Patient Safety Culture Status in Teaching Hospitals: A Case of Shiraz University of Medical Sciences

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Abstract: Being safe from dangers in receiving the healthcare services is one of the most obvious human rights however without creating the patient safety culture in health and treatment facilities, no stable development will take place in patient care. This cross-sectional study was conducted on 413 nurses working in 9 teaching hospitals. The questionnaire designed by the Agency for Healthcare Research and Quality was utilized to measure 12 aspects creating the patient safety culture. For analyzing data; Chi-square, t-test, ANOVA and Pearson correlation were used. Among the 12-fold dimensions of the patient safety culture, overall perception of patient safety, organizational learning-continuous improvement, team work within the units, communication openness, feedback about safety errors, non-punitive responses to errors, hospital administrator’s support of patient safety, team work among the hospital units and frequency of event reporting were evaluated as inappropriate. In addition, the dimensions manager expectations and actions promoting safety and staffing were evaluated as average (mean scores=3 and 3.1). The dimension of hospital handoffs and transitions was measured as appropriate (mean score=3.7). Overall, the findings depicted the inappropriate status of the patient safety culture in all under studied hospitals. In conclusion, lack of appropriate and safe treatment operations in the hospitals, lack of serious protection of the superior managers, lack of error reporting because of the fear from punitive responses and not using the errors as the sources of learning caused inappropriate status of the patient safety culture, so there is an intense necessity for creating the appropriate patient safety culture in the studied hospitals.

Key words: Nurse • Healthcare • Patient Safety Culture

INTRODUCTION

Making sure about the safety of the patients is the first vital step in improving the healthcare quality. In fact, being safe from dangers and damages in receiving the healthcare services is one of the most obvious human rights [1].

Medical errors are the major challenges of the health systems all around the world which threaten all the countries [2]. In the recent two decades, the idea that the health system is not safe enough and is in need of improvement has been globally investigated and, consequently, vast global attempts have been made in order to reduce the incidents, find and eliminate the causes of the errors and prevent them. For instance, according to the reports provided by the institute of medicine, more than a million preventable medical errors annually occur in the U.S., 44000-98000 cases of which include mortal errors [3]. In England, also, NHS (National health system) has announced that 850000 errors annually occur in national health services most of which seem to be due to the shortcomings of the system rather than the individuals’ approaches [4]. In Iran, however, the situation is more serious since no compiled statistics on the rate of the medical errors are available. Also, due to some structural weaknesses in Iran’s health system, the rate of the medical errors seems to be quite high. Moreover, the increase in the number of the people’s complaints from the specialists which has been referred to the medical council can confirm this claim, as well [5].

Research shows that the repetition of the preventable errors which, consequently, endangers the patients’ safety puts the first responsibility of the health system into question. Other evidences show that the problems
resulting from the weaknesses in the patient safety are mostly due to systematic-organizational approaches rather than the individuals’ errors [4]. Different studies conducted on the issue revealed that establishing a systematic approach toward the medical errors and eliminating their shortcomings, such as making changes in the systems, organizational safety culture and the system of reporting the incidents as well as their analysis, can help the health system to be more effective. Of course, all these changes and developments in the patient safety status depend heavily on a basic change in the culture of patient safety in the health system. In fact, without providing the safety culture in all the health facilities, no fast and permanent development occurs in patient care. Moreover, safety culture includes a commitment to safety which has penetrated through the traditions, beliefs and values of all the members of the organization [3]. Therefore, health policy makers should provide the hospitals with incentive systems to create and maintain the safety culture. Most studies on the patient safety have been conducted in developed countries and there are a limited number of studies on the issue in developing areas, such as Iran. The present study aimed to investigate and compare the patient safety culture in teaching hospitals of Shiraz University of Medical Sciences (SUMS) to present strategies for improving the patient safety culture.

