



## Studying Patient Safety Culture from the Viewpoint of Nurse in educational hospitals Ilam City

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### ABSTRACT

*Introduction: Patient safety culture is the first necessary step to reduce medical errors and improve patient's condition. In this context, this article aims at studying the condition of patient safety culture in hospitals in Ilam in 2016. Materials and Methods: In this cross-sectional study, 150 nurses in Ilam were randomly selected. The Culture Hospital Survey on Patient Safety (HSOPSC) was used and its reliability and validity had been confirmed by the previous studies. The data were analyzed by SPSS17. Results: The results showed that the nurses' safety was at positive ( $62.37 \pm 8.70$ ) and there could be found no significant difference in patient safety among the studied hospitals in this article ( $P < .05$ ). Extra-organizational teamwork and non-punitive response, among the aspects of patient safety, had the lowest means and organizational learning and general understanding had the highest. Conclusion: Considering the importance of patient safety, the interventions need to be performed in order to improve the patient safety condition among nurses, especially in two aspects of extra-organizational teamwork and non-punitive response that had the lowest means.*

**Keywords:** Nurse, Patient Safety Culture, Patient Safety

### INTRODUCTION

In recent years, one of the main components of health care is patient safety [1]. Patient safety refers to preventing any damage and injury to the patient while practicing medical care [2]. Over the past two decades, this idea that health systems are not safe enough and need to be improved has been globally of great consideration. On the other hand, developments on patient safety has contributed to WHO, treatment, and medical services providers to predict the risks and try to find solutions. In fact, the most important and main need for medical services is keeping patients safe [3].

Despite emphasis on patient safety by health systems, many patients are hurt and receive only half of the required treatment processes [1]. Different studies have shown that majorities of these events can be prevented and these events are costly for both patients and medical services provider organizations [4]. It is approximated that about 5-10% of costs in health systems are the results of unsafe and harmful practices. Also, the statistics show that the errors by staff working in medical health care systems can influence 1 patient (out of 10) in hospitals all over the world [5]. Moreover, studies have indicated that the nurses have the highest rate of medication errors, from the perspective of nurses [6].

Attempting to help the patient to be improved is one of the key practices. Improvement in patient safety is one of common international priorities since there are occurring many errors and unnecessary losses in health care practices [7, 8]. The health care providing organizations need a comprehensive system based on patient safety improvement processes in order to reduce errors and response the patients, contributing to establish the patient safety culture and create appropriate organizational mechanisms. The patient safety culture is the culture of active knowledge about the potential errors. Further, it is the culture through which the medical staff are encouraged to talk about errors. In organizations with safety culture, the staff can learn from errors, correct them, and do them correctly [9]. The main purpose of patient safety culture is warning the staff to be responsible for risk reduction, paying compensation to those affected by errors, finding and detecting errors as an opportunity to promote safety, making a safe and non-punitive environment where people can peacefully report errors, and the staff are able to hold information confidentially, are committed to values, accountable, and have honest and open relationships [10].

The first step, to make the safety culture in a health care organization, is evaluating the current culture [11]. Evaluation of safety culture in a health care organization may contribute to identifying the problems, increasing the managers' knowledge from the medical personnel's points of view and is helpful to recognize the conditions that may cause harmful events [12]. Considering the importance of patient safety culture, this article aims at studying the condition of patient safety culture in the nurses in Ilam in 2016.

## MATERIALS AND METHODS

*In this cross-sectional study*, 150 nurses were randomly selected in Ilam. The inclusion criteria were a bachelor degree or higher, working in hospitals in Ilam, and the informed consent.

The collecting data tools were demographic questionnaire and Hospital Survey on Patient Safety Culture (HSOPSC) [13-15]. The demographic questionnaire contained questions on age, sex, degree, work experience, and the numbers of working hours per week and per month. HSOPSC survey had 42 items in 12 different aspects of patient safety culture, including departmental group work (4 items), management support for patient safety (3 items), the expectations and actions of the head of department on patient safety (4), organizational learning and continuous improvement (3), general understanding of patient safety (4), communication and feedbacks on errors (3), frequencies of event reporting (3), open communication (3), inter-departmental group work (4), delivery and transformations in hospital (4), working issues related to the staff (4), and non-punitive response in case of errors (3 items). At the end, the respondents were asked to score their department in terms of patient safety and write the numbers of error reports over last 12 months.

