Perspectives of Clinical Staff about Patient Safety Culture in Imam Hussein Hospital of Hashtroud, East Azerbaijan, Iran

Safa Elmi[1], Javad Babaie[2]*, Faranak Elmi[3]

[1]MSc in Nursing Management, Expert of Infection Control at Imam Hussein Hospital, Hashtroud, Iran
[2]PhD in Health in Disasters and Emergencies, Department of Health Services Management, School of Management and Medical Informatics, Tabriz University of Medical Sciences Tabriz, I.R. Iran and Iranian Center of Excellence in Health Management, School of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran
[3]MSc in Biology, Marand Branch, Islamic Azad University, Tabriz, Iran

ABSTRACT

Patient safety is one of the main part of quality of services provided by healthcare systems. It is necessary to evaluate patient safety culture among medical staff in a constant manner. This study was aimed to evaluate patient safety culture among medical working staff of Imam Hussein Hospital of Hashtroud, East Azerbaijan, Iran. The present cross-sectional study was carried out in 2017. Ninety eight staff was recruited through census sampling. Data collection tool was Hospital Survey on Patient Safety Culture (HSOPSC) questionnaire including 42 questions and 12 dimensions. Data were analysed using SPSS software (ver.16), descriptive data; t-test, and ANOVA tests. The results showed that patient safety culture was at its average level and the highest and lowest means were for "teamwork within units" with 72.14±91.30 and "staffing" with 43.13±62.99, respectively. Based on obtained results, it is suggested that managers should identify effective factors on patient safety culture and promote patients' health by implementing and following safety norms and designing efficient programs.

INTRODUCTION

World Health Organization (WHO) has defined medical error as an event causing unintentional damages to a patient emerging from functional and unintentional malfunctions and not from patient's overall clinical condition [1, 2]. In recent years, these errors turned out to be a globally prevalent problem. In 2013, James provided a novel estimation of amount of injuries caused by hospital care. Accordingly, more than 400 thousand premature mortalities due to preventable injuries are recorded while the prevalence of non-lethal damages is 10 -20 times more than mortality prevalence [3]. Medical errors in the United States solely cause 44000 to 98000 mortalities [4]. In the UK, undesired events happen in almost 10 % of hospitalized cases and in Australia about 16.6 % of hospital admissions result in undesired events [4-6].

In Iran, despite the absence of any official statistics on medical errors, experts estimate that the rate is significantly higher due to health system structural deficiencies. Dealing with patient safety issues which covers a wide range of medical errors has turned out to be a priority for healthcare system bearing tangible and intangible consequence [7].

Patient safety is the first and most vital step to improve medical and health services quality and is an inseparable part of these services [8, 9]. This issue became highly concentrated by health scholars and professionals after the publication of

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a report by American Medical Institute in 1999 [10]. But the subject is not a novel one. For instance, in 140 years ago, Florence Nightingale declared that one of the preliminary and important necessities of providing healthcare is not to harm patient during medical care [11]. At the present, pioneers of patient safety suggest that patient safety culture is the main compromising part of health systems in promoting and developing patient safety [12]. Hospital authorities must be informed about the on-going situations of patient safety culture and identify ways of promoting and improving the culture because they have vital role in providing patients with health and medical services [13, 14].

 The most significant barriers to improve patient safety are hospitals themselves [8, 15]. First of all, hospitals should work upon their own staff on patient safety culture former to the implementation of any structural plans[9]. Imam Hussein hospital of Hashtroud in northwest Iran is as a health service provider and has considered patient safety culture as its own priority and has implemented several programs in this regard. A program was to promote patient safety culture among working staff. Despite the importance of patient safety culture, no investigation was conducted on the issue in Imam Hussein Hospital. As a result, the researchers decided to conduct a study evaluate patient safety culture from the perspective of medical staff. The results will be useful for hospitals to assess the programs and their merits and demerits for further improvements in future planning to achieve active, stable, and dynamic programs.

MATERIALS AND METHODS

The present cross-sectional study was conducted in 2017 in Imam Hussein hospital of Hashtroud city; East Azerbaijan province, Iran. This hospital is running by Tabriz University of Medical Sciences (TUOMS) which is a public university. Data collection method was Hospital Survey on Patient Safety Culture (HSOPSC) questionnaire and the method of sampling was census. Study population was comprised of all clinical staff (N=98) including nurses, doctors, midwives, surgery room experts, radiologists, anesthesiologists, lab men and nurse aids.

