

## Quality of Healing Environment in Healthcare Facilities

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### Abstract

With regards to the growing evidences of potential benefits derived from high quality healing environment to both the patient and staff in healthcare facilities, there is an increase of awareness and application of quality healing environment to compliment the current healthcare delivery services. It is proved that proper lighting design would intensify nursing care value, hospital wall color could reduce stress, and existing of window could reduce anxiety among patients. However, the healthcare users' needs toward the healing environment are still not thoroughly interpret and understood by healthcare facilities providers. Previous research suggests that satisfaction acceptance from patients and staffs are the key indicators of quality healing environment. This study intends to investigate the perception among patient and staff as an important indication of the quality of healing environment by utilized the National Health Service's evaluation toolkit, A Staff and Patient Environment Calibration Toolkit (ASPECT). Findings revealed patient and staff suggest that provision of wards with diverse character by presenting different colours, composition and material as an important segment for healthcare experiences. This in relation to make patients and staffs to feel located meaningfully. The research findings would serve as guidance for healthcare facilities providers regarding the quality physical environment, in responsive to patient and staffs' needs.

*Keywords:* Healing environment; healthcare facilities; quality control; patient

### Abstrak

Selaras dengan perkembangan nyata mengenai manfaat yang dapat diperolehi melalui pengamalan persekitaran pemulihan yang berkualiti terhadap pesakit dan kakitangan di pusat kesihatan, kesedaran dan pengusahaan untuk menerapkan persekitaran pemulihan yang berkualiti dalam perkhidmatan kesihatan turut meningkat. Terdapatnya bukti-bukti mengenai manfaat pengamalan ini seperti perekaan sistem pencahayaan yang sesuai mampu merangsang prestasi penjagaan jururawat, penampilan warna tertentu dinding hospital yang dapat merelakan perasaan ketegangan di kalangan penggunaanya, dan juga pemasangan tingkap yang berupaya untuk mengurangkan rasa kebimbangan di kalangan pesakit. Namun, keperluan pengguna terhadap persekitaran di pusat pemulihan kesihatan masih gagal ditafsir dan difahami dengan teliti oleh para pekhidmat kesihatan. Kajian lepas telah mencadangkan bahawa tahap kepuasan dari perspektif pesakit dan kakitangan sememangnya perlu dijadikan sebagai tanda penunjuk utama ke arah pencapaian persekitaran pemulihan yang berkualiti. Kajian ini berniat untuk menyoalselidik pandangan terhadap persekitaran pusat kesihatan di kalangan pesakit dan kakitangan dan pengumpulan persepsi ini adalah penting sebagai tanda penunjuk kepada pengekalan tahap kualiti persekitaran pusat kesihatan melalui bantuan alat penilaian, iaitu "A Staff and Patient Environment Calibration Toolkit" (ASPECT). Keputusan yang diperolehi melalui kajian ini mendedahkan bahawa cadangan pesakit dan kakitangan adalah tertumpu kepada penyediaan wad yang mengemukakan pelbagai warna, komposisi dan bahan sebagai salah satu segmen penting yang menyumbang kepada penambahbaikan pengalaman di pusat kesihatan. Dengan ini, diharap bahawa hasil kajian ini dapat dijadikan sebagai panduan kepada pekhidmat pusat kesihatan dalam usaha untuk menyediakan persekitaran pemulihan yang berkualiti terhadap keperluan pesakit dan kakitangannya.

*Kata kunci:* Persekitaran pemulihan; pusat kesihatan; kawalan kualiti; pesakit

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## 1.0 INTRODUCTION

An increasing attention has been given to the prospect of healing by healthcare providers. This is particularly true in which research on healing environment and healing through design is proliferating in developing countries (Geimer-Flanders, 2009). Research has shown that healing environment has long been existed with its significance to the recovery process (Altimier, 2004; Geimer-Flanders, 2009). This has been stressed especially by Altimier (2004), who opined that such environment could make a patient recover more quickly from illnesses. Geimer-Flanders (2009) and Huisman *et al.* (2012) concurred with the influence of the physical environment, which could lead to reduction in length of stay among patients in hospital. This influence is further elaborated by the Kamali & Abbas (2012) that healing environment could enhance performance of the nurses.

