The Open Public Health Journal

Content list available at: https://openpublichealthjournal.com

RESEARCH ARTICLE

Patients' Sense of Security in Shahroud (Northeast Iran) Hospitals

Mohammad Amiri[1], Ahmad Khosravi[2] and Mehdi Raei[3,*]

[1]*Department of Public Health, School of Public Health, Shahroud University of Medical Sciences, Shahroud, Iran*
[2]*Center for Health Related social and Behavioral Sciences Research, Shahroud University of Medical Sciences, Shahroud, Iran*
[3]*Health Research Center, Life Style Institute, Baqiyatallah University of Medical Sciences, Tehran, Iran*

Abstract:

Background:

Sense of security is a psychosocial phenomenon that can impact the satisfaction and health of individuals. This study aimed to determine the factors that can affect the patient's sense of security.

Methods:

In this cross-sectional study, 800 patients from governmental and nongovernmental hospitals were randomly selected in 2018 using an 84-item questionnaire. Structural equation modeling was used to analyze the data.

Results:

The mean score obtained in dimensions of provided services was 41.63±9.95, psychological factors 27.44±5.68, financial factors 13.23±4.06 discipline factors 13.62±4.10, provided clinical services 87.11±16.81, and hoteling factors 74.64±16.79. Overall scores categorization showed 18(2.2), 144(18.0), and 638(79.8%) had a poor, moderate, and good sense of security, respectively. Chi-square test showed a significant association between patients' sense of security levels and the type of hospitals (P = 0.001). The overall satisfaction score for patients was 22.23±5.79. There was a significant relationship between patients' satisfaction and their sense of security. In the final model, the medical and hoteling factors had the greatest impact on patients' sense of security.

Conclusion:

Regarding the mutual effect of the sense of security and patients' satisfaction and noticing that more than 20% of the patients had moderate and low levels of sense of security, paying more attention to hoteling factors and providing more insurance protection to the low-income strata can play a major role in improving patients' sense of security.

Keywords: Personal satisfaction, Hospitals, Patient safety, Iran.

Article History	Received: August 15, 2021	Revised: December 27, 2021	Accepted: January 19, 2022

1. INTRODUCTION

Security has always been one of the vital and fundamental issues of human life and has received widespread scientific attention [1 - 3]. The concept of security can be defined as the immunity from violence and forcible possession and, in the case of people, the absence of feelings of panic and dread of losing legitimate rights and liberties, and lack of intimidation against these rights and liberties, and immunity against threats and jeopardy of death, illness, poverty, and unpredictable events, and in general, protection against any factor that eliminates one's calmness [4]. Sense of security is one of the innate human needs and is a psychosocial phenomenon that has various dimensions and is associated with many economic, social, political, and cultural elements, beliefs, knowledge, and attitudes of society and has a significant impact on the quality of life and satisfaction of people [1, 5 - 7]. This feeling results from people's direct and indirect experiences from the environment and is experienced in various ways by different people. Sense of security can be assessed and measured in various forms [6, 8]. Patients' security is one of the primary liabilities of healthcare providers, and all those involved in providing healthcare have the responsibility of creating a sense of physical, psychological, and social security for the patients by observing a patient right [9, 10]. Patients who feel secure

* Address correspondence to this author at the Health Research Center, Life Style Institute, Baqiyatallah University of Medical Sciences, Tehran, Iran;
Tel: +989122473070, Email:mehdi_r_d@yahoo.com

