

# Hospital Survey on Patient Safety Culture in Iran

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## Abstract

**Background:** Patient safety culture is a critical criteria in measuring the quality of health care. In this study, to assess and measure the culture of patient safety in referrals hospitals of Tehran affiliated Islamic Azad University Tehran Medical Sciences branch and compare this findings with benchmark scores using HSOPSC.

**Method:** We used the HSPSC questionnaire version 2010 to assess 12 dimensions of patient safety culture from 3 hospitals in Tehran capital of Iran. This study was conducted in Jan to Dec 2015. In this study enrolled 384 healthcare workers including nurses, midwives, technician and health workers. We used SPSS version 0.8 for statistical analysis.

**Result:** Totally 384 participants were enrolled of which 300 participants were responded validly. Response rate approximately was 78%. The positive response rate for each item ranged from 19.7% to 84.3%. The mean age of participant's 36.19±6.98 years old. There was a significant statistical difference in groups of different ward and job.

**Conclusion:** The results of this study show patient safety culture in the health care workers in hospitals of Iran is moderate and weak.

**Keywords:** Patient Safety Culture, Hospital Questionnaire, Health Care Workers, HSOPSC

## INTRODUCTION

Patient safety is the new, an important and crucial part of high-quality health care that was defined as "who that decrease the risk of adverse events dependent on medical diseases and conditions, diagnoses and medical care (1-4)." Today's in developed country the assessment of patient safety culture is a priority and an effort to "Building a Safer Health System" (1-3). Patient safety culture is a complex framework of individual's behaviors including of beliefs and values that help to reduce the patient harm and increasing patient safety standards (4, 5). According to the AHRQ<sup>1</sup> patient safety culture such as the ability to self-reporting errors, reporting the small errors and safety audit rating (5-7). Assessment the patient safety culture is important for hospitals and health care workers to improve and better patient safety in the health care procedures (5, 7). According to the AHRQ, the HSOPSC<sup>2</sup> is an instrument for measuring the safety culture of hospitals (8). HSOPSC has good testing item and criteria, such as analysis, exploratory and confirmatory factor analysis and dependency analysis (5, 8). Too many studies tested HSOPSC and they have well-supporting documentation (9). In this study, we analyzed the experiences of patient safety culture in Iranian healthcare workers based on Hospital Survey on Patient Safety Culture of AHRQ. The aim of our study was to measure the patient safety culture in referrals hospitals of Tehran affiliated Islamic Azad University Tehran Medical Sciences branch and compare these findings with benchmark scores using HSOPSC.

## METHODS & MATERIALS

### Questionnaire

Hospital Survey on Patient Safety Culture (HSOPSC) was obtained by Agency for Healthcare Research and Quality (AHRQ) in 2004 that every year get a new revision (1). In this study used HSOPSC questionnaire of 2010 version that version was designed with 42 items of patient safety culture to assess 12 dimensions of health care (2).

HSOPSC questionnaire items were based on the Likert response scale (5 points) of ("Strongly disagree" to "Strongly agree") or frequency ("Never" to "Always") (2).

### Sample

This study was conducted in Jan to Dec 2015 (full year) in the three referrals hospitals of Tehran affiliated Islamic Azad University Tehran Medical Sciences branch. Participants provided at least one-year activity history in the hospital can be enrolled in this study. In this three hospitals 384 healthcare workers at least one year history in hospital were working. In this study enrolled 384, healthcare workers including nurses, midwife's, operating room technician and health workers.

The hospitals and departments permission was conducted and this study was approved by the research ethics committee of the Islamic Azad University Tehran Medical Sciences and was obtained according to the principle of Declaration of Helsinki. Participants provided written voluntary informed consent and we explained any questions if they have a problem in the questionnaire. The valid questionnaires were at least 70% of questions were answered (2).

<sup>1</sup>Agency of Healthcare Research and Quality

<sup>2</sup>Hospital Survey on Patient Safety Culture

**Data collection**

After completed questionnaires and informed consent, removed the invalid and incomplete questionnaires. Incomplete questionnaires, fewer than 70% questions answered and or all the questions answered the same were exclusion criteria.

**Descriptive statistics**

We used SPSS 8.0 (SPSS Inc , Chicago, IL, USA) for statistical analysis and P values less than 0.05 were considered significant.

**RESULTS**

Of 384 studied members, 300 members filled the questionnaires out. Age average of respondents was equal to 36.19 with standard deviation of 6.98 and minimum and maximum age of them was 22 and 56, respectively. 51 members (17%) were male and 249 members (83%) were female; of them, 77.33% were married and 22.37% were single. Majority of studied individuals (72%) had BA degree and the lowest percent (1%) was related to secondary school.

Majority of participants (61.3%) were nurse and most of them (24%) were working in Intensive Care Unit (ICU) (Table 1).

Results showed that Javaheri Hospital had the highest patient safety culture compared to other hospitals affiliated to Islamic Azad University of Tehran; Amir al Momenin and Buli ranked after Javaheri Hospital. Also, mean score of patient safety culture in all studied hospitals obtained to 39.79% that is a low to average level (Table 2).

