



## **Employers' view about patient safety culture**

**Paryad Ezzat<sup>1</sup>, Rouhi Balasi Leila<sup>2\*</sup>, Ghanbari Atefe<sup>1</sup> and Dehghani Fatemeh<sup>3</sup>**

<sup>1</sup>*Social Determinants of Health Research Center(SDHRC), Guilan University of Medical Sciences, Rasht, Iran*  
<sup>2</sup>*Medical Educational Research Centre, Education Development Center, Guilan University of Medical Sciences, Rasht, Iran*

<sup>3</sup>*Department of Nursing, Guilan University of Medical Sciences, Rasht, Iran*

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### **ABSTRACT**

*One of the most prominent human rights is safety against dangers and harm while receiving health services. Safety Culture is one of the effective factors to improve patient safety in these centers. In fact, patient safety culture indicates the priority level of patient safety from the employers' view. This study has been done with the goal to determine the health employers' view about the patient safety culture in health centers in Rasht. This cross-sectional study whose population includes health employers in educational medical centers in Rasht as 384 samples involving 312 nurses, 24 radiology staff and 48 laboratory staff selected by using stratified random sampling. This study instrument was Patient Safety Culture Questionnaire with 51 phrases, including two areas namely the safety culture's dimensions and consequences. Data analysis has been done by descriptive and inferential statistics methods such as chi-square in SPSS version 16. The results showed that the majority of the participants had favorable view about the safety culture's dimensions (62.2%). 48/3% of the participants had favorable views and 44/6% had unfavorable views about the safety culture's outcomes. Chi-square test demonstrated a significant relationship between the type of employment and the outcomes of safety culture ( $p>0/007$ ,  $\chi^2=12.08$ ). Relationship between the other individual and social variables and consequences of the safety culture was not significant. Based on our findings about unfavorable views in many of samples and significant correlations have been found between the type of employment and the consequences of safety culture and that the individuals with greater job stability had a more favorable view, it seems to be a step in the direction of stabilizing employment to improve patient safety culture.*

**Key words:** Safety climate, Patient safety culture, Patient safety

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### **INTRODUCTION**

Patient safety as one of the main components of health service quality(1-6), means to shield the patient against any kind of injury and harm while providing health service and it encompasses cases such as medication errors (mistake in the kind or the dose of the prescribed medicine), surgeries (doing it on the wrong spot, using incorrect technique, post-surgery complications) ,faulty diagnosis (delayed diagnosis, lack of diagnosis, incorrect diagnosis), defective devices and equipment leading to wrong diagnosis and in cases like nosocomial infections, patient falling, bed sores, faulty treatment ,incomplete or incorrect registration ,delayed patient care(7, 8).No issue contradicts the health care philosophy as it does with harming the patient(9).Despite permanent caution taken by the health care providers to maintain patient safety in health care environment ,the outcome of patient safety is still one of the most important challenges of the health care system(5, 7, 10-12) .In fact, during the last two decades, this thought as health system

not being safe enough and requiring improvement and promotion, it has been globally focused on(13, 14) and about these cases called lack of safety , we can mention medical errors(15). In the U.S, medical errors are the 8<sup>th</sup> cause behind deaths(7, 16) .In Iran also the studies imply the condition of drug prescription as inappropriate and lots of drug interactions in the prescriptions. Besides, in the studies investigating public complaints, it has been revealed that the proved medical personnel negligence includes 42-53% of the complaints; out of these complaints, 22-44% are related to death, 35% side effects and 27% to physical injuries(9).

There are various factors such as human (knowledge and performance), technical, equipment, care providing environmental conditions, the factors related to disease, organizational (like policies and codes) and care team inconsistency are effective in creating error. Though most world communities such as WHO assume that medical errors and the patient safety threatening events mainly occur due to faulty systems and the problems of care provision(7, 9, 17).