are better treated and discharged more quickly, and as a result, the cost of treatment is also reduced [5, 11 - 13]. Clinical and special care accentuate the patients' sense of safety and security since this feeling is associated with the physical and psychological aspects of patients [6, 14]. Sense of security as part of the quality assurance is of paramount importance for patients and their families, and it stems from the trust in specialized physicians, timely accession to health care, and the provision of information and awareness on the disease and its treatment by the medical team [3, 12, 13, 15 - 20]. The results of a study have shown that the sense of security is very effective in providing palliative care and in the recuperation of the patients. Patients who have faith in the personnel and their ability to provide services, for example, recover more quickly [15]. Some studies reported that several factors, including demographic characteristics (such as gender and age), type of diagnosis, access to expert medical staff, access to 24-hour care, trust in the health system, health-related quality of life, sense of security for family and relatives, self-efficacy, amount of stress, severity of symptoms, and the way to deal with it are associated with the feeling of patients' security during the care period [2, 13, 17]. A study in Iran found that "the presence of a nurse" plays a role in patients' feelings of mental security, with the majority of patients stating that having a nurse at their bedside at all times makes them feel safe [21]. In another study in Sweden, the factors affecting the patient's sense of security in a hospital environment were reported to include a feeling of close and humane relationship with the patient, trust in staff skills in provision of care, trust in observing the charter of patient rights, and access to the physician and treatment team [22]. Results of another study in Iran reported that factors such as patients' awareness of their condition, the availability of nurses, supervision, monitoring the nurses, humane behavior of medical staff, and professional competence of the personnel,bring about patients' relief, and, on the other hand, factors such as patients' physical and psychosocial discomfort due to environmental and financial factors were reported to raise the sense of insecurity in patients [11].Given the importance of the subject and the lack of a study in this area in the city, the present study aimed at determining the factors influencing the patients' sense of security in hospitals in Shahroud in 2018.

2. METHODS

In this cross-sectional study conducted in 2018, 800 patients were selected using a stratified sampling method proportionate to the number of active beds in governmental and non-governmental hospitals in Shahroud, Iran. In order to select the sample size, in the first step, a list of all hospitals was provided. Proportional to the size of active beds in hospitals, we selected 400 patients in Imam Hussein Hospital, 200 in the Bahar Hospital, and 200 in the Khatam al-Anbia (Non-Governmental Hospital).

In the second step, all patients hospitalized between January 2018 and April 2018 completed the questionnaire. The inclusion criteria were being a patient or companion referring to governmental and nongovernmental hospitals and being willing to participate in the study. Patients admitted to Cardiac Care Unit (CCU) and Intensive Care Unit (ICU) wards were not included in the study.

In order to collect the data, the Patients' Sense of Security Questionnaire (PSSQ) was used. Persian version of PSSQ was developed and validated in Iran and Cronbach's alpha reliability was reported to be 89% [5]. In our study, the scale reliability coefficient was 0.97. PSSQ consisted of 11 demographic items and 73 five-point Likert items in 6specific dimensions. The dimension of clinical services provided included nursing factors (11 items), medical factors (7 items), patient rights (3 items), specialized equipment, advanced diagnostic, and therapeutic equipment (2 items). Dimension of hoteling factors included physical factors in the hospital (10 items), patient welfare factors (2 items), companion welfare factors (2 items), environmental factors in the hospital (2 items), sanitation and cleaning (3 items), and standards for beds (3 items) The dimension of provided services included 12 items, the dimension of psychological factors included 8 items, the dimension of financial factors included 4 items, and the dimension of discipline factors also included 4 items. Scores on individual items in each dimension were summed to obtain the dimension's overall score. The higher scores in each dimension indicate the greater impact of the dimension on the patient's sense of security from the respondent's point of view and vice versa. Finally, the scores obtained were categorized based on the Bogardus scale in which earning a score of up to 50% on each dimension represented a low level of security, a score of 50% to 75% represented an average sense of security, and a score above 75% indicated a high level of sense of security. In general, higher scores represented a greater sense of security.

The Patient Satisfaction Questionnaire was used to measure satisfaction [23]. The questionnaire had 13 four-point Likert-type items on the availability of specialized physician, heating and cooling system in the patient's room, the facilities and equipment in the patient's room, the quality of the hospital food, the daily change of patient's clothes and bedcovers, the cleaning and sanitation of different parts of the ward, light of the patient's room, admission, behavior and manners of the nurses, and timely presence of the nurse on the patient's bedside. The answers to items ranged from completely satisfied to satisfied, fairly dissatisfied, and completely dissatisfied. Finally, the scores obtained from this scale were also divided according to the Bogardus scale so that earning a score of 50% indicated low satisfaction, a score of 50% to 75% indicated moderate satisfaction, and above 75% indicated high satisfaction [23].

A trained research assistant (not a member of the treatment team) administered the questions to the patients in the last treatment session so that the patients themselves would complete them to the extent possible. In the case of patients of low age, a questionnaire was completed by the companion, and for the illiterate or low literacy patients, the assistant interviewed the patients to complete the questionnaire.

