

## Original Paper

# Evaluation of Safety From the Perspective of Patients Hospitalized in Medical and Surgical Wards



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Patient safety, Patient satisfaction, Communication, Respect

## ABSTRACT

**Introduction:** Patient feedback on safety-related factors provides valuable preventative information to manage safety and improve hospital care quality.

**Objective:** This study aims to determine the perspective of hospitalized patients toward safety. These patients were admitted to the medical and surgical wards in two hospitals in Tehran, Iran.

**Materials and Methods:** This research is a descriptive-analytical study. A total of 290 patients hospitalized in the medical and surgical wards of two hospitals in Tehran were recruited between April and November 2020. They were selected using a stratified sampling method with proportional allocation. Participants were requested to evaluate and report the safety factors using the patient measure of safety questionnaire. The obtained data were analyzed using the independent t-test, variance analysis, and Pearson correlation coefficient.

**Results:** Fifty-three percent of the participants in this study were male, with a mean age of  $50.75 \pm 17.36$  years. Approximately one-fourth of the patients had cancer, with 35.1% suffering for 1 to 6 months. The patients' most and least favorite perspectives mean scores were toward dignity and respect ( $3.80 \pm 1.07$ ) and access to resources ( $3.31 \pm 0.66$ ), respectively. Moreover, patients' views on safety were related to their disease type ( $P=0.021$ ).

**Conclusion:** Behavior accompanying respect and dignity leads to effective communication with patients, builds trust between the patient and the care provider, and benefits the patient's perception of safe care. Continuous monitoring of patient feedback on satisfaction with the quality of services can reveal safety-related shortcomings and deficiencies.

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## Highlights

- Patients have a unique and distinct view of safety.
- Patients assess safety through the lens of their needs, and their attitudes toward safety-related factors are diverse.
- The concepts of safety and quality of care are typically equivalent for patients, and they might use these concepts interchangeably.
- To feel safe, patients value the dignity and respect the most.
- Respect and dignity lead to effective communication and build trust between patients and the healthcare team, affecting patients' perception of safe care.

## Plain Language Summary

Patient safety is an important issue in the healthcare system worldwide, which has been broadly discussed. Numerous factors play a role in patient safety, many of which have been identified. However, medical centers are still facing problems and risks that threaten the safety of patients. It seems that patients are the missing link to safety. Patients are the only witnesses of long-term treatment processes, and their experiences and views can help identify safety risk factors. In this regard, this study was conducted to determine the perspectives of hospitalized patients toward various aspects of safety. The results showed that dignity and respect were the most favorable safety-related factors. Behavior accompanying respect and dignity leads to effective communication with patients, builds trust between the patient and the care provider, and benefits the patient's perception of safe care.

## Introduction

The World Health Organization (WHO) considers safety a challenge and a global public health concern that aims to prevent adverse outcomes and minimize preventable injuries [1]. Given the significance of patient safety over the past two decades and the focus and effort of organizations on it, this issue has become a vital indicator of care quality [2]. Based on this concept, errors related to patient safety constantly occur in the context of a flawed care system, and several factors contribute to these accidents [3]. Identifying these factors, modifying the care system, and obtaining knowledge from past mistakes play an essential role in preventing the recurrence of accidents and safety-related errors [4, 5].

There are numerous methods to identify the causes of safety errors in the clinical setting; however, most of these methods have relied solely on receiving feedback from staff and their views on safety [6]. In recent years, engaging and receiving patients' feedback, as the core of care, has received much attention [7, 8].

Although patient safety is generally influenced by the views and practices of the healthcare team members,

unawareness of patients' perspectives can pose major challenges due to differences in patients' and staff's views [6, 9]. Since patients are the focal point of all care, they are the sole witnesses of the whole care process and can provide the overall view of their experiences [10]. Injured patients can candidly diagnose safety issues and provide significant details about specific complications, probably missing in the staff report [11]. These ideas help perceive the problem's nature and identify potential solutions to prevent its recurrence [4]. Indeed, patients can offer a distinct and novel perspective toward safety that differs from existing definitions and concepts and thus can help improve safety [12].

