



RESEARCH ARTICLE

HOSPITAL HUMANIZATION: HOSPITAL USERS' LEVEL OF SATISFACTION ON HOSPITAL ENVIRONMENT

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ABSTRACT

Hospital humanization is necessary to creating a comfortable place for patients to get well. The aim of this study was to investigate the perceived quality of hospital environment between the different categories of hospital users, i.e. Patients, staff and health professionals in China. A total of 204 subjects including inpatients, outpatients, companions, health professionals, as well as hospital administrations were enrolled in the present study. Subjects completed questionnaires including the demographic information, physical environment variables and social environment variables. The result indicated hospital unit humanization: 79 (38.7%) low humanized, 83 (40.7%) medium humanized, and 46 (22.5%) high humanized. When comes to positive points; the hospital users are satisfied with physical environmental variables in general. In relation to accessibility the results indicated that 23.1 % among those who belong to administration of the hospital are dissatisfied, 38.5 % consider is normal/regular, while 38.5 % are satisfied. The study concluded that the patients and companions overall are more satisfied with hospital environment than hospital administrations and health professionals.

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INTRODUCTION

Hospital humanization is necessary to physical and psychological care for the patients and health workers. In addition, the environmental comfort appears as strongly in patients healing processes and provides welfare to all integrated team in the healthcare process (Badalotti & Barbisan, 2015; Louzada, Stang, & Calabrez, 2008; Mota, Martins, & Vêras, 2006). Creating a comfortable place for patients to get well again is integral in ensuring that they will leave the hospital with a positive outlook. Goldenstein points out that combining decorative, color and light, where the hospital can be humanized in keeping away from the coldness of the traditional hospital (Goldenstein, 2006). Previous studies

have linked the hospital-built environment to factors such as patient satisfaction, stress, health outcomes and overall health care quality. Some spaces have been created in the hospital such as small shops, recreation rooms, and beautiful gardens in order to remove the image of pain, suffering and death (Goldenstein, 2006; Rodrigues, 2013). Previous study emphasized that humanized hospital mean "is one that contemplates, in its physical, technological, human and administrative structure, valuation and respect for the dignity of the human being, whether is a patient, family or the professionals that work in the hospital, ensuring for them conditions for a quality service" (Backeset al., 2006). Overarching factors in hospital environment include noise levels, patient and pain management, and environmental factors inhibiting. When an environment is too noisy, patients may have a hard time getting sleep or being comfortable, inhibiting their abilities to recover. This may also limit communication. The benefits of humanized hospital include

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that it serves as a method to soften the pain and suffering of hospitalized patients, reduce the stress level that can be very high for both patients and staff and decrease the absences from work of the healthcare team (Fornara *et al.*, 2006; Louzada *et al.*, 2008). Humanized hospital provides the patient and staff with a welcoming environment, with physical and psychological comfort, promoting feelings of well-being and the quality of life (Fornara *et al.*, 2006; Martins, 2004; Mota *et al.*, 2006; Vasconcelos, 2004), having greater acceptance of treatment (Badalotti and Barbisan, 2015) and consequently reduced cost in the hospitals (Badalotti and Barbisan, 2015; Louzada *et al.*, 2008; Martins, 2004; Mota *et al.*, 2006). The aim of this study was to investigate the perceived quality of hospital environment between the different categories of hospital users, i.e. Patients, staff and visitors/companions in China.

MATERIALS AND METHODS

This study was carried out retrospectively with respondent's data, collected from structured questionnaire and the hospital database for a period of one year, as well as the professional opinion of health professional some health care givers and specialists so as to be able to perceived quality between the different categories of hospital users.

Procedure

The study was approved by the Jinan Hospital research committee, which helped us to identify and to contact each of the three department that took part of the study. Data was collected between May 2015 to May 2016. There were no inclusion criteria other than age (above 16) and willingness to participate in the study. Outpatients were contacted by the first author and assistant in the waiting area before consultation, and inpatients were contacted in their hospital rooms. As outpatients filled the questionnaire in the waiting room (and before consultation), they were included in the final sample only if they had been in that care unit at least once, to ensure that they would have sufficient information. To evaluate both the all patients (inpatients and outpatients) were informed of the nature and purpose of the study, and confidentiality was assured. It was emphasized that their decision to participate in the study would not affect their care, and that hospital personnel would not see the information provided. When patients did not have the physical abilities to read assistance from the families' members or friends was obtained or to answer the questionnaire on their own. In addition, data was collected through an interview that lasted approximately 25min.