In this study, all the principles of the Declaration of Helsinki were considered. The questionnaires were completed anonymously and participation in the study was voluntary. After obtaining oral informed consent from the volunteers, the study was conducted. In addition, this proposal of the study was approved by the Medical Research Ethics Committee of

the Shahroud University of Medical Sciences (IR.SHMU.REC.1396.28).

The collected data were entered into SPSS 16 software and analyzed through t-test, chi-square, Pearson correlation coefficient, and Structural Equation Modeling (SEM). The significance level in all tests was set at 0.05.

3. RESULTS

Most of the inpatients were women and married people. The mean score of the overall sense of security in the hospitals under study was 257.66 ± 48.59 and was high. The mean score of sense of security in governmental hospitals was 256.24± 51.0 and in the non-governmental sector was 261.93 ± 38.19. Mean score and frequency distribution of sense of security dimensions and satisfaction levels in the hospitals under study are displayed in Table **1**.

According to the findings in Table **1**, the highest percentage of high sense of security belonged to the clinical services provided (86.9%), medical factors (82.1%), nursing factors (78.3%) and the lowest percentage of sense of security belonged to companions' welfare factors (25.5%), patient welfare factors (44.8%), and financial factors (52.9%). Overall scores categorization showed 18(2.2), 144(18.0), and 638(79.8%) had poor, moderate, and good sense of security, respectively.

Results of the Chi-square test showed significant differences (P≤0.05) between governmental and nongovernmental hospitals in terms of nursing factors, medical factors, specialized equipment and advanced diagnostic therapy, patient welfare factors, companion's welfare factors, hospital environmental factor, sanitation and cleaning, provided services, financial factors, discipline factors, clinical services provided, hoteling factors, overall sense of security, and satisfaction of patients (Table **2**).

Table 1. Mean and frequency distribution of sense of security dimensions and satisfaction levels in the hospitals under study.

Variables	Mean±SD	Status (N/%)		
		Low	Moderate	High
Nursing factors	40.91±9.10	34(4.3)	140(17.5)	626(78.3)
Medical factors	27.48±5.7	24(3)	119(14.9)	657(82.1)
Patient rights	11.21±2.62	39(4.9)	185(23.1)	576(72)
Specialized equipment and advanced diagnostic, therapeutic equipment	7.52±1.98	64(8)	222(27.8)	514(64.3)
physical factors in the hospital	34.42±7.51	24(3)	234(29.3)	542(67.8)
patient welfare factors	6.28±2.34	187(23.4)	255(31.9)	358(44.8)
Companion welfare factors	5.13±2.51	359(44.9)	237(29.6)	204(25.5)
Environmental factors in the hospital	7.18±2.08	95(11.9)	244(30.5)	461(57.6)
Sanitation and cleaning	10.71±3.42	119(14.9)	179(22.4)	502(62.8)
Standards for beds	10.93±2.98	73(9.1)	176(22)	551(68.9)
Services provided	41.63±9.95	42(5.3)	229(28.6)	529(66.1)
Psychological factors	27.44±5.68	23(2.9)	237(29.6)	540(67.5)
Financial factors	13.23±4.06	125(15.6)	252(31.5)	423(52.9)
Discipline factors	13.62±4.10	94(11.8)	256(32)	529(66.1)
Clinical factors provided	87.11±16.81	16(2)	89(11.1)	695(86.9)
Hoteling factors	74.64±16.79	44(5.5)	197(24.6)	559(69.9)
Overall sense of security	257.66±48.59	18(2.2)	144(18.0)	638(79.8)
Overall satisfaction	22.23±5.79	169(21.1)	440(55.0)	191(23.9)

Table 2. Frequency distribution of different dimensions in terms of governmental and non-governmental.

Hospitals						
Dimensions/hospital		Status (%)			χ^2	P
		Low	Moderate	High		
Nursing factors						
	Governmental	33(5.5)	116(19.3)	451(75.2)	16.35	0.001
	Non-governmental	1(0.5)	24(12)	175(87.5)		
Medical factors						
	Governmental	22(3.7)	102(17)	476(79.3)	13.12	0.001
	Non-governmental	2(1)	17(8.5)	181(90.5)		
Patient rights						
	Governmental	34(5.7)	144(24)	422(70.3)	4.81	0.090
	Non-governmental	5(2.5)	41(20.5)	154(77)		

(Table 2) contd.....