Recognizing the potential contributors of healing environment, healthcare providers improve the design of healthcare buildings in order to heighten the quality of healthcare infrastructure. Despite of the presence of such potential benefits of healing environment to end-users, the origins of healthcare industry is generally more complicated than anticipated, especially it take measures not only on the healthcare delivery, but it has been sensed as a highly valued business in this demanding realm of healthcare sector. In such context, it is not surprising that those healthcare providers acted effort upon on this changing and constantly carrying subsequent improvement to ensure well-being of the nation and also patients' commitment of return (Stichler, 2002).

In practice, creating a truly healing environment should be allowing exchange communication between designer and end-users; however, the healthcare users' needs toward the healing environment are still not completely interpret and understood by healthcare facilities providers (Ghazali & Abbas, 2012). Previous research suggests that analyze perspective and healing in its real-life context is significantly great, as sound evidence exist from patients and staffs is scarce (Huisman *et al.*, 2012; Vaghela *et al.*, 2007). This has implied that healthcare providers have to respond accordingly by evaluate the quality of healing environment in healthcare facilities as perceived by the patients and staffs in healthcare facilities. This paper, therefore, aims to explore the perceptions of patients and staffs towards quality of healing environment in healthcare facilities. The purpose is to enlighten healthcare providers' with qualities of physical environment that shall be responsive to end users' needs.

## 2.0 ENVIRONMENTAL HEALTHCARE EVALUATION

One of the absolute requirements for healthcare facilities to achieved compromise healthcare quality is grasped the idea of the elements of a healing environment that most likely to influence the healing process and well-being of the patient. However, healing environments do not simply exist, some particular outline components such as light, color, sound and privacy must be recognized when planning the healing environments (Altimier, 2004).

### 2.1 Privacy, Company, and Dignity

According to Moskop *et al.* (2005), respect for patient privacy esteemed as the core attribute by a great healthcare institution

and healthcare providers are obliged to perform towards the patients. It is also stressed by Lin *et al.* (2013), it is significant to provide a privacy-oriented healthcare center in which quality of care can be increased and, in turn, improve patient satisfaction level. This privacy-oriented healthcare center can be achieved by control the access to avoid overcrowded and environmental space reorganization. These interventions are proved to be significant in patient privacy and satisfaction.

### 2.2 Views

Patients' room with window that allowed to view the scenes outside the hospital building is reported as important. According to Ulrich *et al.* (2000), patients and staff having a window to view externally from the building are prominently confirmed to reduce level of anxiety and stress among patients and visitors, while staffs can gain a state of gratified thus increase their job performance. However, view of window may be important especially for patients and staffs whose spend a long periods in a room or spaces. Ulrich (1984) studied the effects of room with outdoor visual versus brick wall-view on patient length of stay. Research shown patient staying in a room with window facing at outdoor scene can have significant shorter postoperative hospitalization. However, when patients spend time in a room with window at brick wall view, it may have adverse effect.

### 2.3 Nature and Outdoors

The fundamental meaning of nature and outdoors allude to outside spaces in which individuals can captivate with nature (Pretty *et al.*, 2007). Nature and outdoors are potentially made by healthcare facilities to promote health among patients when they are contacts with nature. According to Davis (2011), patients are satisfied with the garden in the healthcare facilities. However, it is reported that staff have not much time spent on the available garden in healthcare facilities. It becomes a critical issue on the availability and freedom for patients and staff to contact with the nature and outdoors.