Sampling

A purposive sampling was used (Purposive sampling, also known as selective or subjective sampling, is a type of non-probability sampling technique. Non-probability sampling focuses on sampling techniques where the units that are investigated are based on the judgment of the researcher). Furthermore, patients with a variety of demographic characteristics were sampled.

Participants

Two hundred and four respondents participated in this study. Participants were contacted in inpatient areas and outpatient in different department. The other three department were selected to obtain diversity of the settings and participants. Participants were randomly selected between the periods of May 2015 to May 2016. Total of 204 participants which consists of 13 hospital administrations, 30 health professionals from different specialization, 54 outpatients, 53 inpatients and 54 companions were enrolled in the study. Inpatients and companions were from General Surgical department. Outpatients, health professionals and hospital administrations were from different departments. Data were collected by the help of general physician.

Measures

The questionnaire about the hospital physical environment consisted of 19 environmental variables with five choices (very bad, bad, normal/regular, good and very good). The questionnaire for the participants chosen from very bad to bad was considered as dissatisfied and from good to very good was considered as satisfied to evaluate the score. For the purpose of analyzing the data, it was divided into two parts: the first one comprised the physical environment variables such as external area, accessibility and illumination, and the second one comprised the physical-social environment variables such as office environment and privacy in consultation room.

Data analysis

Descriptive analysis was analyzed as mean \pm SD. In addition, the data collected was analyzed through the quantitative technique by using statistical software, Statistical Package for Social Science (SPSS) version 22 and excel.

Ethical Considerations

This study was approved by the ethics board of Jinan Central Hospital – an affiliated hospital of Shandong University, for collection of patient information. Privacy was kept up all through the study not importing patient information or data once the study was completed. The ethical committee of Shandong University endorsed the study as well.

RESULTS

Demographic characteristic of participants

The above table 1 indicated hospital unit humanization: 79 (38.7%) low humanized, 83 (40.7%) medium humanized, and 46 (22.5%) high humanized. When it comes to users: 107(52.5%) patients, 54 (26.6%) visitors/companions and 43 (21.1%) staff. In addition table 1 displayed gender: 113 (55.4%) females and 91 (44.6%) males, and age: 26 respondent's (12.7%) aged 29 years or less, 54 (26.5%) aged 30–39 years, 51 (25.0%) aged 40–49 years and 73 (35.9%) aged 50 years or over.

Satisfaction toward the hospital unit

The above graph 1 indicated satisfaction toward the hospital unit which variables contain the following: accessibility,

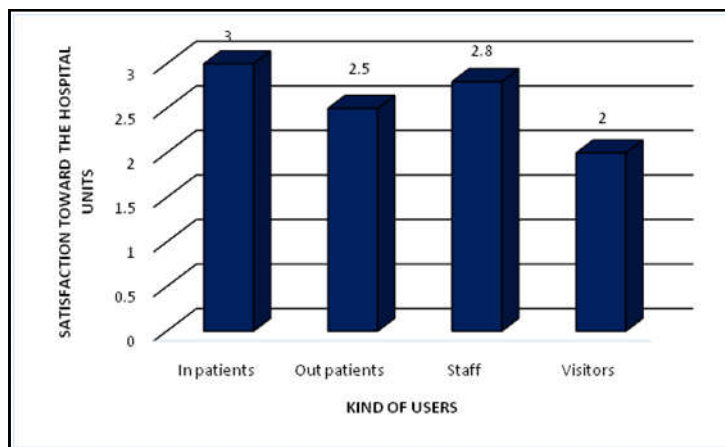
Table 1. Response of user category, gender and age group for hospital unit