MATERIALS AND METHODS

The present study is a descriptive and cross-sectional one. The statistical population of the research included the nurses working in teaching hospitals of SUMS; data was collected through both questionnaire and interview. The questionnaire entitled “Hospital Survey on Patient Safety Culture” was designed and presented by the Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services in 2004. This questionnaire consisted of two sections. The first section included the demographic information, while the second one contained a total of 43 questions on the 12-fold dimensions of the patient safety culture grouped into the following 12 categories: the personnel’s overall perception of safety, organizational education or continuous improvement, team work within the hospital units, open and clear communications, feedback and communication with regard to safety errors, non-punitive responses to errors, options related to the personnel’s volume of work, hospital administrator’s support of patient safety, team work among different hospital units, ways of transferring the patients among different hospital units and the frequency of the reported events. The questionnaire is likert type with 5 options ranging from completely agree (5 points) to completely disagree (1 point). Of course, the scoring method for the questions with negative concepts is vice-versa.

In order to obtain the safety culture status in each dimension, the sum of the scores of the questions in each dimension was divided by the number of the questions in that dimension. Moreover, in order to obtain the total score of the patient safety culture, the sum of the scores of the 43 questions was divided by the number of the questions.

Taking the cultural conditions into account, the validity of the questionnaire was evaluated and approved by the specialists. Also, its reliability was confirmed by conducting a pilot study with the cronbach’s alpha of 0.71. In the present study, each hospital’s proportion for completing the questionnaire was determined based on the ratio of the nurses working in that hospital to the nurses of all the teaching hospitals under study. Overall, a total of 460 questionnaires were distributed in the hospitals, 413 of which returned.

Considering the fact that the questions were the same for all the nurses, the study sample was selected randomly. All the analyses were performed through the SPSS statistical software applying Chi-square, T-test, ANOVA and Pearson correlation.

After analyzing the research findings, the expert opinion method was utilized in order to present strategies for improving the patient safety culture. Furthermore, some sessions were held with the managers of the hospitals under study as well as the nursing directors and, based on their opinions; some strategies were proposed in order to improve the patient safety culture.

RESULTS

According to the results of the present study, 384 respondents (93%) were females, while 28 ones (6.8%) were males. In addition, the minimum and maximum age of the participants was 20 and 53 years old, respectively. The subjects had at most 30 years and at least 1 year experience of working in the hospitals. Moreover, the nurses with the B.S. degree had the highest percentage of responding to the questions (92%), while those with the M.S. degree had the least percentage (0.7%). Also, the nurses with formal employment and those employed in the private sector had the highest and the lowest percentage of responding to the questionnaire, respectively (34.4% vs. 4.1%).

971
Table 1: Mean score of each of the aspects of patient safety culture

<table>
<thead>
<tr>
<th>Row</th>
<th>The present status regarding the obtained score</th>
<th>Mean scores</th>
<th>Total average dimensions of the patient safety culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>inappropriate</td>
<td>2.8</td>
<td>Overall perception of patient safety</td>
</tr>
<tr>
<td>2</td>
<td>average</td>
<td>3.1</td>
<td>Manager expectations and actions promoting safety</td>
</tr>
<tr>
<td>3</td>
<td>inappropriate</td>
<td>1.8</td>
<td>Organizational learning—Continuous improvement</td>
</tr>
<tr>
<td>4</td>
<td>inappropriate</td>
<td>2.3</td>
<td>Team work within the units</td>
</tr>
<tr>
<td>5</td>
<td>inappropriate</td>
<td>2.8</td>
<td>Communication openness</td>
</tr>
<tr>
<td>6</td>
<td>inappropriate</td>
<td>2.8</td>
<td>Feedback about safety errors</td>
</tr>
<tr>
<td>7</td>
<td>inappropriate</td>
<td>2.2</td>
<td>Non-punitive responses to errors</td>
</tr>
<tr>
<td>8</td>
<td>average</td>
<td>3</td>
<td>Staffing</td>
</tr>
<tr>
<td>9</td>
<td>inappropriate</td>
<td>2.7</td>
<td>Hospital Administrator’s support of patient safety</td>
</tr>
<tr>
<td>10</td>
<td>inappropriate</td>
<td>2.7</td>
<td>Team work among the hospital units</td>
</tr>
<tr>
<td>11</td>
<td>inappropriate</td>
<td>3.7</td>
<td>Hospital Handoffs and Transitions</td>
</tr>
<tr>
<td>12</td>
<td>inappropriate</td>
<td>2.2</td>
<td>Frequency of Event Reporting</td>
</tr>
</tbody>
</table>

Graph 1: Presentation of mean scores of the aspects of patient safety culture

Other results indicated that, the mean of most organizational culture dimensions of the patient safety in the hospitals was below 3. It should be noted that the mean scores between 1 and 3, equal to 3 and between 3 and 5 represent the inappropriate, average and appropriate situations, respectively (Table 1).