### 2.4 Comfort and Control

This section examined the comfort levels of patient and staff in healthcare facilities and what extend make available for them to control these comfort. According to Dijkstra *et al.* (2006), it is critical to providing patient and staff a choice of control in stimulus of environmental, where lack of control would resulted them in feeling tension and anxiety. According to Beauchemin & Hays (1996), patient suffered from depression exposed in sunny rooms had shorter average stay compared with patient treated with dimly lit rooms. Research of Benedetti *et al.* (2001) expressed in greater detail from the research of Beauchemin & Hays (1996) to continue the study of the morning sunlight onto the length of hospitalization. According to Huisman *et al.* (2012), patients and staffs has a choice of control should not only limit to lighting (fluorescent lighting and natural lighting) but extended to control temperature and sound. According to Altimier (2004), there is the need to take effort to minimize any unwanted noise inside the building and eliminate noises from any outer source to the building in order to make comfort for the patients and staffs. However, it is observed by Xie *et al.* (2013), talking was related to the most noteworthy of occurrence noise. Besides, as stated by Kennedy (2013), staffs are easily to make errors in noisy places. So, healthcare providers should show

solicitude upon these comfort elements. From the results of the research, healthcare providers should consider the levels of control upon stimulus of physical environment among patients and staffs, as it is important in reducing stress.

### 2.5 Legibility of Place

According to Department of Health Estates and Facilities (2008b, p.16), meaning of legibility of place can be referred as “*how understandable healthcare buildings are to the staffs, patients and visitors who use them*”. According to Cowgill *et al.* (2003), there were out of 20% of the hospital visitors and patients characterized by uneasy during their visits in hospitals. For that reason, healthcare building layouts should always be laid out orderly and logically and offer with alternative map and signage, particularly for hospitals involved with a large number of users and facilities for emergency activities. Thus, signage within a hospitals design should have a clear identity and be able to differentiate from others universal public facilities. It is supported by Rousek *et al.* (2011), signage found in hospitals can be intensify through pictograms to give direction to hospital users, but not limit to text signs only.

### 2.6 Interior Appearances

According to Verbeek *et al.* (2012), important features to create a homelike environment included design of the physical environment resemble a house space, assigned patients in small group and possibility to bring own favorable personal items, either in private wards or shared wards.

Research in environmental stimuli: experiment has been conducted to examine the impact of colours upon patients’ clinical outcome. Studies done by Dijkstra *et al.* (2008) suggest that patients exposed to orange colour undergo an emotional of arousal. Although colours will have different aspects of impacts in different types of places, studies of colours impacted on users of healthcare facilities should be further investigated. According to Dalke *et al.* (2006), developing an ideal healing environment in healthcare facilities should not only emphasize on attractive environment, a well-balanced of colour applied for hospital design should be analyzed carefully. Nevertheless the best interior designs have been making the healthcare buildings to a desired condition and beneficial to the users, poorly maintained the cleanliness would result feelings of unpleasant from the users of facilities (Harris & McBride, 2002).

With regard to the art incorporated into interior design, studied done by Geue *et al.* (2010) highlighted that six out of seven quantitative literature reviews indicated art therapy could reduce stress and anxiety among mental health patients. As stated by Nainis *et al.* (2006), successful application of art therapy may come from a variety of clinical setting to alleviate symptoms in cancer patients. Besides, unpleasant are rarely found from the patients undergo art therapy and there is no adverse effect was found. According to Harris & McBride (2002), interior design features is one of the dimensions of physical environment setting in healthcare buildings It can bring fruitful results to the patients and staff in the healthcare facilities if has been designed appropriately.

### 2.7 Facilities

Criticisms upon bathrooms and toilets have been found in body of literatures. Startling result was showed by research Ghazali *et al.* (2012), pediatric wards’ bathroom are only suitable used by

adult. As such, an optimal design of physical environments in healthcare buildings is achieved if only if the provisions of the bathroom inclusive understanding needs of the patients in all aspect. As an overall, healthcare facilities for the users of healthcare buildings are an important aspect during the design process. An ideal physical environment could be achieved by considerations from all the aspects of needs and expectations of the healthcare buildings users.