Humanization	Users			Gender		Age			
	Staff	Patients	Visitors	Female	Male	≤29	30-39	40-49	≥50
Low	10	41	28	48	27	14	8	18	25
	23.2%	38.3%	51.9%	42.5%	29.7%	53.8%	14.8%	35.3%	34.3%
Medium	18	31	18	50	33	8	28	19	32
	41.9%	29.0%	33.3%	44.2%	36.3%	30.7%	51.9%	37.2%	43.8%
High	15	35	8	15	31	4	18	14	16
	34.9%	32.7%	14.8%	13.3%	34.0%	15.5%	33.3%	27.5%	21.9%
Total	43	107	54	113	91	26	54	51	73
	21.1%	52.5%	26.6%	55.4%	44.6%	12.7%	26.5%	25.0%	35.9%

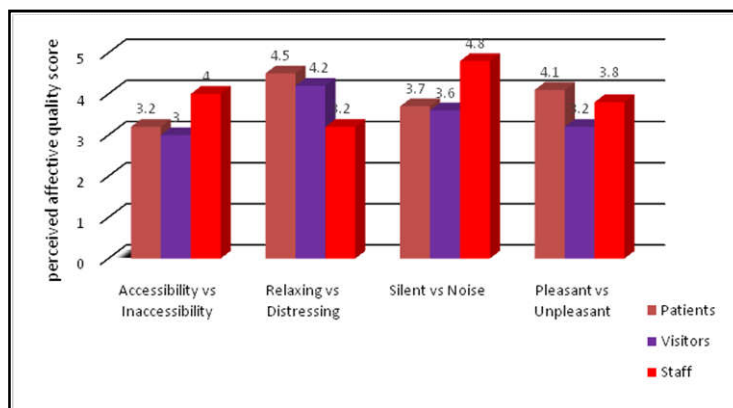
Table 2. Assessment of Hospital Users' satisfaction of the physical environment variables (%)

	5-point	External area	Accessibility	Illumination	Color	Temperature control	Temperature of Ward	Guidance signage	Noise
Administration of the Hospital	VB	15.4	15.4	0.0	0.0	0.0	-	7.7	0.0
	B	23.0	7.7	0.0	15.4	0.0	-	7.7	53.8
	N/R	38.5	38.5	61.5	7.7	15.4	-	23.1	38.5
	G	23.1	30.8	30.8	69.2	46.2	-	46.2	7.7
	VG	0.0	7.7	7.7	7.7	38.5	-	15.4	0.0
Health professionals	VB	6.7	6.7	10.0	6.7	3.3	3.3	3.3	6.7
	B	13.3	16.7	13.3	6.7	3.3	3.3	3.3	26.7
	N/R	56.7	26.7	40.0	23.3	20.0	10.0	23.3	30.0
	G	16.7	30.0	26.7	50.0	43.3	40.0	43.3	23.3
	VG	6.7	20.0	10.0	13.3	30.0	43.0	26.7	13.3
Outpatient	VB	3.7	5.6	0.0	1.9	3.7	-	1.9	9.3
	B	3.7	14.8	5.6	1.9	1.9	-	1.9	31.5
	N/R	42.6	37.0	24.1	31.5	16.7	-	16.7	40.7
	G	35.2	24.1	42.6	38.9	59.3	-	38.9	14.8
	VG	14.8	18.5	27.8	25.9	18.5	-	40.7	3.7
Inpatient	VB	1.9	0.0	0.0	0.0	1.9	1.9	1.9	1.9
	B	1.9	0.0	0.0	0.0	0.0	0.0	0.0	1.9
	N/R	26.4	25.0	3.8	5.7	5.7	3.8	7.5	26.9
	G	33.9	48.1	58.5	56.6	50.9	41.5	30.2	34.6
	VG	35.9	26.9	37.7	37.7	41.5	52.8	60.4	34.6
Companion	VB	1.9	1.9	0.0	0.0	1.9	0.0	1.9	1.9
	B	3.7	1.9	1.9	0.0	0.0	1.9	1.9	1.9
	N/R	20.4	20.1	13.0	9.3	13.0	9.3	5.6	24.1
	G	35.2	44.4	44.4	46.3	42.6	37.0	33.3	35.2
	VG	38.9	27.8	40.7	44.4	42.6	51.9	57.4	37.0

Note: VB- Very Bad; B- Bad; N/R- Normal/regular; G- Good; VG- Very Good,



Graph 1. Reponse of Satisfaction toward the hospital unit



Graph 2. Response to humanization

illumination, color, temperature control inside the hospital, temperature of air-conditioning inside the Ward, guidance signage in the corridor and noise. Staff members confirms the satisfaction towards the hospital environment by 2.8 while visitors confirms unsatisfied with the hospital environment by 2.0.