Patient involvement in safety improvement ranges from the lowest level of participation, such as collecting retrospective patient feedback, to the highest level, including requesting patients to help plan services and encouraging them to identify risks when receiving care [13]. In addition, while being effective, patients' participation in safety is practical by receiving reports and feedback on their experiences [14].

Therefore, by receiving patient feedback on care quality and discovering their perspective towards safety, it is possible to identify and eliminate the deficiencies in the

system and create a framework for advancing the organization's policies and interventions based on patients' views [15]. Moreover, patients' participation and opinions on safety are important to identify interventions' efficiency in promoting safe care [7].

The culture of patients and their different care needs cause different safety priorities in them [16]. In a study in Canada, renal patients considered the physical environment of the ward as the most important factor in ensuring their safety [17]. While Italian patients reported respect and dignity as their safety priority during treatment [18]. In addition, Taylor showed in his study that three groups of patients with stroke, heart attack, and hip fracture had different care priorities and different views on safety [19]. In Iran, safety studies are mainly focused on the perspective of health workers, and unfortunately, the role and perspective of patients in safety have been neglected [20-22].

According to the available statistics, the mean score of patient and community participation standards in Iranian hospitals is only 36%, which is in poor and unfavorable condition [23, 24]. The participation of patients in the quality and safety of care is not excepted. Regarding this, Atoof et al. showed in their study that patient participation in improving the quality of services was poor and at an undesirable level [25]. Patients were passive in participating in treatment and care [26].

These results indicate the necessity to develop strategies to examine patients' feedback and experiences in the safety field and improve their safety status through patient participation [27]. This study was conducted to determine the perspectives of patients hospitalized in medical and surgical wards towards various safety aspects.

## Materials and Methods

This is a descriptive-analytical and cross-sectional study. It was conducted on 290 patients admitted to the medical and surgical wards of two hospitals affiliated with the [Iran University of Medical Sciences](#) in Tehran, Iran. These two hospitals were chosen due to the size and variety of inpatients. Data collection was performed between April and November 2020.

The sample size was estimated to be at least 290 participants at the 95% confidence level and the accuracy of estimation of  $d=0.02$  and standard deviation of 0.17 regarding patient perspective on hospital safety, citing in Lawton's study [28].

The samples were selected by stratified sampling method with proportional allocation. A total of 145 participants were allocated to each hospital, considering the number of medical and surgical wards of each center. The sample size for each ward was determined according to the number of active beds and via proportional allocation.

The inclusion criteria were as follows: Age over 18 years, the written discharge order by the physician in the patient file, hospitalization for more than 24 hours, ability to communicate verbally, and no physical and mental problems to complete the questionnaire. The exclusion criterion was not answering even one questionnaire item.

The study data were collected using the patient measure of safety (PMOS) questionnaire designed by Giles et al. in the United Kingdom [27]. In this questionnaire, 44 items of safety-related factors under 9 main domains, including communication and teamwork, organization and care planning, ward type and layout, equipment (design and function), roles and responsibility, access to resources, information flow, staff training, delays and one item of dignity and respect are assessed. The items are scored on a 5-point Likert scale from strongly disagree (1 point) to strongly agree (5 points). The mean score of each domain is from 1 to 5, consisting of the mean scores of its items. Since negative items are scored inversely, a higher overall score in each domain indicates a more favorable response and a higher level of safety in that domain. The main version of this questionnaire showed good validity and reliability [29].

The present study used the Persian translation of the PMOS questionnaire. The content validity of the Persian version of the questionnaire was confirmed by 5 faculty members of the School of Nursing and Midwifery. The reliability of PMOS and its domains in the sample of this study showed good reliability (The Cronbach  $\alpha$ , equal to 0.893 for total PMOS, 0.792 for communication and teamwork, 0.689 for organization and care planning, 0.714 for ward types and layout, 0.742 for equipment, 0.662 for roles and responsibility, 0.674 for access to resources, 0.708 for information flow, 0.719 for staff training, and 0.770 for delays). To calculate the tool reliability, the questionnaire was provided to 30 patients hospitalized in the medical and surgical wards who met the inclusion criteria before selecting the main research samples. This number was not calculated as the main sample size of the study.