The results also depicted that among all the dimensions, organizational education on the patient safety had the lowest mean score, while transferring the patients among the units had the highest mean score (Graph 1). In addition, regarding the total score of the patient safety culture, the mean score of none of the teaching hospitals reached 3.

The results of the research also revealed that regarding the personnel’s overall perception, 71% of the nurses believed in the existence of patient safety problems in their working environment. Besides, concerning the managements’ actions for promoting the patient safety, 92% of the nurses believed that their managers frequently took the patient safety problems into account. However, only 8% of the nurses stated that their managers took their recommendations for improving the patient safety status into consideration.

Concerning the organizational education/continuous improvement in patient safety, 90% of the nurses were opposed to the effect of the occurred errors on the nurses’ education as well as the improvement of the patient safety. Furthermore, only 4% of the nurses stated that the effectiveness of the changes they made for improving the patient safety was evaluated. Regarding the team work within the hospital units, 78.5% of the nurses believed that when the tasks are needed to be performed quickly, they did not work as a team.

Considering the open and clear communications in patient safety issues, 73% of the nurses mentioned that they are not able to freely talk about the problems they observed, which could have an undesirable effect on the patients’ safety. Moreover, investigation of feedback and communication with regard to safety errors showed 74% of the nurses to believe that the useful methods for preventing the recurrence of the errors were not discussed in their working environments. Taking the non-
punitive responses to errors into consideration, 76% of the nurses stated they were worried that their errors be recorded in their profiles. In addition, only 17% of the nurses were against the fact that in case an incident is reported, the report is mainly about the person committing the error rather than the incident itself.

Overall, 79% of the nurses believed in the insufficiency of the personnel for doing the entrusted work volume. Moreover, 50% of the nurses argued that their managers paid attention to the patient safety issues just in case an unpleasant incident had occurred. Besides, only 29% of the nurses believed the performance of the hospital managers to be representative of prioritizing the patient safety.

Furthermore, the investigation of team work among the hospital units revealed that only 29% of the nurses believed the necessary cooperation to exist among the different hospital units. Also, regarding the transfer of the patients among the units and shift change, 81% of the nurses stated that the information about the patient care is not lost at the time of shift change. Finally, according to the investigation of the frequency of the reported events, 83% of the nurses believed that an error, which is harmful for the patients, is rarely or even never reported.

DISCUSSION

As the results of the present study showed, among the 12-fold dimensions of the patient safety culture in these hospitals, only those regarding the transfer of the patients and shift change were evaluated as appropriate. Managers’ expectations as well as actions and the personnel’s volume of work were evaluated as average. Nevertheless, other dimensions were evaluated as inappropriate. These findings confirm the lack of accountability on the part of the managers of the hospitals under study regarding the propagation of the patient safety culture, which can negatively affect the efficiency of the services, provided by these hospitals and can lead to negative reinforcement in the staff [6].

Furthermore, how the systems are designed and healthcare operations are performed can have a major effect on the patients’ safety. In the present study, half of the nurses believed that systems and operations were not properly designed in their hospitals and, as a result, they could not support and improve the patient safety. Other studies also confirm the important role of the systems in promoting the safety. U.S. institute of medicine reported that more than a million preventable medical errors annually occur due to the improper performance of the systems or weaknesses in the health systems [3]. Keady and Thaker [4] also accounted the same reasons for 850000 errors occurring in NHS every year.

Generally the important role the hospital managers play in providing a safe environment for the patients and presenting appropriate safety programs for the staff is emphasized in different studies [7]. Goodman and Fragmented [2] and Dalton et al. [3] have emphasized the major role the policy makers play in approving and obligating the policies for both creation and maintenance of the patient safety culture for the executive directors as well as the managers of lower ranks. Besides, Goodman and Fragmented argue that the managers are responsible for maintaining the safety.