Response to humanization

Staff members confirm the satisfaction to the hospital environment, both positive (accessibility) and negative (Distressing). When it comes visitors/companions appeared as the most unsatisfied group. Patients confirms the satisfaction to the hospital environment both positive (Relaxing) and negative (Inaccessibility) (Graph 2).

Assessment of Hospital User's satisfaction

When comes to positive points; the hospital users are satisfied with physical environmental variables in general. In relation to accessibility the results indicated that 23.1% among those who belong to administration of the hospital are dissatisfied, 38.5% consider is normal/regular, while 38.5% are satisfied. For health professionals, 23.4% are dissatisfied with accessibility, 26.7% consider that is normal/regular, while 50% are satisfied and finally for outpatient the results indicated that, 20.4% of people inquired are dissatisfied with accessibility, 37.0% consider that is normal/regular and 42.6% are satisfied (Table 2). Even if they are satisfied with the accessibility, there is evidence among hospital users a certain dissatisfaction.

Regarding to external area, the results indicated that among those who belong to administration of the hospital are dissatisfied, wherein 38.5% are dissatisfied, 38.5% consider is normal/regular and 23.1% are satisfied. With respect to the noise inside the hospital, it is evident the level of dissatisfaction among those who belong to the administration of the hospital, in which 53.8% are dissatisfied, 38.5% consider is normal/regular and 7.7% are satisfied. Among the health professionals the results indicated that there is a division of opinion, wherein 33.4% are dissatisfied, 30% consider is normal/regular and 36.7% are satisfied. In relation to outpatient, 40.7% are dissatisfied, 40.7% consider is normal/regular and 18.5% are satisfied (Table 2).

DISCUSSION

The hospital humanization theme is gaining notoriety among health professionals, administrators, politicians, architects and researchers to understand, analyze and initiate concrete actions in health field, which goes from the hospital environment, relational, social and spirituality. Other author considers that "spatial-physical humanization represents a component of the broader concept of hospital humanization, which includes organizational, relational and therapeutic aspects in addition to environmental and social qualities" (Fornara *et al.*, 2006). Netherland Board Healthcare Institutions emphasized that, "Physical environment is understood to mean the building itself, the layout, the use of materials, and the direct vicinity of the building"(Institutions, 2008). Therefore, physical environment can be measured in terms of clinically or

medically and in terms of psychological parameters. Satisfaction is among the psychological parameters. Meanwhile, evidence suggested that physical factors of the indoor environment such as thermal environment, acoustic environment, interior layout and room type, lighting, color, furniture affect the health and wellbeing of human beings (Salonen *et al.*, 2013; Ulrich *et al.*, 2004). According to the finding of this study, the hospital users were satisfied with the thermal environment, illumination, color, waiting area, ward, work environment, consultation room, furniture and cleanliness. As regards to hospital humanization, these variables cited above are being taken into account in order to provide well-being and health of the hospital users, which influences in the hospital users satisfaction. The previous study shown that more humanized units obtain significantly higher scores in satisfaction and perceived positive affective qualities (Fornara, 2005). This study focused on hospital environment taking into account the hospital users' level of satisfaction. The results showed that inpatients, outpatients and staff have satisfaction with physical environment and physical-social environment. The results coincide with the findings reported by other author that inpatients perceive higher levels of physical environmental quality than do outpatients (Campos Andrade *et al.*, 2013).