The questions were evaluated the aspects of patient safety culture in a 5-option scale (strongly agree to strongly disagree) and 4 indicated strongly agree and zero showed strongly disagree. In this questionnaire, the option "agree" and "strongly agree" were considered as positive answers, the option "neither agree nor disagree" as neutral, and the options "disagree" and "strongly disagree" were considered as negative answers. The score higher than 75% was a strength, higher than 50% was positive, and lower than 50 was considered as negative score [16, 17].

The researcher referred to hospitals in Ilam and asked the nurses in the morning, evening, and night shifts to answer the questionnaires. If the nurses did not have enough time to answer, the researcher referred in other shifts and times. Regarding ethical considerations, the researcher obtained the ethics committee approval under from Research Center of Medical Sciences University of Ilam and started the project. They included obtaining the approval of hospitals officials, explaining the objectives and process of the project, as well as obtaining oral informed consents from the participants. The data were analyzed by SPSS17. Then, they were described by the table of frequency distribution, mean, and standard deviation, and independent t-test was used to analyze the independent groups. The significance level for this study was considered as lower than 0.5.

## RESULTS

In this study, most of male nurses had bachelor degree and their age average was  $30.95 \pm 8.65$ . The mean of working hours per week for nurses was  $48.50 \pm 11.86$  and per month was  $201.25 \pm 44.42$ . The results showed that the nurses' patient safety culture was at  $62.37 \pm 8.70$  and there could be found no significant difference in patient safety culture among the hospitals ( $p < 0.05$ ) (Table 1). The results also showed that the nurses (participants in this study) reported one, two, three reports and no event on patient safety over last 12 months. Moreover, most of the nurses described their department in terms of patient safety culture as excellent and very good.

Extra-organizational teamwork and non-punitive response, among the aspects of patient safety culture, had the lowest means and the aspects of organizational learning and general understanding of safety had the highest means.

Comparing different scores of aspects of patient safety culture, the nurses had the highest scores in organizational learning (78.54), general understanding of safety (72.45), open communication (71.26), information exchange (70.74), inter-organizational teamwork (68.63), communication and feedback (60.98), management expectation and actions (60), reporting (58.65), management support from safety (55), staff issues (52.43), extra-organizational teamwork (50.93), and non-punitive response (48.93), respectively.

Extra-organizational teamwork and non-punitive response, among the aspects of patient safety culture, had the lowest means and the aspects of organizational learning and general understanding of safety had the highest means (Table 1).

**Table1. Mean scores of patient safety culture from the viewpoint of nurse**

	Hospital A	Hospital B	Hospital(A&B)
organizational learning	78.03± 8.97	79.05± 10.02	78.54± 9.49
general understanding of safety	73.29± 10.72	71.61± 10.21	72.45± 10.46
open communication	70.96± 12.70	71.57± 11.40	71.26± 12.05
information exchange	70.33± 7.45	71.15± 8.09	70.74± 7.77
inter-organizational teamwork	68.75± 7.21	68.51± 8.34	68.63± 7.77
communication and feedback	61.49± 7.64	60.47± 9.31	60.98± 8.47
management expectation and actions	59.82± 15.39	60.18± 7.55	60.00± 11.47
reporting	58.46± 9.23	58.84± 15.35	58.65± 12.29
management support from safety	54.87± 4.24	55.14± 4.13	55.00± 4.18
staff issues	52.70± 6.80	52.16± 7.02	52.43± 6.91
extra-organizational teamwork	51.25± 6.17	50.61± 6.46	50.93± 6.31
non-punitive response	49.01± 7.11	48.85± 7.42	48.93± 7.26

## DISCUSSION

Organizational culture is considered as the main factor of patient safety in hospitals [18] and is the starting point for creating that culture, evaluating the patient safety by an appropriate tool [19]. Evaluating the condition of patient safety culture allows the hospitals to be informed of different aspects of patient safety that need to be considered. It also helps hospitals to recognize their strengths and weaknesses on patient safety. According to Iran's determination to improve patient-friendly and patient safety hospitals, it is of great importance to pay attention to patient safety culture [20].