### 2.8 Staff

Facilities provide for staff in healthcare buildings are prerequisite as stated by Hayes *et al.* (2006), job satisfaction are always linking directly to nurse turnover. If staffs are not satisfied with their current working environment, this could result turnover happening. As mentioned by Hayes *et al.* (2006), a better working practice should be instill in order to make staff feel comfortable with their working environment. Turnover among staff could derive from poor working environments. High turnover rate would increase the cost of replacement and training. As overall, a satisfied working environment could make comfort to the staff, thus increase their motivation to work and provide a better quality healthcare environment to patients.

## 3.0 METHODS

### 3.1 Sampling and Data Collection

In this study, questionnaire survey was conducted at private healthcare facilities in the city of Johor Bahru in Southern Malaysia, with an annual census reported in 2013 of 971,080 patient and 28,879 staff. A sample of 104 respondents was drawn from this large numbers of population for further analysis. Data were collected from January 2014 until middle of March 2014. Data collection included face-to-face and email. Initially, application for permission to conduct research at targeted hospitals was applied. No hospitals responded to this application. Later, researcher recruited respondents by using snowball sampling; therefore, the insurance agents are knew by researcher and has been targeted as a chief informants with whom their customers has already discharge from hospitals within 6 months in which could potentially contribute to the study. This sampling method was chosen in this research as the target respondents was not able to be accessible by researcher through other sampling methodology. According to Perez *et al.* (2013), snowball sampling is a productive approach in the best possible manner with the respondents hard to reach, especially medical institution (Snijders, 1992). Evidence from a research concluded that a double-response rate will be achieved when the questionnaire is transmitted by a non-eligible to third party (Etter&Perneger, 2000). A total of 104 respondents, aged 21 to 60 years old and above were purposively selected. There were 23 male and 81 female of varies racial background, consist of 82.7% Chinese, 13.5% Malays and 3.8% Indian. A majority of the respondents are patients, 72 people (69.2%) while staffs composed of 32 people (30.8%).

### 3.2 Instrument

The study employed A Staff and Patient Environment Calibration Toolkit (ASPECT). The assessment criteria spread over the ASPECT is generally across a range of manner regarding the healthcare facilities environment in which can

reflect requirements and expectations of the healthcare users thoughtfully. According to Boynton *et al.* (2004), a vital factor is if a validated questionnaire is designed for the use to explore the research topic, and so should be utilized for the research. The questionnaire consist of 47 items under 8 dimensions deals with environments assessment criteria in healthcare buildings. Each dimension of the ASPECT consists a number of statements form an overall score for that particular sections. In this research, respondents were required to choose only one from the six-level likert item addressing respondents' perception, ranging from 1 "Virtually No Agreement" to 6 "Virtually Complete Agreement", with no neutral choice so respondents were compelled to show an agreement in their reply.

### 3.3 Data Analysis

The data collected is to be analyzed through the quantitative technique by using statistical software, Statistical Package for Social Science (SPSS). Results of this research are to be obtained by using descriptive analysis for average Likert score. The rank of the relevancy for statement of healing environment in healthcare facilities was ranked by respondents based on Likert scaling. A six-point Likert scale is adopted to indicate extend from respondents' perspective on whether they are agreeing or disagreeing with the statement of healing environment in healthcare facilities. The average Likert score for each assessment criteria is calculated by summing up all the scores of the ranking scored by respondents in the questionnaire and the total sum will subsequently divided by the total number of respondents. The mean score will then use to identify the ranking of assessment criteria from all section of physical environment.

### 4.0 FINDINGS

This study first examines the results from the mean value for each physical assessment criteria.

Table 1 represents the mean value and standard deviation for healing environment under dimension "Privacy, Company and Dignity". Based on the analysis, the dimension of "Patient can choose to have visual privacy" achieved the highest mean score while "Patients can be alone" scored the lowest mean value at only 3.59. Besides, a result showed that "Patient can have a private conversation" is perceived the second important to the quality of healing environment. This is followed by "Toilets/bathrooms are located logically, conveniently and discretely" and "Patient have places where they can be with others" with mean value of 3.88 and 3.85 respectively. Table below indicates that the standard deviation value between 1.251 and 0.998, at a difference of 0.253 in which means positive pattern derived from those healing environment factors do not spread far from the mean value.