The researcher attended the study setting in the morning shift and performed continuous sampling using the list of patients planned to be discharged on the same day. Continuous sampling was performed at discharge to ensure patients had sufficient experience dealing with safety-related factors. After explaining the purpose of the study and ensuring the confidentiality of data and the researcher’s volunteer participation in the study, and obtaining informed written consent from patients, the questionnaire was completed by patients in approximately 10 to 15 minutes.

To analyze the data, descriptive and inferential statistics (the independent t-test, analysis of variance, and the Pearson correlation coefficient to compare the overall score of PMOS and its domains with demographic variables) were used. The collected data were analyzed by SPSS software, version 16. The significance level was considered <0.05.

## Results

The study consists of 290 participating patients whose mean age was 50.75±17.36 years. Among these patients, cancer and gastrointestinal, liver, and endocrine diseases were the most frequent, with 20% and 18% prevalence, respectively. Of all participants, 35.1% were diagnosed with the disease for one to six months. The participants’ demographics are presented in Table 1.

Examining the relationship between PMOS overall score and patient characteristics showed that patients’ perspectives toward safety lacked a statistically significant relationship with their demographic characteristics; however, they were related to the disease type (P=0.021).

The highest mean score obtained in safety-related factors from the patient’s perspective was 3.80±1.07 and related to dignity and respect. The lowest score was equal to 3.31±0.66 and related to the domain access to resources.

**Table 1.** Participants’ characteristics and their relationships with the overall patient’s perspective about safety score (n=290)

Variables	No. (%)	Total PMOS		
		Mean±SD	P	
Gender	Man	154(53.1)	3.44±0.52	0.331*
	Female	136(46.9)	3.50±0.50	
Marital status	Single	45(15.5)	3.40±0.51	0.646**
	Married	218(75.2)	3.48±0.51	
	Divorced and widowed	27(9.3)	3.50±0.50	
Income level	Very low	106(37.4)	3.42±0.54	0.361**
	Low	57(17.7)	3.55±0.41	
	Average	127(44.9)	3.48±0.51	
Disease type	Cancer	58(20.1)	3.59±0.50	0.021**
	Orthopedics	44(15.2)	3.26±0.57	
	Neurology	42(14.5)	3.47±0.51	
	Gastrointestinal, liver, and endocrines	52(18)	3.39±0.43	
	Cardiovascular, blood, and diabetes	23(8)	3.57±0.52	
	Obstetrics and gynecology	14(4.8)	3.34±0.37	
	Respiratory	14(4.8)	3.41±0.74	
	Infectious	14(4.8)	3.56±0.31	
	Other	29(9.7)	3.66±0.45	

Variables	No. (%)	Total PMOS		
		Mean±SD	P	
Duration of illness (m)	<1	61(21.7)	3.38±0.59	0.281**
	1-6	99(35.1)	3.46±0.47	
	6-12	39(13.8)	3.58±0.43	
	>12	83(29.4)	3.49±0.54	
Previous experience with hospitalization	Yes	137(47.2)	3.49± 0.50	0.589*
	No	153(52.8)	3.45±0.52	
Number of hospitalizations	1-2	70(51.1)	3.44±0.45	0.369**
	3-4	27(19.7)	3.54±0.55	
	6-5	17(12.4)	3.41±0.65	
	≥7	23(16.8)	3.63±0.46	
Duration of hospitalization	Less than a week	152(52.4)	3.51±0.51	0.432**
	One to two weeks	78(26.9)	3.44±0.49	
	Two weeks up to a month	42(14.5)	3.46±0.56	
	One month and more	18(6.2)	3.31±0.39	
Age			50.75±17.36	r=-0.01 P=0.812***

PMOS: Patient measure of safety.

\*The Independent t-test, \*\*Analysis of variance; \*\*\*The Pearson correlation coefficient.

Other domains' mean scores include information flow 3.55±0.71, ward type and layout 3.54±0.92, equipment (design and function) 3.51±0.80, communication and teamwork 3.48±0.65, roles and responsibility 3.43±0.95, staff training 3.38±0.89, organization and care planning 3.35±0.59, delay 3.35±0.91, and total score 3.47±0.51.