One of the influential factors promoting patient safety level in health-treatment centers is patient safety culture in such centers(8, 11, 18-20).The patient safety culture indicates the priority of patients' safety from the personnel's view in their working places and organization(1, 8, 18). And it denotes safety thoughts and performances consensus in clinical activities(18, 21). Promoting patient safety in health care system is associated with patient safety culture and some researchers believe that the key to boost quality may be located in this form of organizational change(3, 21, 22) .The cases like not concealing errors and events and disclosing them ,training employees about patient safety ,various errors reporting system, using reporting systems data to enhance the processes ,decreased blaming of the individuals, team personnel ,clear-cut communications between the units, departments and their cooperation with one another for the patient's interests and the organization leadership paying attention to security and concentrating on the organizational drawbacks are of the vivid characteristics of such a culture(8, 21, 23). In addition, patient safety culture has some dimensions as to the expectations and actions of the manager or the supervisor about safety promotion ,constant improvement ,organizational learning, team work, explicit and implicit communications, alerting the employees about errors emergence and giving feedback in this regard ,non-punitive response to mistakes, medical team and their relevant issues ,hospital management supporting patient safety ,team work between hospital units and shift transfer and replacement in the hospital and also 4 outcomes of patient safety culture are errors reporting frequency, general perception of safety, hospital score in patient safety and the reported errors number(8).Obviously ,analyzing each of these dimensions and outcomes can help to explain the views of the employees working in educational and treatment centers.

It seems that in the units where patient safety has lower standard level, more mistakes are also made(13). Besides creating injury and harm, medical errors can cause increased hospitalization duration, additional measures, additional receptions and increased treatment costs(9, 24, 25). For this, today removing or decreasing these errors and raising care safety has turned as a global priority(26) .On the one hand, due to the Health Minister's issued instruction (2009), clinical services governing plan has been considered as the health ministry priority to boost treatment services quality .One of the most important and emphasized cases in the clinical services governing plan is paying attention to patient safety(9).

Various factors such as society, patients, nurses, nursing instructors, managers and researchers, doctors, governments and legislators and professional institutions are in charge of guaranteeing the provision of safe care and harm outbreak prevention(7) . The employees themselves usually, more than the errors causes 'analysis, play roles in promoting patient safety culture and are taken as the master key in this respect(13) . Despite the significance of this issue, no study has been performed about the patient safety culture dimensions in Guilan. It seems that analyzing the employees' perspective about safety culture, its dimensions and outcomes can be viewed as the first steps to identify the status quo, to plan for patients safety promotion and finally, to lower nursing errors occurrence .

## EXPERIMENTAL SECTION

The present research is cross-sectional and its population consists of the employees working in Rasht educational medical centers. The total nursing, lab and radiology employees have been 1531 individuals out of whom1244 have been nurses, 96 radiologists and 191 lab staff. The required sample size to determine confidence interval 95% about safety culture from Rasht based educational medical centers' employees' perspective has been defined based on the study results derived by Baghaie (13) and considering estimate error limit as 0.05% and P=0.8 for 384 ones. Regarding that the total nursing, radiology and lab personnel in Rasht based educational medical centers are 1531

individuals and considering the ratio of each staff category totally 312 nurses, 24 radiology personnel and 48 laboratory personnel have entered the study after filling in the written consent.

In this research, the patient safety culture evaluation questionnaire designed by US health quality and research agency in 2004 has been used, it has been revised every year and applied over and over in order to evaluate the hospital personnel's comments about patient safety culture in various parts of the world(13, 24). The mentioned tool has been psychometrically evaluated in Iran by Mogheri through confirmatory factor and its Persian version has been provided(27). This tool includes 51 questions dealing with 4 dimensions of patient safety culture such as general perception of safety ,errors and mistakes reporting frequency ,the reported errors number ,hospital score in safety and also 10 dimensions of patient safety culture covering the manager's expectations and actions regarding safety promotion ,constant promotion ,organizational learning ,intradepartmental team work ,implicit and explicit communications ,making the employees aware of the emerging errors and giving feedback in this regard , non-punitive response to the errors , medical team and their related issues , the hospital management supporting patient safety ,team work between hospital units and shift transfer and substitution in the hospital are evaluated .The questions based on 5-option Likert spectrum including " absolutely disagree " to " absolutely agree " evaluate diverse patient culture dimensions. Scoring has also been according to the questionnaire' scoring instruction, the agreed or absolutely agreed options have been categorized in the positive answers, no-comment based options in neutral answers and disagree or absolutely disagree options in negative answers .The dimensions whose positive score is at least 50% are acceptable and the dimensions that those score is less than this level probably aren't optimal(8).

