Original Article

Patient Safety Culture: Sample of a University Hospital in Turkey

Ozgur Ugurluoglu[1], Ece Ugurluoglu[2], Pinar Doganay Payziner[3], Yonca Ozatkan[4]

ABSTRACT

Objective: To assess health personnel perspectives of patient safety culture in a 900 bed University Hospital in Ankara, Turkey.

Methodology: Data was collected by the researchers using a survey method. "Patient Safety Culture Survey" developed by Agency for Healthcare Research and Quality was used in the study. The survey was translated into Turkish and checked for validity and reliability. The survey used a 5-point Likert scale.

Results: Overall response rates were 43% overall and most of the respondents (73.1%) were women and while 42.6% of the respondents were nurses, 45% of the respondents have five years or less work experience in the current hospital. The percentage of health personnel holding positive attitude was 72% for teamwork with units, 55% for overall perceptions of patient safety, and 53% for manager actions promoting patient safety.

Conclusion: Patient safety is an important issue in providing quality health services. Health staff should take responsibility about patient safety and related institutions should give priority to develop patient safety culture.

KEY WORDS: Patient safety, Safety culture, University hospital.

Pak J Med Sci April - June 2012 Vol. 28 No. 3 463-467

How to cite this article:

Ugurluoglu O, Ugurluoglu E, Payziner PD, Ozatkan Y. Patient Safety Culture: Sample of a University Hospital in Turkey. Pak J Med Sci 2012;28(3):463-467

INTRODUCTION

Medical errors or patient safety is an important issue in healthcare quality. A report from Institute of Medicine estimates 98,000 deaths annually due to medical errors. In the same report, safety is defined as freedom from accidental injury. This definition recognizes that this is the primary safety goal from the patient's perspective. Error is defined as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Errors can happen in all stages in the process of care, from diagnosis, to treatment, to preventive care. Patient safety must be an important part of organizational culture in healthcare organizations.[1,2] Safety is a fundamental principle of patient care and an important component of quality management. It includes many actions in performance improvement, environmental safety and risk management, infection control, safe use of medicines, equipment safety, safe clinical practice and safe environment of care.[3]

A safety culture assessment provides a healthcare organization with a basic understanding of the safety related perceptions and attitudes of its managers

1. Ozgur Ugurluoglu, PhD,
Hacettepe University, Department of Health Administration,
Faculty of Economics and Administrative Sciences,
Beytepe Campus, 06800/Ankara, Turkey.
3. Ece Ugurluoglu, PhD,
Pinar Doganay Payziner, M.Sc.,
4. Yonca Ozatkan, M.Sc.,
Faculty of Dentistry, Ankara University,
2-3: Department of Health Services Management,
Faculty of Health Sciences, Ankara University,
Ankara, Turkey.

Correspondence:

Ozgur Ugurluoglu, PhD,
Hacettepe University, Department of Health Administration,
Faculty of Economics and Administrative Sciences,
Beytepe Campus/06800/ Ankara,
Turkey.
E-mail: ougurlu@hacettepe.edu.tr

* Received for Publication: October 11, 2011
* Revision Received: January 13, 2012
* Revision Accepted: January 25, 2012

and staff. Safety culture measures can be used as diagnostic tools to identify areas for improvement. Because there are many potential starting points for improvement efforts, a safety culture assessment can help an healthcare organization to identify areas that are considered more problematic than others.[4]

The aim of this study was to assess health personnel perspectives of patient safety culture in a 900 bed capacity university hospital in Ankara, Turkey.

METHODOLOGY

In research, the relationship between health personnel's demographic variables' such as gender, total years of employment, occupation and their perspectives of patient safety culture have been analyzed. The subjects who participated in this research consisted of 914 doctors, nurses, technicians, secretaries, and other health personnel working at the university hospital who are in peer to peer communication with patients. The questionnaire, used as means to gather data, was distributed to 250 health personnel by random sampling method and 108 (43%) responded. Data was collected by the researchers using "Hospital Survey on Patient Safety Culture (HSOPSC)" which was developed by AHRQ (Agency for Healthcare Research and Quality)[5] and translated into Turkish and was checked for validity and reliability by Filiz (2008).[6] The survey has 12 dimensions and 42 items. The survey consists of questions evaluating patient safety culture on a unit basis, a hospital basis and questions containing outcome measures. Furthermore, the survey contains 8 questions that evaluate personal information and 18 questions were asked in reverse direction. The survey used a 5-point Likert scale of agreement (''strongly disagree'' to ''strongly agree'') or frequency (''never'' to ''always'').