## Discussion

Patient feedback in this study revealed two critical issues. First, the concepts of safety and quality of care are typically equivalent for patients, and they do not differentiate between them; they might use these concepts interchangeably. Second, patients have had various care experiences, and at least once, they might have experienced a lack of safety and dissatisfaction with the quality of care. Patients' care needs and priorities seem dissimilar, making their definition of safety very personal and within their expectations and experiences. In other words, patients assess safety through the lens of their needs, and their attitudes toward safety-related factors are diverse.

Patients had the most favorable view of dignity and respect, while their view of access to resources was un-

favorable. Patients usually define safety-related factors as different dimensions of service quality. Since service quality and access to resources vary in different communities and even centers, patient reports and priorities set by them will also vary in different care centers [17, 19].

A respectful relationship with the patient and considering them important and valuable individuals creates a sense of dignity in them [30]. Maintaining politeness and respect while communicating with the patient, creating reassurance through careful listening, paying attention, and understanding their questions will create a feeling of dignity and safety in patients [31]. New et al. similarly showed that the more attention is paid to the patient's respect and dignity, the stronger the patient's sense of safety [17]. Portuguese patients also considered the receptivity, empathy, and attention of healthcare workers essential for safety [10]. On the other hand, experiencing inconsistent care, waiting to receive care, and delays in providing services during their hospital stay make patients feel unsafe and affect the quality of care [32]. Patients' access to appropriate resources and services significantly depends on coordinating care, therapeutic

tic, and support services [33]. Practical and appropriate guidance and management through empowering staff and allocating sufficient resources for safety programs and nurses to spend more time on direct patient care will improve patients' safety [34, 35].

Patients with cancer, cardiovascular and blood diseases, and diabetes had a more favorable general view of safety than orthopedic patients. The priorities, care, and treatment needs of individuals of different health statuses can increase their sensitivity in identifying safety-related factors [36]. Deterioration and complexity of the disease, comorbidities, and dysfunction of self-care abilities that make the patient dependent on others to meet their basic needs correlate with the type and severity of adverse events and influence patients' attitudes towards safety [37].

These issues indicate the importance of prioritizing and evaluating care based on patients' basic postoperative care needs, their impact on their health status, and their views on safety. Accordingly, patients can assess safety at the general level as favorable or unfavorable, depending on their care needs and the extent to which they are met.

This study population was not restricted to a specific group of patients and included a wide range of patients with entirely different care experiences; therefore, it is preferable to study people with similar diseases and conditions to achieve more accurate results. To achieve and benefit from patients' safety-related experiences, it is recommended that quantitative assessment tools be combined with qualitative data collection methods such as interviews, and more valid data be obtained through a mixed-method study.

Patients have a unique and distinct view of safety greatly that is influenced by interpersonal factors in the care setting. Effective communication with patients, leading to their adequate knowledge of staff roles and tasks, significantly impacts creating a sense of safety in patients. Furthermore, patients' confidence in the health team staff and reliance that their treatment needs and priorities are considered in an organized and planned manner creates a sense of security. Undeniably, to ensure that patients receive safe care, providing behavior based on respect and dignity is essential. Behavior accompanying respect and dignity leads to effective communication with patients, builds trust between the patient and the care provider, and is beneficial to the patient's perception of safe care. Another noteworthy point is that the concept of safety for patients is understood as a subset

of the larger concept of care quality. Therefore, continuous monitoring of patient feedback on satisfaction with the quality of services can reveal safety-related shortcomings and deficiencies.

## Ethical Considerations

### Compliance with ethical guidelines

The researcher ensured that participants' identities and information would be kept confidential. In addition, they were given a detailed explanation regarding the study's purpose and methods. Informed consent was obtained from all the participants. The Ethics Committee of the [Iran University of Medical Sciences](#) has approved this study (Code: IR.IUMS.REC.1398.998).

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### Authors' contributions

Conceptualization: Maryam Ehsani and Fatemeh Marandi; Data collection and analysis: Fatemeh Marandi and Shima Haghani; Writing the article: Fatemeh Marandi; Editing: Maryam Ehsani and Mansoureh Ashghali Farahani; Final approval: All authors.

### Conflict of interest

The authors declared no competing interests.

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