The HSOPSC questionnaire was designed by American Agency of Healthcare Research and Quality (AHRQ) in 2004 [16]. This tool was a valid

and reliable questionnaire designed based on different studies that assessed patient safety culture [17]. For the first time in Iran, the HSOPSC was used by Moghri et al. at Tehran University of Medical Sciences (TUMS) (18). The tool was formerly approved by its validity and reliability [18, 19]. It included 42 questions and was comprised of 7 sections and 12 dimensions assessing patient safety culture. The tool assessed patient safety culture in 10 dimensions including: Supervisors/managers expectations and actions promoting safety (4 items), organizational learning-continuous improvement (3 items) team work within unit (4 items) communication openness (3 items), feedback and communication about error (3 items) no punitive response to error (3 items) staffing(4 items)hospital management support for patient safety (3 items) team work across hospital unite (4 items) hospital hands off and transition (4 items) and two other outcome variables including: frequency of event reporting (3 items) and overall perception of safety (4 items).

Moreover, two questions are incorporated that one is about the score that participants have in mind about patient safety and the other asks about the number of occurred errors in past 12 months. The questions use 5-point Likert response scale of agreement ("Strongly disagree" to "Strongly agree") or frequency ("Never" to "Always"). Scoring is also designed to allocate agree/ strongly agree and always/often for positive questions and allocate disagree/ strongly disagree and never/ rarely for negative questions in the range of positive answers. Final scoring is calculated by summing the percent of positive answers of each dimensions and dividing it into the number of questions of that dimensions. Finally according to the final percentage of each dimensions final score is given inside three classifications of high safety culture (over 75 % of positive answers) average safety culture (50 -75 % positive answers) and low safety culture(less than 50 of positive answers). For ethical issues the researches explained the aims to the participants and allowed the participation to be voluntarily. After coding the questionnaires they were blindly completed by the participants. The participants were also got assured about data security. Afterward, according to the attached codes the researchers started to gather the questionnaires. Inclusion criteria were: agree to participate and working in Imam Hussein hospital of Hashtroud. Questionnaires were excluded if respondent

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completed less than half of questions, did not fill a part, had the same answers to all questions or answered the questions inaccurately.

Table 1: Personal and social demographics of studied units

Variable		Number	percentage
Work hours per week	<20 hours	4	4.1
	20-39 hours	5	5.1
	40-59 hours	58	59.2
	60-79 hours	26	26.5
	80-99 hours	3	3.1
	≥ 100 hours	2	2
Relation with patient	Direct	94	95.9
	Indirect	4	4.1
Man/woman	Woman	72	73.5
	Man	26	26.5
	Age		
	20-30 years	34	34.7
	30-40 years	46	46.9
	40-50 years	16	16.3
	≥ 50 years	2	2
Job experience in hospital	< 1 year	19	19.4
	1-5 years	26	26.5
	6-10 years	23	23.5
	11-15 years	19	19.4
	16-20 years	5	5.1
	≥21 years	6	6.1
Education	PhD/MD	12	12.2
	MSc	3	3.1
	BSc	71	72.4
	Associate degree	6	6.1
	Diploma	6	601
Employment Type	Official	48	0.49
	Contract(semi - official)	17	17.3
	Planned	20	20.4
	Contractual	13	13.3
	Marital Status		
	Married	80	81.6
	Single	18	18.4
Work shift types	Rotational	85	86.7
	Fixed	13	13.3
Job	Doctor	12	12.2
	Surgery rooms	4	4.1
	Radiology	5	5.1
	Midwifery	11	11.2
	Nursing	46	46.9
	Anaesthesiology	6	6.1
	Lab sciences	8	8.2
	nurse aids	6	6.1

For normal distribution of variables we used Kolmogorov-Smirnov test. The collected data were analyzed using descriptive statistical methods including frequency, Mean ± SD, t-test, ANOVA and LSD (least significant difference) test (to demonstrate groups with different mean in either of aspects). Then, obtained data were analyzed by SPSS software (version 16). P < 0.05 was considered significant.

RESULTS

All participants responded the questionnaires. The data had normal distribution according to Kolmogorov-Smirnov test. The prevalent age range was 30-40 years old (46.9%) and 73.5 % of participants were women and 26.5% were men. Nurses compromised great part of participants (46.9%). 37.8% of participants had 1-5 years of experience. They worked for 40- 59 hours per week (59.2%). 95.9 % had direct interactions with patients while 4.1 % had indirect contact. 81.6 % of participants were married and 18.4% were single as well as 49 % of participants were official employees, 17.3% were permanent contractual employees, 20.4 % were passing their plan and 13.3% were temporary contractual employees. In terms of education, 72.4% of participants had BS. 86.7% had rotational shifts while 17.3% had fixed shift. Most participants were for emergency unit (20.4%) and operation rooms (17.3%) (Table 1) .The highest and lowest mean of positive answers were "teamwork within units" with 72.14±91.30 and "staffing" with 62.99±43.13 (Table 2). 55.1% of participants reported no accident in their past 12 months. 22.4% reported 1 to 2 accidents, 13.3% reported 3-5, 7.1% reported 6-10, and 2% reported 11-20 accidents during their 12 past months (Table 3). Most participants (58.2%) declared that patient safety level was acceptable, while 25.5 % believed it was very good, 5.1% as excellent, 8.2% as inappropriate, and 3.15 as weak (Table 4)