In the present research, samples have been selected by stratified random sampling among the employees working in Rasht educational medical centers. The data have been analyzed by descriptive statistics (frequency distribution, mean and standard deviation) and inferential statistics (Chi-square test and independent t-test and Pearson) in SPSS16.

## RESULTS

The study units in this survey had mean age as  $32.46 \pm 6.9$  (ranging 22-54) .The study personality traits and social features representing the majority of them as nurses have been given in table 1.

**Table 1: Social-demographic variables of samples**

Distribution	variable	percent
Education level	associate	4.2
	baccalaureate	94.3
	Master degree	1.3
	PhD	0.2
	sum	100
Working field	Radiology field	5.2
	Laboratory field	10.4
	nursing	84.6
	sum	100
employment type	Official	14.1
	contract	62.8
	Committed to service	11.7
	miss	11.3
	sum	100
Job history(yaer)	2≥	30.9
	3-10	52.8
	11-30	16.3
	sum	100
Working hours(week)	40≥	53.6
	40<	46.4
	sum	100
Direct relationship with patients	yes	92.2
	no	7.8
	sum	100

**Table 2: The employees' perspective about the sum of patient safety culture dimensions totally**

variable	Distribution	percent
favorable view	62.2	
unfavorable view	37.8	
sum	100	

The results about the personnel's perspective on safety culture's dimensions indicate that the majority of the study units gave positive answer above 50% to the sum of the safety culture's dimensions (62.2%). This answer was favorable about the patient safety culture outcomes showed that 48.3% of the units had favorable perspective about safety culture outcomes while 44.6% of the units had unfavorable perspective and 7.2% didn't answer this part.

The results gained about employees' perspective on safety culture dimensions have been presented in table 2. About the reported errors number within 12 months, also the results showed that 30.7% of the units have had one or two reported errors within 12 months.

Regarding the questions of safety culture dimensions, the answers were as the following: Continuous Improvement and organizational learning ( $7.55 \pm 2.04$ ), intradepartmental team work ( $11.04 \pm 2.69$ ), making the employees aware of the emerging errors and giving feedback ( $7.25 \pm 2.39$ ), non-punitive response to the faults ( $6.57 \pm 2.23$ ), hospital support and management ( $6.08 \pm 1.59$ ) and team work between the hospital units ( $8.14 \pm 1.95$ ) were more than the mean tool. On safety culture outcomes, the mean responses about two safety general perception outcomes ( $8.46 \pm 2.09$ ) and errors and faults reports frequency ( $6.24 \pm 5.06$ ) were also more than mean tool.

Performing chi-square test implied that there had been no significant relationship between employment type and safety culture dimensions while doing chi-square test confirms the significant statistical relationship between employment type and safety culture outcomes ( $P > 0.007$ ,  $X^2 = 12.08$ ). Though, the results denoted that there is no significant statistical relationship between safety culture dimensions and outcomes and the other demographic features including age, education level and work background.

