

Privacy, Confidentiality and Facility Criteria in Designing Emergency Departments of the Teaching Hospitals of Shahid Beheshti University of Medical Sciences in 2007

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ABSTRACT

Background: This study aimed to evaluate the design of emergency departments regarding to the patients' and staff's privacy, confidentiality and facilities in general teaching hospitals.

Methods: Emergency departments of all the general teaching hospitals of Shahid Beheshti University of Medical Sciences, Tehran, Iran were evaluated in 2007 through both direct observation and interview with hospital authorities, and staff. Relevant criteria were studied by a 27-item questionnaire including 19 items for facilities and 7 items for privacy and confidentiality. Extent of emergency departments was the last common criterion. Data analysis has been done using *t*-test and descriptive statistics when appropriate. SPSS Software version 16 was used to facilitate quantitative analysis.

Results: Eleven out of nineteen criteria (58%) for the facilities were not found in the emergency departments. Privacy criteria had an overall partially more acceptable situation. Only one criterion of privacy and confidentiality was negative for all the emergency departments. It was calm gynecologic and delivery room with specific toilet. The mean was 469.6 (SD= 96) square meters for existing extent of emergency departments and 1461.6 (SD= 262.1) square meters for the ideal values ($P < 0.01$).

Conclusion: Privacy, confidentiality and enough facilities should be considered in designing of teaching hospitals for both staff and patients. Most of them need to be reconstructed based on new national standards.

Introduction

Responsiveness is one of the main goals of health systems. It means considering people's expectations concerning non-health matters like privacy, confidentiality, and facilities for internal and external customers [1, 2]. Design of Emergency Department (ED) can affect satisfaction of both patients and ED staff regarding to physical environment and general care [3, 4]. Revising the design of EDs and building the newer wards led to improvements in quality of life for both patients and staff. The improvement in the

atmosphere of the wards is likely to rub off on the staff, who may well take less sick leave and show a reduction in turnover and be easier to recruit [5]. Therefore, some organizations are going to introduce new general designs as tomorrow's hospitals [6].

Protecting privacy and confidentiality may prove more difficult and more important in the physical ED designs than in most other practice settings because the ED is typically a public, crowded environment [7-9]. Furthermore, ED design can contain features that are stressors for patients and ED

stuff [10]. Following integration of medical education and Ministry of Health, general teaching hospitals in Iran have the most important role in providing care to general population. Shahid Beheshti University of Medical Sciences and Health Services (SBUMS), Tehran, Iran is one of the most important Universities in Iran. It has several teaching and non-teaching hospitals for providing a wide range of new high-tech health services including organ transplantation and nanotechnology. These public hospitals cover most of the general health services for targeted population [11]. Unfortunately, despite monitoring good services, their designs have not been assessed yet in terms of privacy, confidentiality, and facilities for internal and external customers despite huge number of caregivers. As emergency medicine is a new residency-training program, we need a model for evaluating the related criteria in order to better service delivery to targeted population.

The goal of this study was to evaluate the design of EDs regarding to privacy, confidentiality and facilities of patients and ED staff in general teaching hospitals of SBUMS.

Materials and Methods

Through a descriptive health system research, we evaluated the design of EDs of general teaching hospitals. The emergency medicine department of SBUMS Services approved and supported this study.

The study was conducted at urban, teaching hospitals of SBUMS in 2007. These hospital EDs are covering more than 5.2 million people in Tehran, the capital of Iran. Through 11 teaching hospitals of this university, five hospitals are general and have emergency medicine residency training programs. Researchers selected EDs of these five hospitals including Taleghani, Imam Hussein, Loghman Hakim, Shohada Tajrish and Modares hospitals as the study units. These EDs cover the most load of emergency of targeted population. Other hospitals cover sub-specialty fields of problems like orthopedic, ophthalmic, plastic surgery. Inclusion criteria for the hospitals were being general, teaching hospitals that cover residency program of emergency medicine.

Criteria and related standards for evaluation were extracted from main textbooks and literatures of emergency medicine. To collecting the data, a 27-item questionnaire was designed including 19 items of facilities for patients and EDs

staff and 7 items of privacy and confidentiality for patients and EDs' staff. Remaining common criterion was the extent of emergency department.

Existence of waiting room for patients, resting room for the staff close to acute care unit with easy visual, auditory and physical access to it, specific toilet for this room, easy access to this toilet, cleaning room and cabinets, special place for serving food with refrigerator, dishwashing machine and microwave oven, adequacy of the place for equipment, pharmacy, cleaning room, number of toilets per bed, existence of a toilet close to the private rooms like gynecology and delivery rooms, presence of security guard in the ED entrances, special room for magazines, existence of water cooler machine, separated toilets for men and women, public phone and magazine room in reception, higher roof, light and color of important places of ED, lower roof, light, color and sound reducing covers in less important places of ED, fire fighting services and police office in ED used as facility variables.