DISCUSSION

Assessing patient safety culture is an appropriate tool to establish a good and normal culture of patient safety as it makes hospitals to identify their weak points and advantages in terms of patient safety and then try to undertake necessary actions accordingly [20]. The present study was conducted to study patient safety culture in Hashtroud Imam Hussein Hospital from the perspectives of medical staff utilizing HSOPSC questionnaire as a common tool in this field [16]. As mentioned, nurses participated more (46.9%). In Moghri et al. study, they were 58% [18], in Abdi et al. it was 52 % [16] and in Turkey [21] and Belgium [22] nurses had the highest participation

which agrees with the present investigation. In almost studies nurses had the highest

Table 2: Mean and SD of total positive answers to patient safety culture proposed by staff

Patient Safety Culture Dimensions	Mean (SD)
Team work within units	72.14 (91.30)
Organizational learning	70.10 (54.99)
Supervisors/managers expectations and actions promoting safety	69.13 (23.53)
Feedback and communication about error	66.14 (94.16)
Overall perception of patient safety	66.12 (22.08)
Interchange and transition of information	64.12 (41.47)
Frequency of event reporting	63.11 (61.49)
Teamwork of hospital units	59.15 (18.23)
Openness of communication channels	58.13 (23.79)
Support of management for patient safety	45.15 (44.12)
Non-punitive response to error events	44.13 (22.21)
Issues related to Staff	43.13 (62.99)

Table 3: Frequency of reported events in last 12 months

Number of reported events	Frequency	Percent
No event	54	55.1
1-2 reports	22	22.4
3-5 reports	13	13.3
6-10 reports	7	7.1
11-20 reports	2	2

Table 4: Patient safety degree as staff believed

Degree	Frequency	Percent
Excellent	5	5.1 %
Very good	25	25.5%
Good	57	58.2%
Inappropriate	8	8.2%
Weak	3	3.1%

participations which reveals the importance of concept of patient safety culture on behalf of nurses [21].

Results of the present investigation showed that patient safety culture was in its average point. Arshadi et al. assessed the level of patient safety below average in N-ICU ward [23]. Of main 12 patient safety culture dimensions the highest and lowest mean SD were respectively for "teamwork within units" and "staffing". Similar to the present study, the highest score also went to "teamwork

within units" in Abdi et al. study, however, unlike to our results " no punitive response to error" had the lowest score [16]. In a similar study, by Baghaei et al. the merit of safety culture was "teamwork within units" but unlike our study "no punitive response to errors "was the weak point [24]. In El-Jardali study in Lebanon three dimensions of "team work within units", "organizational learning" were the highest [25]. In another study by Van Noored et al "team works within units "and "communication openness" were the best dimensions [26]. The reason was establishment of accreditation scales and clinical governance in hospitals that promoted patient safety. In both studies by Chen et al. [27] and Alahmadi [28] and similar to our study, "staffing" was the weakest dimension probably due to inadequate existing nursing staff to perform clinical tasks. Therefore, increasing the number of working nursing staff is a necessary issue [25]. According to the investigations, hospitals with insufficient nursing staff have more medical errors than the others [11]. Based on the results 58.2% of participants did not report errors during last 12 months that is in agreement with that of Sorra et al. [29] and Rezapoor et al. [30]. The reason can be due to the punitive policies in hospitals and nursing managers' lack of support from patient safety [29]. Thus, it seems necessary to adopt policies to promote accident reporting systems in hospitals [23]. As t-test suggested, in this study, there was not a meaningful relation between gender and marital status with patient safety. In Sharifi et al. study also no meaningful relationship was observed between 12 dimensions of patient safety and demographic features [31]. Evaluation of differences in the average positive answers percentage of patient safety culture with that of age and employment type of staff through one-way ANOVA test showed that there was a meaningful relation between patient safety culture and age in terms of "feedback and communication about error" (P=0.003)," staffing" (P=0.009), and supervisors/managers expectations and actions promoting safety" (P= 0.016) dimensions. Moreover, between patient safety culture and employment type there was a meaningful relationship in terms of "frequency of event reporting" (P=0.028) and "no punitive response to error" (P=0.005). Moayyed et al. also confirmed that there was a meaningful relationship between age and patient safety culture [32]. Also, in Shamssadini et al. study it was found that there was a direct and meaningful relationship between gender and employment type, however it was not

meaningful for age and marital status [33]. In the present study, employed nurses had better attitude toward patient safety culture that can be go back to their experience, devolution and dependency, and their presence in in-service training classes.

Acknowledgments

Conflict of Interest

The authors declare no conflict of interest.

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