In order to compute patient safety culture, HSOP-SC user's guide has been used. Patient safety culture dimensions were evaluated as ''positive'' if the actual response was 'agree/strongly agree'' or ''most of the time/ always'' in positively worded questions, and ''disagree/strongly disagree'' or ''rarely/never'' in reverse-worded questions. The scores on patient safety were converted to percentages. Since (with the Q-Q graph) the data was distributed normally, the test of importance of the difference between two averages, one-way variance analysis and the Scheffe test were used to determine from which group the differences originate.

RESULTS

When the descriptive findings were analyzed, it is seen that 73.1% of the respondents were female, the average age of the overall respondents is 33 and 42.6% of the respondents had five years or less work experience. While most of the respondents were nurses (42.6%), 27.8% were doctors and 29.6% were other health personnel such as pharmacists, technicians, dieticians and secretaries.

Table-I shows holding positive attitudes on health safety culture dimensions. Accordingly, respondents' highest positive answer average (72%) resides in "team work within units". On the contrary, the average of respondents holding positive attitudes for teamwork across units is seen to be quite low (35%). Also in the last 12 months, while 74.1% of the respondents have not sent any reports on patient safety violations, 17.6% have reported 1-2 incidents and 8.4% have reported three or more incidents.

Table-I: Percentage Averages of Positive Response on Patient Safety Culture Sub Dimensions (Comparing with 2010 AHRQ Data).

Patient Safety Culture Sub Dimensions	*Sample Hospital*	*AHRQ*
Teamwork within units	72%	78%
Manager actions promoting patient safety	53%	72%
Organizational learning and continuous improvement	52%	70%
Non-punitive response to error	40%	39%
Management support for patient safety	32%	68%
Overall perceptions of patient safety	55%	60%
Feedback about error	39%	62%
Communication openness	38%	60%
Frequency of events reported	25%	59%
Teamwork across units	35%	51%
Staffing	31%	51%
Handovers and transitions	44%	39%
Average across composites	43%	59%

Table-II: Comparing positive response percentage averages of patient safety culture sub dimensions according to gender.

Patient Safety Culture Sub Dimensions	*Gender*		*t*	*p*
	Female	*Male*		
Teamwork within units	70.9	74.1	-0.430	0.668
Manager actions promoting patient safety	55.4	44.8	1.500	0.137
Organizational learning and continuous improvement	56.5	37.9	2.456	0.016
Non-punitive response to error	33.8	56.3	-4.321	0.000
Management support for patient safety	33.3	29.9	0.411	0.682
Overall perceptions of patient safety	56.0	51.7	0.569	0.570
Feedback about error	44.7	23.0	2.847	0.005
Communication openness	42.6	25.3	2.610	0.010
Frequency of events reported	27.8	16.1	1.423	0.158
Teamwork across units	34.8	34.5	0.039	0.969
Staffing	30.1	31.9	-0.546	0.586
Handovers and transitions	45.9	39.7	0.858	0.393

The t-test results of respondent's patient safety culture dimensions' positive response score averages variance to gender is shown in Table-II. The results of the analysis show that, holding positive attitudes for organizational learning and continuous improvement (t=2,456, $p<0.05$), non-punitive response to error (t=2.847, $p<0.05$), feedback about error (t=2,847, $p<0.05$) and communication openness (t=2.610, $p<0.05$) statistically show significant differences according to gender. In other words, positive response scores of these dimensions vary in accordance with the gender of the responding participant. Female participants' positive scores for organizational learning and continuous improvement (56.5%), feedback about error (44.7%), and communication openness (42.6%) are seen to be higher than male participants while male respondents' positive scores for non-punitive response to error (56.3%) are higher than females (33.8%).

The ANOVA test which compares the research participant's positive attitudes to patient safety culture dimensions with their total years of work experience (Table-III), shows that there is a significant difference between total years of work experience and respondents' positive scores on teamwork within units (F=4.653, $p<0.05$), organizational learning and continuous improvement (F=5.716, $p<0.05$), non-punitive response to error (F=4.863, $p<0.05$), management support for patient safety (F=3.780, $p<0.05$), overall perceptions of patient safety (F=8.988, $p<0.05$. Scheffe test also has been conducted to determine the source of the differences. The results show that respondents with five years or less work experience hold more positive attitudes for non-punitive response to error than others. Respondents with 6 to 15 years of work experience have reported more positive attitudes for teamwork within units

Table-III: Comparing positive response percentage averages of patient safety culture sub dimensions according to participants' total years of employment.