Among dimensions of patient safety, information transfer with score of 76.5% and non-punitive reactions to mistakes with score of 60.44% had the highest scores; the lowest score was related to team work inside of organizational units with mean score of 21.7%, while other dimensions such as organizational learning and continuous progress (21.44%), reaction to mistakes (22.22%), frequent reporting (21.44%) and open communicational channels (30.22%)

obtained scores equal to teamwork inside of organizational units. the mentioned dimensions obtained the minimum score among other dimensions of [patient safety culture (Table 3).

**Table 1. Demographic statistics of respondents**

Gender	Male	51 (17%)
	Female	249 (83%)
Age	Average	36.19
Marital status	Single	68 (22.66%)
	Married	232 (77.33%)
Education level	Secondary school	3 (1%)
	Diploma	43 (14.3%)
	Associate degree	29 (9.6%)
	Ba	216 (72%)
	Ma	9 (3%)
Job	Nurse	184 (61.3%)
	Midwife	24 (8%)
	Operating room technician	17 (5.7%)
	Anesthesia technician	16 (5.3%)
	Paramedic	12 (4%)
	Nurse's aid	47 (15.7%)
Workplace	Internal medicine unit	29 (9.7%)
	Surgery unit	44 (14.7%)
	Maternity unit	23 (7.7%)
	Children's unit	19 (6.3%)
	Icu	72 (24%)
	Emergency	35 (11.7%)
	Operating room	41 (13.7%)
	Birth center	24 (8%)
	Other units	13 (4.3%)

**Table 2. Descriptive statistics of patient safety culture in hospital affiliated to Islamic Azad University of Tehran**

Hospital Name	Number	Mean	SD
Buali	118	35.46%	9.06%
Amir al Momenin	137	38.37%	9.10%
Javaheri	45	55.43%	17.03%
Total	300	39.79%	55.12%

**Table 3. Descriptive statistics of "patient safety culture" in hospitals affiliated to Islamic Azad University of Tehran**

Variable	Mean	SD	Number
General perception of safety	43.83%	22.10%	
Organizational learning and continuous progress	21.44%	34.20%	
Manager's actions and expectations	48.92%	23.86%	
Teamwork inside of organizational units	21.17%	30.22%	
Non-punitive reaction to mistakes	60.44%	38.72%	
Relevant affairs to staffs	47.67%	25.34%	
Hospital management's support for patient safety	36%	27.26%	
Teamwork among organizational units	47.58%	21.06%	
Information transfer	76.50%	31.30%	
Open communicational channels	30.22%	29.19%	
Reactions to mistakes	22.22%	30.39%	
Frequent reporting	21.44%	31.13%	

## DISCUSSION

This study was conducted to examine status of patient safety culture in hospitals affiliated to Islamic Azad University of Tehran, Iran. In this research, version 2010 of patient safety culture was evaluated in Iran using HSPSC; questions were responded at 78% level that is in line with studies conducted in China and Taiwan(1, 5) . There were low positive responses to all units compared to conducted studies in Taiwan, US, and China (1, 10). In this research, Javaheri Hospital had the strongest patient safety culture among hospitals affiliated to Islamic Azad University; Amir al Momenin and Buli hospitals were ranked as second and third.

According to the results, the most robust dimensions of patient safety culture in hospitals affiliated to Islamic Azad University of Tehran consisted of information transfer (76.50%) and non-punitive reaction to mistakes (60.44%). However, information transfer had been introduced as the weakest dimension of patient safety culture in study conducted by Ebadi Fardazar et al. (11). In study conducted by Moghri et al. (12), information transfer obtained an average score. In general, non-punitive reaction to mistakes introduced as the weakest point of patient safety culture in majority of studies; however, this dimension was the second strong dimension of patient safety culture in this research. For instance, non-punitive reaction to mistake was introduced as the weakest point of patient safety culture in study conducted by Baghaee et al. (13) this is not matched with result of our study. In this research, the weakest points of patient safety culture included teamwork inside of organizational units (21.17%), non-punitive reaction to mistakes (22.22%), organizational learning and continuous progress (21.44%), and frequent reporting (21.44%); this finding is not in line with results obtained from studies conducted by Abdi et al. (14), Dakheli et al. (15) and Moghri et al. (12) in which, inter-organizational teamwork was introduced as the strongest dimension of patient safety culture. According to Bodur and Filiz (16), frequent reporting is the weakest dimension, while reactions to mistakes and frequent reporting of errors are the weakest points of patient safety culture in accordance with study conducted by Yaghoobifard et al.(15). The mentioned results are matched with results of presents study except for dimensions of organizational learning and continuous progress that were introduced as the weakest dimensions of patient safety culture. In a similar study conducted by Dakheli et al. (15), organizational learning and continuous progress were introduced as strongest dimensions of patient safety culture that is not in line with present study.

## CONCLUSION

According to findings of this study, score of patient safety culture was at a low and weak level among staffs of hospitals affiliated to Islamic Azad University of Tehran and majority of safety culture dimensions obtained weak score. According to necessity of promoting quality of

services in hospitals, patient safety culture should be addressed in hospitals. The studied hospitals should correct their weak points considering their weaknesses and strengths in order to make values, beliefs, and behaviors of staffs in line with cultural values of patient safety. Result of study indicated that some dimensions of patient safety cultures including teamwork inside of cultural units, management support for patient safety, open communicational channels, reactions to mistakes, organizational learning, continuous progress, and frequent reporting were identified as opportunities in studied hospitals.

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