**Table 1** Descriptive analysis of healing environment for "Privacy, Company and Dignity"

Privacy, Company and Dignity	Mean Value	Standard Deviation
Patient can choose to have visual privacy	4.24	1.057
Patients can have a private conversation	3.94	1.113
Patients can be alone	3.59	1.251
Patients have places where they can be with others	3.85	1.221
Toilets/bathrooms are located logically, conveniently and discretely	3.88	0.988

Table 2 represents the mean value and standard deviation for healing environment under dimension "Views". Across all five factors of healing environment, respondents did reveal that "Spaces where staff and patients spend time have windows" was the most important factors to be total healthcare experiences and followed by "Patients and staff can easily see the sky". Subsequently, "Patients and staff can easily see the ground" and "The view outside is calming" were considered less important to previous. Unfortunately, "The view outside is interesting" falls under the least mean value with only 3.29. Besides, the value of standard deviation ranged from 0.886 to 1.156, with a difference of 0.270. This represents that the positive pattern of the entire healing environment factors do not dispersed widely from mean value.

**Table 2** Descriptive analysis of healing environment for "Views"

Views	Mean Value	Standard Deviation
Spaces where staff and patients spend time have windows	4.03	0.886
Patients and staff can easily see the sky	3.73	1.054
Patients and staff can easily see the ground	3.50	1.132
The view outside is calming	3.45	1.156
The view outside is interesting	3.29	1.180

Table 3 shows the dimension of "Patient can go outside" scored the highest mean value in which indicates that patients are allowed to go outside and is perceived as the most important aspect to the quality of healing environment. However, respondents considered "Patients and staff have access to usable landscaped areas" and "Patients and staff can easily see plants, vegetation and nature" were not being meet the quality to achieve an ideal healing environment.

**Table 3** Descriptive analysis of healing environment for "Nature and Outdoors"

Nature and Outdoors	Mean Value	Standard Deviation
Patients can go outside	3.62	1.232
Patients and staff have access to usable landscaped areas	3.37	1.158
Patients and staff can easily see plants, vegetation and nature	3.30	1.214

From the Table 4 below showed a factor of "The design layout minimizes unwanted noise in staff and patient areas" has been voiced by respondents as an important attribute to the quality of healing environment. While it is followed by factor of "Patients and staff can easily exclude sun light and day light" is important toward healing environment with mean value of 3.46. From patients and staff perspective, "Patients and staff can easily open windows/doors", "Patients and staff can easily control the artificial lighting" and "Patients and staff can easily control the temperature" have mean value of 3.37, 3.36 and 3.34 respectively. This means from their perspective, these factors were considered less important compared to the others. Lastly, respondents perceived that "There is a variety of artificial lighting patterns appropriate for day and night" is the least important factor towards the quality of healing environment.

**Table 4** Descriptive analysis of healing environment for “Comfort and Control”

Comfort and Control	Mean Value	Standard Deviation
There is a variety of artificial lighting patterns appropriate for day and night	3.31	1.183
Patients and staff can easily control the artificial lighting	3.36	1.182
Patients and staff can easily exclude sun light and day light	3.46	1.214
Patients and staff can easily control the temperature	3.34	1.341
Patients and staff can easily open windows/doors	3.37	1.351
The design layout minimizes unwanted noise in staff and patient areas	3.60	1.250

The result from the Table 5 shows that the respondents were perceived that “Different parts of the building have different characters” is the most important with mean value of 4.33 and followed by design of way out with mean value of 4.13. However, given the mean value of 4.03, respondents were not easy to understand layout of the healthcare building. Furthermore, with a mean value of 3.94, respondents indicate that they were perceived “It is obvious where to go to find a member of staff” is much less important to the others factor toward the quality of healing environment. Besides, they were not appreciate that “There is a logical hierarchy of places in the building” is important. Lastly, “When you arrive at the building, the entrance is obvious” with scores the least mean value at only 3.19.