Patient Safety Culture Sub Dimensions	*Total years of employment*			*F*	*p*
	5 years and less	*6-15 years*	*16 years and more*		
Teamwork within units	60.3	80.7	79.6	4.653	0.012
Manager actions promoting patient safety	44.6	58.6	58.3	2.469	0.090
Organizational learning and continuous improvement	39.1	57.1	65.4	5.716	0.004
Non-punitive response to error	48.6	33.3	33.3	4.863	0.010
Management support for patient safety	21.0	39.0	43.2	3.780	0.026
Overall perceptions of patient safety	39.7	67.9	63.9	8.988	0.000
Feedback about error	31.2	43.8	45.7	1.865	0.160
Communication openness	31.2	39.0	48.1	2.597	0.079
Frequency of events reported	21.0	33.3	19.8	1.341	0.266
Teamwork across units	25.5	46.4	35.2	3.065	0.051
Staffing	33.7	27.9	28.7	1.708	0.186
Handovers and transitions	41.3	50.7	40.7	0.982	0.378

Table-IV: Comparing positive response percentage averages of patient safety culture sub dimensions according to participants' occupations.

Patient Safety Culture Sub Dimensions	*Occupation*			*F*	*p*
	Nurses	*Doctors*	*Others*		
Teamwork within units	72.8	62.5	78.9	1.794	0.171
Manager actions promoting patient safety	60.9	37.5	54.7	5.133	0.007
Organizational learning and continuous improvement	64.5	31.1	52.1	9.151	0.000
Non-punitive response to error	30.4	54.4	39.6	8.914	0.000
Management support for patient safety	37.7	14.4	41.7	4.958	0.009
Overall perceptions of patient safety	60.3	34.2	66.4	8.857	0.000
Feedback about error	53.6	18.9	36.5	9.789	0.000
Communication openness	52.2	22.2	32.3	10.626	0.000
Frequency of events reported	38.4	5.6	22.9	7.584	0.001
Teamwork across units	34.8	30.0	39.1	0.428	0.653
Staffing	31.5	31.7	28.1	0.562	0.572
Handovers and transitions	46.7	44.2	40.6	0.312	0.733

(80.7%) and overall perceptions of patient safety (51.7%). In addition, respondents with a work experience of 16 years and more have given higher positive scores for management support for patient safety and organizational learning and continuous improvement.

Table-IV outlines ANOVA test results showing whether participants' occupations differentiate their positive response percentage averages on patient safety culture dimensions. On 8 patient safety dimensions, significant statistical differences were found according to participants' occupations. According to the Scheffe test results, doctors and nurses have different notions and nurses have higher positive averages in the dimensions of manager actions promoting patient safety, organizational learning and continuous improvement and feedback about errors while doctors (54.4%) have higher positive response scores than nurses (30.4%) for non-punitive response to error.

DISCUSSION

One of the key findings in this study is that the average of respondents holding positive attitudes towards teamwork within units is seen to be high and the attitudes towards teamwork across units is seen to be quite low. Similar results have been reported by other studies on patient safety culture.[7-14] Health personnel appear to work in cooperation in their work units but they do not feel the same way about working as a team across units in the hospital. Some of the previous surveys have examined individual work units but examining the entire hospital would give better understanding of the patient safety culture overall.

In our study "frequency of events reported" (25%), has been found the lowest average. Similar results have been reported by other studies.[7,8,14] These study results show that more than three quarters of the physicians and nurses were not reporting errors. Singer et al[15], in their research found that approximately 33% of respondents said that they were not rewarded for taking quick action to identify a serious mistake, and in the same study 28% of the respondents reported that they believe they would be disciplined if a mistake they made was discovered. In our sample hospital the observation may also be the result of fear of punishment for identifying and making mistakes. Kim et al[16] suggest that patient safety could be improved in a non-punitive culture where individuals can openly discuss medical errors and potential hazards.

On the other hand, the dimension that had the lowest percentage of positive responses was "staffing" both in our study and in other international studies, meaning that most of the respondents feel that staff allocation is not adequate to handle patient safety related workload.[9-13] Rogers et al[17] state that the risks of making an error were significantly increased when work shifts were longer than twelve hours, when nurses worked overtime, or when they worked more than forty hours per week nurses experience more adverse events (risks about patient care) when they work more than 12 hours in the hospital.

The average positive response rate for the 12 patient safety culture dimensions of our survey was 43%, lower than the AHRQ data[18] (59%). When positive score percentages concerning dimensions were compared with via benchmarking, all of the dimensions were found lower then AHRQ (Table-I).

Health care organizations should become aware of the importance of improving patient safety and should give priority to develop patient safety culture. Health personnel should also take responsibility about patient safety. Hospital management need to focus on the safety culture dimensions that need improvement.

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Authors Contribution: The data was collected by Ozgur Ugurluoglu, Ece Ugurluoglu, Pinar Doganay Payziner and Yonca Ozatkan. The data was analyzed by Ozgur Ugurluoglu. The literature research was done by Ece Ugurluoglu and Pinar Doganay Payziner and all authors have contributed in preparation of final manuscript.