Lesser exposed gynecologic and delivery room, elevator place (is it accessible through crowding?), visual, auditory and smelling privacy of staff and patients in ED rooms, silent gynecology and delivery room with specific toilet, maximum private area for gynecology and delivery room, separated toilets men and women in reception used as the criteria for privacy and confidentiality.

Finally, extent of EDs considered as a common criteria for privacy and confidentiality and facilities. Ideal extent for the EDs calculated by using American Institutes of Architects standards for converting the number of the ED rooms to total extent of ED.

The researchers evaluated the design of selected EDs after justification from the hospital authorities. Methods for gathering data were both direct observation and interview with hospital authorities, head-nurses, and ED staff. In order to avoiding observer bias and for guarantee of reliability of data only one physician recruited for data gathering and validity of data supported by using more than one source of data gathering. The data were considered confidence and the name of interviewees were hidden for ethical considerations.

Independent *t*-test was used for comparing means of existing and ideal extent of EDs. One sample *t*-test was used for comparing toilets number mean and standard value. SPSS Software

version 16 was used to facilitate quantitative analysis. Descriptive statistics were used for summarizing the other data and comparing the present situation with the ideal model by using standards.

Results

EDs of all the five general teaching hospitals of the University were evaluated. All of them were older than 25 yr but restructured during recent 10 yr. None of them has been specifically designed for ED at first.

Eleven out of 19 criteria (58%) for the facilities were not found in the EDs of the selected hospitals. The only item found in all the EDs was "public phone". The other items had different patterns of distribution in the assessed hospitals. There were six (31%) acceptable criteria for Modares hospital, five (26%) for Imam Hussein and Shohada Tajrish, four (21%) for Taleghani and three (15%) for Loghman Hakim hospitals. There was no Gynecologic and delivery ward in ED of Modares hospital (Table 1).

Only one criterion of privacy and confidentiality was negative for all the EDs. It was "calm gynecology and delivery room with specific toilet" criterion. There were five out of seven criteria acceptable for Imam Hussein, four for Loghman Hakim and Taleghani, two for ShohadaTajrish and Modares hospitals (Table 2).

Table 3 shows the extent of the EDs versus the ideal squared meters need for such a number of caregivers in each hospital. The mean was 470 (SD= 96) square meters for existing extent of EDs with a range of 350 to 588. The mean was 1462 (SD= 262) square meters for the ideal values for EDs extent with a range of 1207 to 1879. These two means had statistically significant difference ($P < 0.01$) and 95%Confidence Interval for mean was 704-1280.

Table 3 also shows the number of toilets versus to the number of beds. The mean for the toilets was 1.6 (SD= 0.86). There was no statistically significant difference between the mean and minimum standard value which is at least 2 toilets for more than 8 bed EDs ($P > 0.05$).

Table 1: Facility criteria for patient and staff in EDs of general teaching hospitals of Shahid Beheshti University of Medical Sciences and Health Services, Tehran, Iran

Hospital	Hospital				
	Imam Hussein	Shohada-e-Tajrish	Loghman Hakim	Taleghani	Modares
Sufficient number of toilets per bed*	-	+	-	-	+
Existence of a toilet close to the private room	-	-	-	-	**
Security guard in the ED entrances	+	-	-	+	-
Easy access to toilets, cleaning room and cabinets	-	-	***	-	+
Special room for magazines	-	-	-	-	-
Existence of water cooler	+	+	-	+	+
Separated toilets for men and women	+	+	-	-	-
Public phone in reception	+	+	+	+	+
Magazine room in reception	-	-	-	-	-
Higher roof, light and color of important places of ED	-	-	-	-	-
Lower roof, light, color and sound reducing covers in less important places of ED	-	-	-	-	-
Magazine room, fire fighting services and police in ED	-	-	-	-	-
Study room for radiology	-	-	-	-	-
Existence of waiting room for patients	-	-	-	+	+
Staff resting room close to acute care unit	+	+	+	-	+
Specific toilets for the stuff room	-	-	-	-	-
Refrigerator, dishwashing machine and microwave oven for the stuff room	-	-	-	-	-
Adequacy of equipment place, pharmacy, cleaning room	-	-	-	-	-
Special place for serving food for the stuff room	-	-	-	-	-

*sufficient toilet defined as at least 2 toilets for more than 8 bed in EDs, **No gynecologic and delivery in ED, *** Positive only for women

Table 2: privacy and confidentiality criteria in EDs of general teaching hospitals of Shahid Beheshti University of Medical Sciences and Health Services