The results of the present study showed that extra-organizational teamwork and non-punitive response had the lowest means and organizational learning and general understanding of safety had the highest means. In the study by Abdi et al [16], Ravaghi et al [21], Ya'ghubi et al [2], the aspects of non-punitive response and the staff issues had the lowest means. However, Mahfuzpor et al [13] showed that management support had the lowest mean. In the study by Baghaee et al, inter-organizational teamwork had the highest positive score (80%) and non-punitive response to errors had the lowest score. While, 7 aspects had an acceptable condition and 5 aspects were in poor conditions [22]. Amir Ismaeli et al showed that 4 aspects of management support from patient safety, inter-departmental teamwork, non-punitive response to errors, and staff issues were poor [23]. Salavati et al concluded that two aspects of organizational learning- continuous improvement, and non-punitive response were the strengths of patient safety culture in academic and private hospitals. Moreover, the aspect of inter-departmental teamwork was a strength in academic hospitals [15].

Manager and supervisor's expectation and actions means that the supervisor or manager encourages the staff when actions are based on patient safety culture and pays great attention to their suggestions to improve the condition of patient safety culture. When the working pressure is high, the manager (or supervisor) asks the staff to work faster and ignore the problems of patient safety that occur frequently [17]. The nurses scored higher than mean on this aspect; this result conforms to the results by Abdi et al [16], and Baghaei et al [22], in which the nurses could obtain the scores higher than 50. While, the score lower than 50, on this aspect, in the study by Ajali et al [17].

The score obtained for the aspect of general understanding of safety was higher than 50, and was in line with the score obtained by Baghaei et al [22]. This aspect, in the studies by Abdi et al [16] and Ajali et al [17] was lower than 50 and is inconsistent with the results of this paper. Regarding management support from patient safety, it was revealed that the management made an environment in which the safety can be improved. The studies have shown that the safety in hospitals is of great importance and the management treat with problems only when an unwanted event on this issue occurs [17]. This aspect, in this study, could obtain the score higher than 50, conforming to the results by Ajali et al [17] and Abdi et al [16]. This result is inconsistent with the results by Anssi et al [24] who obtained the score of this aspect lower than 50.

## CONCLUSION

Using questionnaires in this study can be named as one of the limitations, which may conceal the accuracy of information for the researcher; therefore, it is recommended to do qualitative researches to achieve further information on the condition of patient safety culture. Also, as patient safety culture is of great importance, interventions are required to improve patient safety culture among nurses, especially in two aspects of extra-organizational teamwork and non-punitive response that had the lowest means.