Hospitals						
Dimensions/hospital		**Status (%)**			χ^2	**P**
		Low	**Moderate**	**High**		
Specialized equipment and advanced diagnostic, therapeutic equipment						
	Governmental	58(9.7)	168(28)	374(62.3)	9.76	0.008
	Non-governmental	6(3)	54(27)	140(70)		
Physical factors in the hospital						
	Governmental	19(3.2)	173(28.8)	408(68)	0.387	0.82
	Non-governmental	5(2.5)	61(30.5)	134(67)		
Patient welfare factors						
	Governmental	164(27.3)	197(32.8)	239(39.8)	29.74	0.001
	Non-governmental	23(11.5)	58(29)	119(59.5)		
Companion welfare factors						
	Governmental	294(49)	161(26.8)	145(24.2)	17.09	0.001
	Non-governmental	65(32.5)	76(38)	59(29.5)		
Environmental factors in the hospital						
	Governmental	84(14)	201(35.5)	315(52.5)	27.15	0.001
	Non-governmental	11(5.5)	43(21.5)	146(73)		
Sanitation and cleaning						
	Governmental	101(16.8)	134(22.3)	365(60.8)	7.60	0.02
	Non-governmental	18(9)	145(22.5)	137(68.5)		
Standards for beds						
	Governmental	58(9.7)	126(21)	416(69.3)	1.94	0.38
	Non-governmental	15(7.5)	50(25)	135(67.5)		
Services provided						
	Governmental	39(6.5)	187(31.2)	374(62.3)	17.78	0.001
	Non-governmental	3(1.5)	42(21)	155(77.5)		
Psychological factors						
	Governmental	20(3.3)	170(28.3)	410(68.3)	3.35	0.19
	Non-governmental	3(1.5)	67(33.5)	130(65)		
Financial factors						
	Governmental	105(17.5)	197(32.8)	298(49.7)	11.43	0.003
	Non-governmental	20(10)	55(27.5)	125(62.5)		
Discipline factors						
	Governmental	78(13)	175(29.2)	347(57.8)	10.28	0.006
	Non-governmental	16(8)	81(40.5)	103(51.5)		
Clinical factors provided						
	Governmental	15(2.5)	80(13.3)	505(84.2)	15.55	0.001
	Non-governmental	1(0.5)	9(4.5)	190(95)		
Hoteling factors						
	Governmental	39(6.5)	153(25.5)	408(68)	6.32	0.04
	Non-governmental	5(2.5)	44(22)	151(75.5)		
Overall sense of security						
	Governmental	17(2.8)	122(20.3)	461(76.8)	13.45	0.001
	Non-governmental	1(0.5)	22(11)	177(88.5)		
Overall satisfaction						
	Governmental	133(22.2)	309(51.5)	158(26.3)	12.65	0.002
	Non-governmental	36(18)	131(65.5)	33(16.5)		

The mean score of sense of security in governmental hospitals was 256.24 ± 51.54 and in the non-governmental sector was 261.93 ± 38.19. The mean difference between the two hospital groups was not significant.

In a univariate analysis using the Chi-square test showed a significant association between patients' sense of security levels and the type of hospitals (P = 0.001), so that sense of security was higher among patients in nongovernmental hospitals (Table **2**). The results of the study in Table **3** showed there was a significant relationship between the sense of security and the level of education of patients (P = 0.045), patients' occupation (P = 0.003), place of residence osf the patients (P = 0.004), type of patient insurance (P = 0.001), and

economic status of patients (Table **3**). According to the findings in Table **3**, there was no significant relationship between patients' gender, marital status, age, place of referral, and their sense of security (P≥0.05).

Table 3. Univariate relationship between the sense of security levels and demographic variables.