Criteria	Hospital				
	Imam Hussein	Shohada-e-Tajrish	Loghman Hakim	Taleghani	Modares
Lesser exposed gynecologic and delivery room	-	+	-	+	-
Elevator place	+	+	-	-	-
Privacy of staff	+	-	+	+	+
Patients' visual, auditory and smelling privacy in ED rooms	+	-	+	+	+
Calm gynecologic and delivery room with specific toilet	-	-	-	-	-
Maximum private area for gynecologic and delivery room	+	-	+	-	-
Separated toilets for men and women in reception	+	-	+	+	-

Table 3: Number of existing versus ideal EDs' extent and number of toilets per beds

Hospital name	Criteria				
	Extent (m2)	Ideal extent (m2)	No. of ED beds	Existing toilets	Ideal toilets
Imam Hussein	400	1879	14	1	2≤
Taleghani	480	1435	14	1	2≤
Modares	350	1507	15	2	2≤
Loghman Hakim	588	1280	22	1	2≤
Shohada-e-Tajrish	530	1207	20	3	2≤

Discussion

The purpose of this study was to evaluate designing of ED in the teaching hospitals in terms of privacy, confidentiality, and facilities criteria for patients and ED staff. The results from this study showed that designing of the EDs has many defects on patients and ED staff facilities. Privacy and confidentiality criteria had better situation but there were serious problems too. It is important for health systems to be responsive to patients and staff need but we sometimes neglect the role of ED design in affording this issue.

This is the first time in Iran that design of ED is studying as an important factor affecting privacy, confidentiality, and facilities. Although a few general teaching hospitals studied but they are representative of almost all the other teaching hospitals in Iran. So the study can be used as a model in designing or reconstructing their ED. On the other hand, only one researcher gathered data to prevent probable observer bias.

Privacy has at least four primary uses including physical seclusion, protection of per-

sonal information, protection of one's personal identity, and the ability to make choices without interference [12-14]. It is very difficult to cover privacy of all fields due to crowding and atmosphere of ED. It can be done for gynecologic and obstetrics, pediatric critical care and consultation rooms [7, 15]. In this study, gynecologic and obstetrics room in ED were considered as the most valuable criterion on physical seclusion privacy. We found that physical seclusion, which leads to visual, auditory and smelling privacy in ED rooms, is considered in most of the EDs. Visibility is another important factor in ED design that is missed in most of them. These findings confirmed by the other studies that reported frequent breaches of privacy in EDs of university hospitals [16, 17]. In addition, patient privacy in the ED is routinely compromised by physical ED design, crowding, or lack of caregiver vigilance [8, 16].

The concept of confidentiality refers to the protection of personal information and the duty not to disclose information without the patient's ap-

proval [8, 13, 14]. It is considered one of the most important factors from the provider and patient's perspective in treatment of adolescents and minors [18-22]. We considered less exposed rooms and private areas as the design criteria for confidentiality. Both of them did not find in most of the EDs. This is a problem of the other teaching hospitals [16, 17]. Enough toilets per beds and separation of toilets for women and men are other indicators of privacy [15] which was absent in most of the targeted EDs. Calm gynecology and delivery room with specific toilet was a criterion for confidentiality which was not met in any ED. Evidence shows that patients appear to have more confidence in their care when they are in attractive, calm environments [23, 24]. As much as the ED extent increases, more space is ready for separation of stuff and patients and patients room as is emphasized on single occupancy rooms in EDs [25].

Facility criteria include some special area and some equipment. The designer should consider space and other requirements need for equipments that will be used in future. In this study, most of the facilities met in none of the EDs. For example, designers did not pay attention to height of ED roof, light and color of different places of EDs but some studies including a comprehensive systematic reviewed the effect of noise, light, and color on various study populations and offered more support for designing principles [24, 26, 27]. Despite design of EDs should generally bring relaxation for patients and their visitors, in short term stays [5] and Waiting room and treatment rooms should be separated visually and auditory [28], Evidence of our study does not support it.

This study provided a list of criteria for evaluation of ED design. Further studies should be done to complete this list and setting standards for them. These criteria can be used with health authorities as requirements of hospital construction and reconstruction. By this way, Changes in design of ED can increase patients' and staff's rights and health system responsiveness [5].

Conclusion

Present designs of targeted teaching hospitals do not afford privacy, confidentiality and enough facilities for the staff and patients. Re-

construction of their emergency departments is necessary; on the other hand, the Ministry of Health should define national standards for designing hospitals especially emergency departments for future projects and reconstructions. By this way, service provision to the targeted population and staff's job satisfaction will be improved; consider that these two can affect each other too.

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