**Table 5** Descriptive analysis of healing environment for “Legibility of Place”

Legibility of Place	Mean Value	Standard Deviation
When you arrive at the building, the entrance is obvious	3.19	1.199
It easy to understand the way the building is laid out	4.03	1.242
There is a logical hierarchy of places in the building	3.73	1.192
When you leave the building, the way out is obvious	4.13	1.150
It is obvious where to go to find a member of staff	3.94	1.060
Different parts of the building have different characters	4.33	1.213

Table 6 illustrates the mean score of interior appearances of healthcare facilities. Based on patients and staffs experiences, the statement of “The interior looks clean, tidy and cared for” achieve the first rank, which had the highest mean score of 3.84. It indicates that from the respondents’ perspective, they agreed it is important element towards the quality of healing environment. Furthermore, the second rank was the statement of “Floors are covered with suitable material” which got the second highest mean score of 3.83. From the perspective of patients and staffs, they agree that the floors should cover with suitable material and perceived that it is important for healing environment practices as it will provide visual certainty when walking. Then it was followed by the statements of “The interior feels light and airy” was ranked to the third important aspect to the healing environment.

Moreover, the statement “Patients can have and display personal items in their own space” and “The interior has a variety of colours, textures and views” with a mean value of 3.40 and 3.35 respectively. Lastly, the analysis indicates that respondents considered statement “Patients’ spaces feel homely” and “The interior has provision for art, plants and flowers” were achieved the same mean value of 3.34. Accordingly, the practice of healing environment with the lowest mean value was “Ceilings are designed to look interesting” in which has mean value of 2.97. This means that respondents perceived that it is less important compared to the others healing environment practices.

**Table 6** Descriptive analysis of healing environment for “Interior Appearances”

Interior Appearances	Mean Value	Standard Deviation
Patients’ spaces feel homely	3.34	1.212
The interior feels light and airy	3.58	1.212
The interior has a variety of colours, textures and views	3.35	1.189
The interior looks clean, tidy and cared for	3.84	1.330
The interior has provision for art, plants and flowers	3.34	1.319
Ceilings are designed to look interesting	2.97	1.202
Patients can have and display personal items in their own space	3.40	1.187
Floors are covered with suitable material	3.83	1.325

Table 7 illustrates the mean score of facilities provided in healthcare facilities. Based on patients and staffs experiences, the statement of “Bathrooms have seats, handrails, non-slip flooring, a shelf for toiletries and somewhere to hang clothes within easy reach” was the most important healing environment aspect, which had the highest mean score of 3.81. It indicates that from the respondents’ perspective, they agreed it is important element towards the quality of healing environment.

Subsequently, it was followed by statement “There are easy chairs, tables and desks in the patients’ spaces” and “There is a space where religious observances can take place” in which have the mean value of 3.70 and 3.61 respectively. The results showed the respondents considered facilities “Patients have facilities to make drinks” is more important to “Patients can have a choice of bath/shower and assisted/unassisted bathroom” as with mean value of 3.54 compared to 3.51.

Meanwhile, mean value of statement “There are easily accessible vending machines for snacks” is much lower than “There are facilities for patients’ relatives/friends to stay overnight” with mean value of 3.30 compared to 3.35. Lastly, the facilities “There is a place where live performances can take place” is the least important aspect of healing environment based on respondents perception.

**Table 7** Descriptive analysis of healing environment for “Facilities”

Facilities	Mean Value	Standard Deviation
Bathrooms have seats, handrails, non-slip flooring, a shelf for toiletries and somewhere to hang clothes within easy reach	3.81	1.359
Patients can have a choice of bath/shower and assisted/unassisted bathroom	3.51	1.262
There is a space where religious observances can take place	3.61	1.169
There is a place where live performances can take place	2.63	1.026
There are easy chairs, tables and desks in the patients’ spaces	3.70	1.214
Patients have facilities to make drinks	3.54	1.222
There are easily accessible vending machines for snacks	3.30	1.238
There are facilities for patients’ relatives/friends to stay overnight	3.35	1.283

Table 8 shows there were total of six factors for healing environment under dimension of staff. Great significance was highest for statement “Staff have convenient places to concentrate on work without being on demand” with a mean value of 4.03, which indicates that the staffs hope to have their own places to carry out daily work. The least needed facilities are “Staff have convenient access to basic banking facilities and can shop for essentials”, which is rated with a mean value of 3.59.