Among the dimensions under study, the organizational education had the worst status. It seems that lack of learning from the errors is due to the lack of a system for reporting the errors in the health system. On the other hand Jeffrey et al. [8], attributed the lack of error reporting to the punitive approach regarding the safety events which exists in a great number of health and treatment organizations. Such an approach prevents reporting by inculcating a sense of fear as well as distributing the punitive approach and, at the same time, avoids learning and organizational improvement. This relationship is confirmed by the results of the present research, as well, of course, one of the major problems regarding this issue is that much attention is given to the individual committing the error rather than the incident itself.

Kohestani and Baghchi [9] claimed that fear from the outcomes of reporting the errors and managerial factors are considered as two important obstacles to reporting the pharmaceutical errors for the students of nursing. Dalton et al. [3], on the other hand, conducted a study on the development of safety in the U.S. and revealed that the safety culture allows the staff to use the reported errors as a source of learning instead of searching for the individual committing the error.

Nevertheless, in addition to the personnel factors, other issues, such as the patients’ knowledge of their rights as well as the proper or improper performance of the health system, can also be considered as the causes of the lack of error reporting. Moreover, Adams and Boscario [10] stated that people’s knowledge of the healthcare system as well as the increase of the public medical knowledge can lead to the enhancement of the frequency of reporting the errors. Also, according to the results of the study conducted by Hutchinson and Young [11] in England, the rate of reporting the incidents in the
hospitals under study had a statistically significant relationship with the independent indexes of the safety culture; in a way that the increase in the rate of reporting had a positive effect on the improvement of the safety culture in the hospitals.

In the same line, the findings of the study conducted by Bouder and Filize [12] showed that the development and emphasis on the voluntary reporting of the errors can lead to the improvement of the patient safety culture in primary healthcare centers. The specialists believe the execution, development and distribution of the novel concept of the patient safety culture to be impossible without team work. In fact, when people are involved in team works, they monitor and, at the same time, support each others’ works, which prevents the recurrence of the errors and also helps the team members to identify and remove the errors before creating any problems for the patients [3].

The findings of the present study revealed an inappropriate status regarding the two dimension of team work within and among different hospital units. Dalton et al. [3] believed that the common features of the safety culture to be: organizational cooperation in line with the safety concepts, emphasis on effective communication and team work, honesty, respect and organizational cooperation in line with the systematic analysis and further designing of the safety development. Moreover, Marshal and Manues [13] argued that the major factor which should be taken into account in all the attempts made for improving the patient safety is the emphasis on team work and how human factors affect the occurrence of the errors. Other researchers also have noted the important role of the relationship among the healthcare providers as well as its necessity for both creation and maintenance of the patient safety [7]. Based on the results of the present study, transfer of the patients among different units of Shiraz teaching hospitals was the only appropriate dimension of the safety culture. In fact, 81% of the nurses believed that the patients’ information was rarely lost at the time of shift change.

Considering the protection of the patients’ information as well as certainty about its correct recording, Kilber and Bates [14] believed that health information exchange (HIE) is able to directly improve health. Moreover, they continued, since it presents a complete image of the patients, it reduces the probability of the errors through giving information to the healthcare providers.

The present findings were compared and contrasted to those of the similar studies conducted in the U.S. and Turkey (Graph 2) [15]. As the results of depict, the scores gained in the present study, except for the score of the transfer of the patients among the hospital units, are significantly lower than the scores obtained in the American one. Also, in comparison to the scores obtained in the study performed in Turkey, the scores of the present study are lower in 10 dimensions, while they are higher in 2 dimensions of the frequency of the reported errors and transfer of the patients among the units. Thus, one can conclude that based on the mean scores gained in the present study, the patients safety culture in the teaching hospitals of Shiraz is located in an inappropriate status.

In conclusion, patient safety culture should become a priority for the leaders of healthcare organizations. Furthermore, attempts should be made in order to create an environment where the personnel are able to voluntarily report the errors as well as the shortcomings without the fear of being punished by the organization. Reaching these aims, the following strategies are presented in order to promote the patient safety culture:

Graph 2: Comparison of the mean scores of patient safety culture aspects in Turkey, U.S. and Iran
• Informing the personnel regarding the legal issues which might occur in case they do not observe the patient safety.
• Holding continuous educational sessions regarding the importance of the patient safety.
• Providing the personnel with educational sessions on patient safety at the beginning of their work.
• Creating an error reporting system in the hospitals by preparing and investigating the error recording forms.

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