According to previous study aimed to identify the concept of humanization, raise aspects that contribute towards and that hinder humanization of hospital care, noise was list among those the factors that hindered humanization (Brito and Carvalho, 2010). World health organization (WHO) recommended the guideline value indoors is 35 dB and sound events during the night should be not exceed 40 dB indoors (Berglund *et al.*, 1999). Previous study reported that the average sound levels gradually increased during daytime and nighttime hours in recent decades, the average equivalent sound levels are in the 50-60 dB (A) (Busch-Vishniac *et al.*, 2005). Likewise, in a recent study was showed that noise in the hospital exceeds the guidelines values and it is becoming a major environmental problem, resulting in a wide range of negative consequences (Shahid, Bashir, Sabir, & Awan, 2014). Noise exposure critically effects on sleep disturbance, annoyance (Berglund *et al.*, 1999; Hsu *et al.*, 2010), patient care services, doctor - patient relationship and medical education activities (Shahid *et al.*, 2014). Noise induces elevate emotional exhaustion, causes irritability and reduces safety (Mazer, 2006). The noise/stress hypothesis thinks that noise stimulate the hypothalamus-pituitary-adrenal gland system to trigger a series of stress hormones and enhance the pathogenesis of several health disorders (Babisch, 2002). Patients who treated during the good acoustics period considered the staff attitude to be much better than during the bad acoustics period (Hagerman *et al.*, 2005). A bad acoustics environment may have negative effects on wound healing and rehabilitation. Likewise, noise effects on speech recognition systems and communication, which lead to errors (Joseph & Ulrich, 2007). Based on the findings of this study, hospital administrations, health professionals and outpatients are dissatisfied with the noise inside of the hospital. Over fifty percent (53.8%) hospital administrations are dissatisfied with noise inside of the hospital, which point out that further measure must be taken to improve acoustic environment.

Previous study concluded that the physical environment along with social support, organizational culture, and technology could play an important role in improving health, safety, effectiveness and satisfaction of the healthcare team (Joseph, 2006). Work environment affect workers' physical and psychosocial well-being. Properly designed physical environments impact the health and safety of staff by: (a) Reducing infections; (b) Decreasing back pain and work related injuries; (c) Reducing injuries from medical equipment; (d) Improving adjustment to nightshift work; (e) Lessening noise stress (Joseph, 2006). In present study, the health professionals are dissatisfied with the space is designed for them to take rest. Based on the outcome cited above, it mean that the factor mentioned require attention and concern for attend the health professionals' needs. Another author conducted a study in orthopedics units of three hospitals in Rome to identified the presence of low, moderate and high levels of environmental humanization, they analyzed spatial-physical aspects to be considered in hospital humanization that are present in the hospital under study, such as adequacy of signposting, ease of recognizing the units entrance and information point. The cleanliness of corridors, good conditions of the unit, presence of large windows, presence of balconies in inpatient rooms and outpatient waiting area, presence of artworks, additional services (e.g. shops, bank, and restaurant) are considered as high levels of environmental humanization (Fornara *et al.*, 2006). This study revealed that there is presence of balconies in most of the inpatient rooms and the outpatient waiting area. Besides that, there are some services such as Bank, ATM, restaurant, shops to attend the hospital users' needs. Researchers also observed some consultation room does not have presence of windows, which prevent the physical and psychological benefits of sunny light in human beings. The hospital users are satisfied with signage guidance in the corridor and cleanliness in the hospital. However, with regard to the toilet, the results indicated that health professionals are dissatisfied. This study faced limitations where respondents did not want to participate due the language barrier and also the small number of sample does not allow generalizing the results. However, it is proved to be relevant.

Conclusion

Base on the level of satisfaction of hospital users and the direct observation of the hospital environment, we concluded that the hospital under study approached a humanized hospital. However, there is a necessity to improve acoustic environment, the space that health professionals use to take rest, external area and toilet. This study recommend that more research could be done in other hospitals to give a valid information about hospital humanization.

Competing interest

The authors declare that there is no conflict of interests.

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Authors' contribution

The concept, data analysis and drafting of the manuscript were done by Belinda Amarilda Brito do Rosario. All authors

contributed to reading and correcting the manuscript prior to submission

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