Variable		Sense of security levels; N (%)			χ^2	P-value
		Low	Moderate	High		
Gender						
	Female	12(2.2)	96(17.4)	444(80.4)	0.517	0.77
	Male	6(2.4)	48(19.4)	194(78.2)		
Marital status						
	Single	3(2.7)	23(20.7)	85(76.6)	0.81	0.67
	Married	15(2.2)	121(17.6)	553(80.3)		
Educational level						
	Illiterate	5(2.9)	25(14.4)	144(82.8)	15.80	0.045
	Below high school diploma	2(0.8)	43(16.5)	216(82.7)		
	High school diploma	5(2.5)	41(20.6)	153(76.9)		
	Bachelor's degree	6(4.4)	24(17.8)	105(77.8)		
	Master's degree and higher	0(0)	11(35.5)	20(64.5)		
Patients age						
	Less than 20 years	1(2.2)	9(19.6)	36(78.3)	11.37	0.182
	20-29 years	5(2.6)	29(14.9)	161(82.6)		
	30-39 years	5(3.2)	28(17.8)	124(79)		
	40-49 years	1(0.9)	32(28.1)	81(71.1)		
	Over 50	6(2.1)	46(16)	236(81.9)		
Patients job						
	Unemployed	10(3.6)	46(16.8)	218(79.6)	23.35	0.003
	Employed	5(2.4)	53(25.7)	148(71.8)		
	Retired	1(1.1)	13(13.7)	81(85.2)		
	Housewife	1(0.5)	31(14.2)	186(85.3)		
	University student	1(14.3)	1(14.3)	5(71.4)		
Place of residence						
	City	18(3)	118(19.6)	466(77.4)	11.06	0.004
	Village	0(0)	26(13.1)	172(86.9)		
Type of insurance						
	No insurance	3(18.8)	2(12.5)	11(68.8)	52.73	0.001
	Private insurance	1(33.3)	0(0)	2(66.7)		
	Self-paid insurance	0(0)	5(50)	5(50)		
	Government employees' insurance	1(0.6)	28(17.4)	132(82)		
	Social security insurance	10(2.3)	84(19)	349(78.8)		
	Supplementary insurance	0(0)	4(11.4)	31(88.6)		
	Health insurance	2(5.6)	10(27.8)	24(66.7)		
	Others	1(1)	11(11.5)	84(87.5)		
Economic status of the family						
	≤100$	1(0.8)	19(14.3)	113(85)	14.46	0.07
	100-150$	1(1.2)	13(15.3)	71(83.5)		
	150-300$	4(1.9)	39(18.3)	170(79.8)		
	≥300$	3(1.4)	39(18.7)	167(79.9)		
	No income	9(5.6)	34(21.3)	117(73.1)		
Referred to the hospital by						
	Physician	7(2)	66(19)	274(79)	12.33	0.055
	Emergency Ward	9(3)	61(20.5)	227(76.4)		
	Healthcare center	0(0)	9(19.1)	38(80.9)		
	Other	2(1.8)	8(7.3)	99(90.8)		

