurses. Yeah."*
>
> (Interview Participant 7)

4.3.3 Contacts With Family and Friends

The contact between the participants and their social circle was deemed an invaluable aspect of their healing process. Receiving visitors helped them cope with being hospitalised by providing a distraction from their condition and providing an outlet for the participants in terms of boredom or anxiety; this was seen more in patients with private rooms.

> *"it makes you feel good. You know, especially you know, I had an emergency c section. And we were very worried we were very tense. So when we had our friends and relatives come over, they would share their experiences. And then that would make you feel better. And also, you know, it helps you to divert your attention take you, it helps you to forget what has happened. And then you know, spend time with them, they will come over.. you can have a good laugh, you can have a good time. Definitely, it helps in your healing also. And sometimes it's just not like the you know, physically healing is important. But also, you know, sometimes mentally, emotionally, you need that support. If you have friends and family around, it really helps. Yeah."*
>
> (Interview Participant 4)

Whereas those in semi-private or the general ward, while relatives' company was deemed valuable, sometimes felt more fatigue. They reduced their rest time, as visitors of the other patients in the room were sometimes noisy, and they felt that they could not ask these visitors to leave as it would have built up negative emotions between them and their fellow patients.

> *"Sometimes when I wanted to rest but couldn't as my roommate had his family visiting him, that irritated me but I felt I couldn't say anything…tried my best to block it out…."*
>
> (Interview Participant 6)

5.0 Conclusion

In conclusion, the healing environments in healthcare establishments, which are crucial to facilitating natural healing processes. These environments are divided into four categories: internal, external, behavioural, and interpersonal. The study goes deeper into the post-operative healing process by investigating physical environment elements and interpersonal relationships

between care providers, family members, and patients. The participants in the study indicated that having a sense of control, positive distractions, and strong interpersonal relationships were essential for their healing. These findings are consistent with previous healing environment theories. However, the study also recognises that not all patient demands can be met, and the physical environment of hospital rooms can sometimes limit patients' sense of control. For example, poorly designed controls and alarm buttons can cause stress and deter patients' healing. The study also highlights the importance of positive distractions, such as encouraging patient mobility and providing healing spaces like libraries, healing gardens, or patient lounges. Finally, the study emphasises the importance of interpersonal relationships between patients, care providers, and family members in the recovery process. These relationships can significantly aid a patient's healing process by offering physical and emotional support.

References

Abbas, M. Y., & Ghazali, R. (2011). Physical Environment: The major determinant towards the creation of a healing environment? *Procedia-Social and Behavioral Sciences*, 30, pg. 1951-1958

Apfelbaum, J. L. (2003). Postoperative pain experience: results from a national survey suggest postoperative pain continues to be undermanaged. Anesthesia and analgesia, 97(2), pg. 534– 540.

Aripin, S. (2006). Healing architecture: a study on the physical aspects of healing environment in hospital design . *In Proceedings of the 40th Annual Conference of the Architectural Science Association (ANZAScA).* Adelaide, South Australia.

Aripin, S., Othman, R., & Nawawi, N. M. (2015). The Relevance of Green Building in Creating a Healing Environment in Hospital Designs in Malaysia. *Perspektif: Jurnal Sains Sosial dan Kemanusiaan*, 7(3), pg. 39-46

Chez, R. A., & Jonas, W. B. (2005). Developing healing relationships: foreword from the organizers. *Journal of Alternative & Complementary Medicine*, *10* (Suppl. 1).

Chouchou, F. K. (2014). Postoperative sleep disruptions: a potential catalyst of acute pain? Sleep medicine reviews.

Dag, A. (1989). Patients' Knowledge and Patients' Work. Patient:Patient Interaction in General Hospitals. *Acta Sociologica*, 32(3), pg. 295-305.

Desborough, J. P. (2000). The stress response to trauma and surgery. British journal of anaesthesia, 85(1), pg.109-17.

Dijkstra, K. P. (2006). Physical environmental stimuli that turn healthcare facilities into healing environments through psychologically mediated effects: systematic review. Journal of advanced nursing, 56(2), pg.166-81.

Geraci C. (2017) Foreword. In Fazarro DE, Trybula W, Tate J, Hanks C, editors. Boston: De Gruyter. pp. V–VI.

Idris, M. M. (2018). Investigating Space Use Patterns in a Malaysian Hospital Courtyard Garden: Lessons from real-time observation of patients, staff and visitors. *Environment-Behaviour Proceedings Journal*, *3*(8), pg. 32–45.

Kamali, N. J., & Abbas, M. Y. (2012). Healing environment: enhancing nurses' performance through proper lighting design. *Procedia-Social and Behavioral Sciences, 35,* pg.*205-212.*

Maguire, M. &. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. All Ireland Journal of Higher.

Miller, W. L., & Crabtree, B. F. (2005). Healing landscapes: patients, relationships, and creating optimal healing places. *Journal of alternative and complementary medicine*, *11 Suppl 1*, pg.S41–S49.

Oderda, G. M. (2007). Opioid-related adverse drug events in surgical hospitalizations: impact on costs and length of stay. Annals of Pharmacotherapy, *41*(3), pg.400–406.

Oi-Zhen, S. W.-W.-T. (2015). Quality of Healing Environment in Healthcare Facilities. *Jurnal Teknologi*, *74*(2), pg.101-108.

Rawal, N. (2016). Current issues in postoperative pain management. European Journal of Anaesthesiology, 33(3), pg.160-71.

Rosenberg-Adamsen, S. K. (1996). Postoperative sleep disturbances: mechanisms and clinical implications. British journal of anaesthesia, 76(4), pg. 552–559.

Said, I. M., & Bakar, M. S. (2005). *Garden as environmental intervention in restoration process of hospitalized children.* Universiti Teknologi Malaysia.
Sakallaris BR, M. L. (2015). Optimal healing environments. *Glob Adv Health Med*, 4(3), pg. 40 - 45.

Salkind, N. J. (2010). *Encyclopedia of Research Design. S*age.

Samah, Z. A. (2013). Translating quality care factors to quality space: design criteria for outpatient facility. *J. S. Procedia-Social and Behavioral Sciences*, 105, pg. 265-272.

Sommer R, R. H. (1958). Social interaction on a geriatrics ward. *IntJ Soc Psychiatry*, Sommer,

R.F., & Ross, H. (1958). Social Interaction on a Geriatrics Ward. *International Journal of Social Psychiatry, 4*, pg. 128 - 133.

Stuckey HL. (2013) Three types of interviews: Qualitative research methods in social health.Journal of Social Health and Diabetes;pp. 056-059.

Ulrich R. S., Z. C. (2008). A review of the research literature on evidence-based healthcare design, 1(3), pg. 61-125

Ulrich, R. S. (2004). The role of the physical environment in the hospital of the 21st century.

Vaughn, F. W. (2007). Does preoperative anxiety level predict postoperative pain? AORN journal, 85(3), pg. 589-604

Wheeler, M. O. (2002). Adverse events associated with postoperative opioid analgesia: a systematic review. The Journal of Pain, 3(3), pg. 159-80