Meanwhile, respondents considered “Staff have a convenient place to change and securely store belongings and clothes” is more important than “There are convenient places where staff can speedily get snacks and meals” as the mean value is 3.97 as higher than 3.84. Besides, mean value of statement “There are convenient places where staff can speedily get snacks and meals” is much lower than “Staff can rest and relax in places segregated from patient and visitor areas” with mean value of 3.70 compared to 3.78. For an overview about standard deviation are not exceed to 1.00 which means that all assessment criteria under segment “Staff” were not dispersed widely from central tendency.

**Table 8** Descriptive analysis of healing environment for “Facilities”

Facilities	Mean Value	Standard Deviation
Staff have a convenient place to change and securely store belongings and clothes	3.97	0.897
Staff have convenient places to concentrate on work without being on demand	4.03	0.782
There are convenient places where staff can speedily get snacks and meals	3.84	0.847
Staff can rest and relax in places segregated from patient and visitor areas	3.78	0.832
All staff have easy and convenient access to IT	3.62	1.040
Staff have convenient access to basic banking facilities and can shop for essentials	3.59	0.875

This study is followed by a comparison of mean values from each of the dimension amongst the healthcare environment dimension. Over each of the eight dimensions of physical

environment aspects comprised of “Privacy, Company and Dignity”, “Views”, “Nature and Outdoors”, “Comfort and Control”, “Legibility of Place”, “Interior Appearances”, “Facility” and “Staff”, the study revealed that there was much comparability in necessities and concerns raised by patients and staffs. Nonetheless, respondents’ perception did uncover that in each scope, individuals appended more significance to those healthcare environment factors that indirectly impacted on them personally. A ranking will be presented from each of the eight healthcare environment scopes identifying patients and staffs reported perceptions of the healing facility environment which have risen out of the mean value will be identified and discussed. See Table 9.

**Table 9** Ranking of facilities for healing environment

Dimension	Aspect of facilities for healing environment identified by patients and staffs as most important	Mean Value	Ranking
Legibility of Place	Different parts of the building have different characters	4.33	1
Privacy, Company and Dignity	Patients can choose to have visual privacy	4.24	2
Views	Spaces where staff and patients spend time have windows	4.03	3
Staff	Staff have convenient places to concentrate on work without being on demand	4.03	3
Interior Appearances	The interior looks clean, tidy and cared for	3.84	4
Facilities	Bathrooms have seats, handrails, non-slip flooring, a shelf for toiletries and somewhere to hang clothes within easy reach	3.81	5
Nature and Outdoors	Patients can go outside	3.62	6
Comfort and Control	The design layout minimizes unwanted noise in staff and patient areas	3.60	7

Table 9 illustrates the ranking of the assessment criteria according to their mean value. Based on patients and staffs’ perception toward quality of healing environment, the assessment criteria “Different parts of the building have different characters” is ranked with highest mean score of 4.33. It indicates that from respondent’s perspective, it is the most important factors to be total healthcare experiences. “Patients can choose to have visual privacy” under dimension of “Privacy, Company and Dignity” proved to be the second highest rank, accounting for mean value of 4.24. Often, privacy and dignity can be addressed together and as are priorities in the hospital setting. The statement of “Spaces where staff and patient spend time have windows” and “Staff have convenient places to concentrate on work without being on demand” ranked to the third, in which at the same obtained the mean score of 4.03. Patients’ room with window able to view the scenes outside the hospital building is reported as important in which could lessen their uneasiness and increment staff work execution. At the same time, healthcare providers also have to concern the welfare of staff in order to motivate them and in turn, reduce staff turnover. The ranking was followed by statement “The interior looks clean, tidy and cared for” under the dimension of interior appearance with mean score of 3.84.