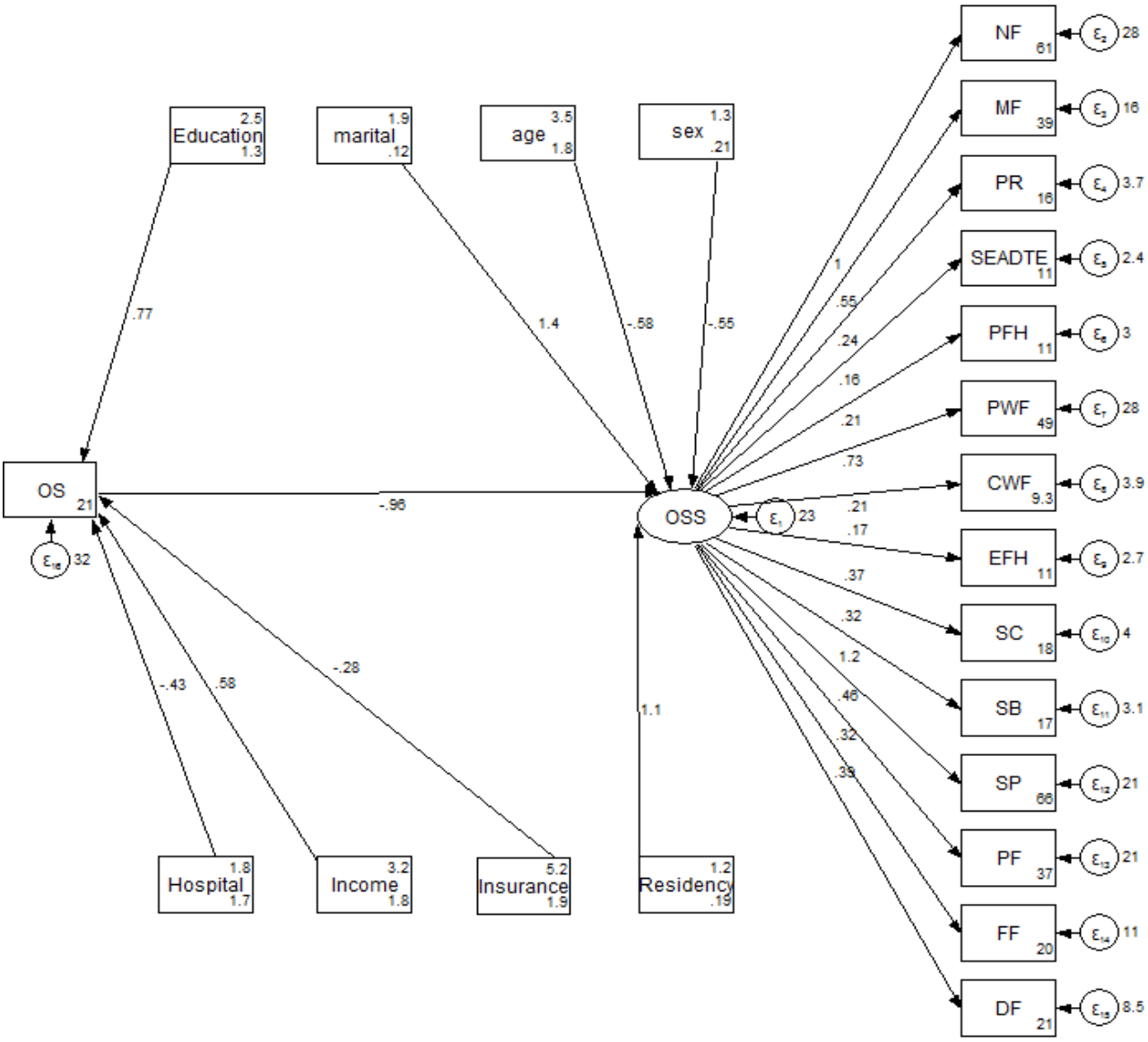

Fig. (1). Relationship between predictor's variables and satisfaction with the sense of security.
NF=Nursing Factors; MF=Medical Factors; PR=Patient Rights; SEADTE=Specialized Equipment and Advanced Diagnostic, Therapeutic Equipment; PFH= Physical Factors in the Hospital; PWF= Patient Welfare Factors; CWF= Companion Welfare Factors; EFH= Environmental Factors in the Hospital; SC= Sanitation and Cleaning; SB= Standards for Beds; SP= Services Provided; PF= Psychological Factors; FF= Financial Factors; DF= Discipline Factors; OSS= Overall Sense of Security; OS= Overall Satisfaction;

In the conceptual design of the Structural Equation Modeling, Fig. (**1**) depicts the relationship between predictor variables and satisfaction with the sense of security as the latent variable (SEM).The results show that the satisfaction score has a reverse effect on the sense of security score. The most important factors affecting the patients' satisfaction scores were hospital type and income level. The satisfaction score for nongovernmental hospitals was lower than that of government hospitals. Meanwhile, there was a direct relationship between the level of income and the education of patients with their satisfaction. The factors influencing the patient's sense of security included satisfaction, place of residence (the villagers had a higher sense of security), gender, and marital status.

4. DISCUSSION

Most of the hospitalized patients were women and married people. This finding is consistent with the findings of other studies in this regard [2, 5 - 7, 15, 17]. There was a significant relationship between the satisfaction of patients and their education, which is in line with the results of some studies [24, 25].

A significant relationship was also observed between the satisfaction of patients and the type of the hospital. Patient satisfaction was moderate in governmental and non-governmental hospitals. This is consistent with the findings of some studies [26, 27]. Patients' satisfaction in some hospitals was higher than those found in the present study [24, 28 - 33],

and in others, it was less than the results of this study [34, 35]. Perhaps the probable reason for these differences is the difference between the working environments and the type of management and cultural and social factors, the type of personnel and their skills, and the expectations of the patients, which greatly influence the quality of the provided services and satisfaction of the patients.