## DISCUSSION

The current study results suggested that about the sum of safety culture dimensions, though the majority had favorable perspective, a high percentage of the units had unfavorable perspective about safety culture. Considering that this number included one third of the study units and given the importance of robust safety culture in the treatment and care service centers, it seems that a special planning has to be developed in order to provide the appropriate training to promote the employees' perspective about the significance and necessity of safety culture in the centers. The existence of such a culture can enhance commitment to learning from faults, decrease damage due to nursing cares provision and increase the patients getting satisfaction and the employees responsibility. This point has been emphasized in the study by Baghaie and Haffman(13, 28, 29). In this respect, in the research by Abdi et al. titled the employees' perception of patient safety culture in Tehran, it has been demonstrated that the study hospitals positive scores in 10 dimensions of culture and 2 dimensions of the outcomes of the existing safety culture ranged low to average(8).

In this survey, the majority of the study units have reported one or two errors during the recent 12 months. Baghaie's study has analyzed patient safety culture in Orumiyeh. Also the majority of the units stated that within the past 12 months, they reported 1 or 2 errors in their working site(13). In the study by Abdi, it has been suggested that in the last 12 months, on average 1-2 errors have been reported in hospital A but in hospitals B and C, no error has been reported(8). However, in the study by EL-Jardali and Fard-azar, the majority of the staff had no error reported in their background(1, 30).

About constant promotion and organizational learning, the results support available acceptable condition. And these findings are compatible with those of Mahfozpour(31). It seems that holding educational workshops, retraining sessions, regular seminars and conferences in the treatment centers is essential in order to promote the personnel. It has been observed in the current research that intradepartmental team work has been optimal. In the study by Izadi and Van Noord, this dimension has been optimal(32, 33). Though, in Abdi's research, the positive answers % to this dimension has been less than 50% of the cases in two hospitals but above 50% and optimal in one hospital(8). About

this finding, it has to be claimed that care and treatment tasks in any field will be done successfully and easily through the coworkers' cooperation .Besides exerting positive influence on the patients' outcomes, team collaboration in these cases will lead to boosted empathy among the care and service providers. Advancing safety culture, take part in quality management and are at least in part reflected in the certification of healthcare quality(34).

In the present study, it has been found out that the mean answers to making the employees aware of the emerging errors and giving feedback has been optimal. In the survey by Chen and Izadi, this dimension has been optimal(32, 35) but this finding isn't consistent with Bodur's results titled analyzing safety culture in Turkey(36) . Regarding this finding, it may be judged by starting programs like clinical governing program deployment. Considering this program deployment and the errors registration resulting in presenting feedback, it has probably influenced this finding.

In this study, the mean answers to the faults non-punitive aspect was more than the mean tool. In the research by Izadi, this dimension has been relatively good(32). In the survey by Baghaie, Hellings and Abdi, the mean positive answers to this aspect has been less than 50% (8, 13, 37). In this research, the mean answers to hospital support and management dimension has been more than the mean tool. In the study by Mahfozpour and Chen and Izadi ,this dimension's score has been above mean(31, 32, 35).While in the survey by Bodur , Baghaie, and Van Noord ,this aspect hasn't been favorable(13, 33, 36). Of course ,it's worth mentioning that the tool kind namely questionnaire may have influenced the findings and yet ,observing condition may have accompanied some other findings .In the hospital inter-units team work ,the results have implied optimal condition. In the research by Hellings, Izadi, EL-Jardali, the mean answers to this aspect has been more than 50%(30, 32, 37). However, in Abdi's study, this aspect has been less than the mean(8). Besides, in this study, about the existing safety culture outcomes, the perspective of around half of the employees has been negative answer in line with the study results of Izadi(32).Though, the outcomes out of safety culture lead to promoting care and service for the patients and help the health economic condition and thus lower the costs due to lack of safety culture. Of course, the statistical test verifies the meaningful relationship between employment type and safety culture outcomes .It seems those who are confident about their employment in the educational medical centers pay more attention to safety condition of their occupational process. It seems that creating job stability is a step towards enhancing patient safety culture.

Of the executive limitations of this plan, we can point out that the study units' psychological status during interview may have influenced the units' answers.

Concerning the favorable perspective of only half of the units about the existing safety culture in the medical centers, it seems that promoting the employees' perspective about the safety culture dimensions and outcomes and holding training workshops are deemed necessary.

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