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## REFERENCES

- [1] McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A, et al. The quality of health care delivered to adults in the United States. *New England journal of medicine*. 2003;348(26):2635-45.
- [2] Yaghobi Far M TA, Haghgoshaye E. The survey of patient safety culture and recognizing its weaknesses and strengths in Sabzevar hospitals: 2011. 2013.
- [3] Nightingale F. *Notes on hospitals: Longman, Green, Longman, Roberts, and Green*; 1863.
- [4] Flin R. Measuring safety culture in healthcare: A case for accurate diagnosis. *Safety science*. 2007;45(6):653-67.
- [5] Akbari Sari A, Doshmangir L. An overview of methods for identifying and measuring adverse events in healthcare and their strengths and weaknesses. *Journal of Hospital*. 2009;8(2):51-6.
- [6] Tavan H MR, Yary Y, Hatami A. Factors affecting the frequency of pharmaceutical errors from the vantage point of nursing students Ilam educational hospitals in 2014. *Education & Ethics In Nursing*. [Research]. 2015;4(2):41-8.
- [7] Milligan FJ. Establishing a culture for patient safety—The role of education. *Nurse Education Today*. 2007;27(2):95-102.
- [8] Matsubara S, Hagihara A, Nobutomo K. Development of a patient safety climate scale in Japan. *International Journal for Quality in Health Care*. 2008;20(3):211-20.
- [9] YAGHOBI FMA, TAKBIRI A, HAGHGOSHAYE E, TABARRAYE Y. The survey of patient safety culture and recognizing its weaknesses and strengths in Sabzevar hospitals: 2011. 2013.
- [10] Izadi AR, Drikvand J, Ebraze A. The patient safety culture in Fatemeh Zahra hospital of Najafabad, Iran. *Director General*. 2013;9(6).
- [11] Pronovost PJ, Weast B, Bishop K, Paine L, Griffith R, Rosenstein BJ, et al. Senior executive adopt-a-work unit: a model for safety improvement. *The Joint Commission Journal on Quality and Patient Safety*. 2004.68-59:(2)30;
- [12] Warburton RN. Patient safety—how much is enough? *Health policy*. 2005;71(2):223-32.
- [13] Mahfoozpour S, Ainy E, Mobasheri F, Faramarzi A. Patients' safety culture status among educational hospitals of Shahid Beheshti University of Medical Sciences in 2011. *Pajoohandeh Journal*. 2012;17(3):134-41.
- [14] Kiaei MZ, Ziaee A, Mohebbifar R, Khoshtarkib H, Ghanati E, Ahmadzadeh A, et al. Patient safety culture in teaching hospitals in Iran: assessment by the hospital survey on patient safety culture (HSOPSC). *Journal of Health Management and Informatics*. 2016;3(2):51-6.
- [15] Salavati S, Fanoosi T, Dehghan D, Tabesh H. Nurses' perspectives on patient safety culture. *Iran Journal of Nursing*. 2013;26(84):24-33.
- [16] Abdi Zh MM, Khosravi A. Perceptions of patient safety culture among staff of selected hospitals affiliated to Tehran University of Medical Sciences. *Payesh*. 2011;10(4):411-9.
- [17] Ajalli AAFK, M%A Dibae, M. The survey of patient safety culture in Razi Psychiatric Center in Tehran. *Journal of Health Promotion Management*. [Research]. 2015;4(4):84-94.
- [18] Zohar D, Livne Y, Tenne-Gazit O, Admi H, Donchin Y. Healthcare climate: a framework for measuring and improving patient safety. *Critical care medicine*. 2007;35(5):1312-7.
- [19] Smits M, Christiaans-Dingelhoff I, Wagner C, van der Wal G, Groenewegen PP. The psychometric properties of the Hospital Survey on Patient Safety Culture in Dutch hospitals. *BMC health services research*. 2008;8(1):1.
- [20] Mohebbifar R, Alijanzadeh M. Studying patient safety culture from the viewpoint of staffs in educational hospitals in Tehran City. *Journal of health and safety at work*. 2015.
- [21] Ravaghi H, Barati Marnani A, Hosseini AF, Takbiri A. The Relationship between Health Care Providers' Perceptions of Patient Safety Culture and Patients' Perceptions of Medical Errors in Teaching Hospitals in Tehran: 2011. *Journal of Health Administration*. 2012;15(48):57-68.
- [22] Baghaei R, Nourani D, Khalkhali H, Pirnejad H. Evaluating Patient Safety Culture in Personnel of Academic Hospitals in Urmia University of Medical Sciences in 2011. *Journal of Urmia Nursing & Midwifery Faculty*. 2012;10(2).

- [23] Mohammadreza A, Sogand T, Omid B. Measuring safety culture and setting priorities for action at an Iranian hospital. *Al Ameen J Med Sci.* 2010;3(3):237-45.
- [24] Kuosmanen A, Tiihonen J, Repo-Tiihonen E, Eronen M, Turunen H. Patient safety culture in two Finnish state-run forensic psychiatric hospitals. *Journal of forensic nursing.* 2013;9(4):207-16.