Moreover, there was a significant relationship between the satisfaction of patients and their economic status. Some studies also reported such a relationship between the above factors and satisfaction, which is consistent with the current results [36]. In another study, the demographic characteristics of patients had no significant effect on satisfaction [37]. Awareness of hospital managers of the factors affecting patient satisfaction can lead to high-quality services to patients.

The mean score of sense of security in public hospitals was 256.24± 51.54 and in the non-governmental sector, it was 261.93 ± 38.19. There was a significant relationship between the sense of security and the type of hospital. This is consistent with the results of some studies [6, 15].

In both governmental and nongovernmental hospitals, 79.8% of the patients had a high level of sense of security. The score of sense of security in the studied hospitals was high. Some studies in Iran have reported a moderate mean score of sense of security that is not consistent with the results of the present study [6, 38 - 40].

The most important demographic factors affecting the patient's sense of security were satisfaction, place of residence (the residents of villages had a higher sense of security), gender, and marital status. These findings have been confirmed in some other studies [2, 13, 15], but they are not consistent with the results of some others [7, 14]. There was no significant relationship between marital status and sense of security. However, some studies showed a relationship between marital status and sense of security [39], which is not consistent with the current results. There was no significant relationship between age and sense of security. In some studies, on the other hand, a relationship between age and sense of security has been found [14, 15], which does not agree with the recent results. There was a significant relationship between education, occupation, economic status, and patients' place of residence and their sense of security, part of which is in line with the findings of studies conducted in Iran and the world [2, 3, 15, 39]. Perhaps one of the reasons for the higher sense of security among villagers is that more attention has been paid to this vulnerable stratum in the Health Reform Plan so that they have good insurance coverage and pay a lower cost for receiving the services. This may indicate that some demographic characteristics can be considered as a small but important measure in predicting patients' sense of security.

The highest percentage of a high sense of security belonged to medical factors (82.1%) and nursing factors (78.3%). Accuracy in diagnosis, care in diagnosis, physician's establishing of communication with the patient, timely presence of the doctor at the patient's bedside when needed, respect for the patient, and good behavior of the physician are among the most important medical factors, and the supervision and monitoring of the patient by the nurse, the presence of a morally and technically trained nurse with an appropriate appearance and dress, good behavior of the nurse, timely presence of the nurse on patient's bedside at the time of need, skill, speed and accuracy of the nurse in doing things, guiding the patient on the disease and medications are among the most important nursing factors, which are not consistent with the results of some studies [21, 41 - 43].

Most of the factors that reduced the patient's sense of security belonged to the companion's welfare factors (25.5%), patient's welfare factors (44.8%), and financial factors (52.9%). From the perspective of patients, the availability of suitable welfare facilities for patients' companions and a comfortable and safe environment for admission play an important role in maintaining the health and recuperation of the patients and in their feelings of relaxation, and if for any reason, such a situation can not be provided, patients will be agitated. It seems that the physical environment and specialized care are the most important issues in patient's sense of security and satisfying Iranian patients.

The main limitation of this study is cross sectional study design and limitation in the hospital number for evaluation.

CONCLUSION

The factors influencing the patient's sense of security were satisfaction, place of residence, gender, and marital status. Among the 14 dimensions related to patient's sense of security questionnaire, the companion's welfare factors, patient's welfare factors, and financial factors had the lowest percent frequency in a high level of patients' sense of security status. Considering the mutual and negative impact of patients' satisfaction on the sense of security and noticing that more than 20% of patients in governmental hospitals had moderate and low levels of sense of security, paying more attention to some dimensions of it, including hoteling factors, such as improvement of the patient's and their companions' welfare facilities, improvement of sanitation and cleaning, and the improvement of the standards of beds for admission and providing more insurance protection of low-income strata can improve the patient's sense of security.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the Ethics Committee of Shahroud University of Medical Sciences, Iran, with the code of IR.SHMU.REC.1396.28.

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

STANDARDS OF REPORTING

STROBE guidelines and methodologies were followed in this study.

CONSENT FOR PUBLICATION

Written informed consent was obtained from each participant prior to the study.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

FUNDING

None.

AVAILABILITY OF DATA AND MATERIALS

The raw data and materials used to support the findings of this study are available from the corresponding author upon request.

ACKNOWLEDGEMENTS

Declared none.

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