This means cleanliness has a significant impact to patients and staffs as it contradicted to the more evident concern for hygiene over the others interior assessment. Moreover, the statement of “Bathrooms have seats, handrails, non-slip flooring, a shelf for toiletries and somewhere to hang clothes within easy reach” with mean score of 3.81 possess the rank of fifth for section of facilities. In addition, “Patients can go outside” under dimension of “Nature and Outdoors” proved to be the sixth rank, accounting for mean value of 3.62. This is particularly important in which patients are allowed to go outside as much research show that nature could reduce patient unhealthy symptom. Lastly, “The design layout minimizes unwanted noise in staff and patient areas” served as fairly less important in which ranked in seventh with mean score of 3.60. Healthcare providers should show solicitude upon this comfort element in order to achieved compromise healthcare quality. Overall, the range mean score of all assessment criteria comprised of 8 dimension deals with environment in healthcare buildings as established in A Staff and Patient Environment Calibration Toolkit (ASPECT) was from 3.60 to 4.33. It indicates all of the statement are considered importance and relevant to the total healthcare experience, but in different degree of importance. Based on the perceptions of patient and staff, “Different parts of the building have different characters”, “Patients can choose to have visual privacy” and “Spaces where staff and patients spend time have windows” are the top three requirements for healthcare facilities to achieved compromise healthcare quality towards healing environment.

## ■5.0 DISCUSSION

The roles of ‘healing’ become the key development to establish sustainable approaches in healthcare facilities has recently been acknowledged and studied (Jonas & Chez, 2004). Researchers are increasingly noting that, even though evidence-based design identified the benefits of healing environment, it is perceived design of the healing environment does not always relevant to healthcare users’ needs and expectation. Thus, this study aims to explore aspects of healing facility environment identified by patients and staffs as most important.

Findings from this study infer that the design of the healing facility environment in healthcare facilities can have a major effect on the level of fulfillment around patient and staff. Respondents raised to have “Different parts of the building have different characters” describe this in relation to the most essentialness of the aggregate healthcare quality towards healing environment. This startling result addressed in future healthcare buildings design outline ought to be incorporated provision of wards with diverse character by presenting different colour, composition and material in order make patients and staffs to feel located meaningfully. This is an area obliging further research to study how to improve the healthcare building design and in turn enhance building character which aided instead of impeded their capability to hold patient and staff to have a feeling of set truly.

A further finding from this study was that respondents communicated their desire to have visual privacy. These findings supports previous studies reported how the presentation of the physical environment to promote privacy in hospital in the case clearly showed individual room fulfill this characteristic in as much as multiple bed bays don't characteristically do so. This findings concurs with results from Baillie (2009), presentation of the physical environment to

promote privacy in hospital is laid out in the allocation of patient rooms in which patient would experience comfortable, valued and in-control make a whole sense of dignity. Indeed, result reported most of the patients prefer single room and research done by Verderber *et al.* (2012) reported maintaining privacy in hospital setting is greater significant on the inpatient care experience. The key issue was that every individual ought to have a choice as far as which kind of settlement they prefer. Further, this study provides two important insights. To start with, of particular interest is the finding that patient and staff perceived the disparate character of the healthcare building assembling as the most supportive healing environment. Second, the finding of this study highlights the mean value from patient and staff expectation towards quality of healing environment ranged from 3.60 to 4.33 that reflect fair agreement on the scale. Further study is necessary to reveal the profoundly desirable healthcare environment towards quality healing environment in which patient and staffs generally preferred.

## ■6.0 CONCLUSION

The research is restricted by both the generally limited sample size and restriction to obtain approval from hospital. Notwithstanding, comparable findings rising up out of strand of snowball sampling of this research seem to backing the findings reported here. The findings and recommendations in which not only provide healthcare facilities stakeholder and building designers with factual information but extended to understanding of patient and staffs’ perceptions and their expectations for built healthcare environment to achieve an ideal healing environment in healthcare facilities. These findings provide impart knowledge to focus to use healing environments in the patient-centered healthcare setting for the future can contribute to coveted outcomes for patient and staff satisfaction.

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