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Full Length Research Paper

An assessment on patient safety culture in General Surgery Department, Trakya University, Edirne-Turkey

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This study aims to measure and analyze the patient safety culture in General Surgery Department, Faculty of Medicine, Trakya University, Edirne-Turkey. A cross-sectional study, utilizing the Turkish version of the Hospital Survey on Patient Safety Culture developed by the Agency for Healthcare Research and Quality and a demographic questionnaire was distributed to 125 health professionals including nurses, technicians, managers and medical staff. 125 healthcare staff, including physicians, nurses, and health officers participated in this research. The main outcome measure(s) comprise the patient safety culture score including subscores on 12 dimensions and 42 items; patient safety grade and number of events reported. Results of this study reveals overall patient safety grade was rated as excellent or very good by 40% of respondents, acceptable by 46% and failing or poor by 14%. The percentage of positive responses was highest for 'staffing' (52%), 'management support for patient safety (41%), 'non-punitive response to error" (40%), lowest for 'teamwork within units (11%), feedback and communication about error (12%), organizational learning and continuous improvement (15%). Thus, improving patient safety culture, setting national and organizational based patient safety system without fear of punitive action should be a priority among hospital and national administrators.

Medical Subject Headings (*MeSH*) Terms: Healthcare surveys, safety management/methods, medical errors/prevention and control, attitude of health personnel, organizational culture.

INTRODUCTION

Health has a special significance in continuing the human life and establishing and maintaining the quality of life. While health services are the prioritized subject of all countries, medical errors, which are experienced during the provision of service, affect both the healthcare personnel and the patients negatively. One of the important issues not to be ignored in quality management for provision of healthcare service is the patient safety and thus, medical errors (Institute of Medicine, 2000, 2001). According to U.S. data for 2005, 16% of medical errors' reasons are wrong side surgery. According to Joint C
ommission International, review results of sentinel

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events related with wrong patient/ side/procedure from 2004 to 2010 are leadership (83%), communication (67%) and human factors (60%) (http://www.jointcommission.org/assets/1/18/SE_RootCauses_2004_3Q2010.pdf).

According to the Institute of Medicine Report (2000), 'To Err Is Human', 44,000 to 98,000 people die due to medical errors every year in the United States of America, and they rank fifth among the causes of death. In a study conducted on adult patients in six countries, the medical error experience of patients were determined to be 34% in the US, 30% in Canada, 27% in Australia 25% in New Zealand, 23% in Germany and 22% in United Kingdom (Schoen et al., 2005). Leape et al. (1991) reported that the most frequent medical errors were medication errors (19%) followed by surgical wound infections (14%). These were followed by diagnostic errors (8%), treatment errors (8%), procedural errors (7%) and falls (3%) respectively. Even though increasingly more studies are conducted in many countries for the patients to receive safer care, very limited success has been achieved yet.

Although various studies were conducted to develop patient safety and quality of health in recent years in Turkey in order to spread the patient safety awareness and develop the culture thereof, no structured patient safety system is available yet nationwide.

In the development of efficient safety culture, it is known that two significant concepts such as reporting and description of errors affect the safety culture (Healthcare Risk Control, 2005). The errors that are determined, accepted, reported and communicated to the relevant or affected people are an indication of how well the safety works. For the safety culture, the healthcare workers should be able to report the current or possible errors without any fear of being punished and a consistent and open communication should be ensured (Milligan and Dennis, 2005). It was reported that healthcare workers and especially the physicians were reluctant in reporting medical errors (Lawton and Parker, 2002). When the errors are reported, the occurrence process of the error is monitored by the people who are experienced in medical errors and patient safety, and the human factor in such errors can be detected. Thus, the situations which cause the error can be eliminated; and the recurrence of the error can be prevented.

METHODS

Setting

This study is a single-center, cross-sectional and non-randomized trial attended by the physician, nurse, midwife and health officer who worked in 2010 at Department of Surgery, Faculty of Medicine, Trakya University. This study was submitted to Faculty of Medicine, Trakya University, Local Ethics Committee and received approval of the ethics committee (Ethics Committee Approval NO: EKA 2010-06). The study was conducted in compliance with the Ethics Principles of World Medical Association, Declaration of Helsinki, and Medical Researches on Human Subjects. All subjects were informed prior to enrollment and they signed the consent form.

The study consisted of three parts. The first part contained 19 questions. The second part was related to the hospital assignment of the person completing the survey. The third part contained 4 questions. These questions were related to the age and experience of the person completing the survey.

Participants

The data were obtained from a self-administered questionnaire survey completed in 2010. Questionnaires and informed consent forms were hand-distributed to 145 staff. Of this group, 129 persons who gave consent completed the survey (response rate 88%) which is approximately 89% of whole staff of General Surgery Department. The numbers of 129 healthcare personnel who participated in the study, 53 (41%) were physicians, 72 (56%) were nurses and 4 (3%) were other healthcare personnel. Response number of working area is 125, administrator area is 123, communication area is 122, incident reporting rate is 121, patient safety degree area is 121, hospital area is 121, and personnel information area is 114 people.

Measures

Hospital Survey on Patient Safety Culture developed by AHRQ in 2004 (Sorra and Nieva, 2004) assesses hospital staff opinions about patient safety issues, medical error, and event reporting; the survey consists of 42 items that measure 12 areas or composites of patient safety culture (Sorra et al., 2007).

The HSOPSC translated into Turkish in 2009 (Bodur and Filiz, 2009). The survey includes the questions which measure the dimensions of patient safety culture at unit and hospital level, and also includes result variables. The survey contains seven questions with personal information included as well. The dimensions of survey on patient safety culture at unit/department level contains (i) manager expectations and safety development activities, (ii) organizational learning and continuous development, (iii) teamwork within units, (iv) keeping the communication open, (v) feedback on errors and communication, (vi) non-punitive response against the error, (vii) procurement of personnel, (viii) support of the hospital management for patients safety, (ix) teamwork across units, (x) handoffs and transitions. Dimensions measured by the safety culture at hospital level are (i) Team study among the hospital units, (ii) Hospital interventions and change (4 items). The issues covered by the result variables are (i) detailed perception of safety, (ii) reporting frequency of the events, (iii) degree of patient safety in hospital unit, (iv) number of reported events.

The HSOPSC is a valid and reliable instrument developed from previous literature, cognitive tests and factor analyses to assess the patient safety culture in hospitals. Extensive details of this instrument can be found in a web-based technical report. The final instrument was pilot-tested in 21 hospitals with 1437 employee responses. Using Cronbach's α, all subscales had acceptable levels of reliability, which varied from 0.84 for frequency of event reporting to 0.63 for staffing. The construct validities of each safety culture dimension were shown in composite scores as being moderately related to one another, as indicated by correlations between 0.20 and 0.40 (Sorra et al., 2007). The Turkish version of the questionnaire was used in the literature previously published (Bodur and Filiz, 2009).

Data analysis

Descriptive statistics for the facilities in the sample and descriptive statistics for each item on the HSOPSC were calculated. For

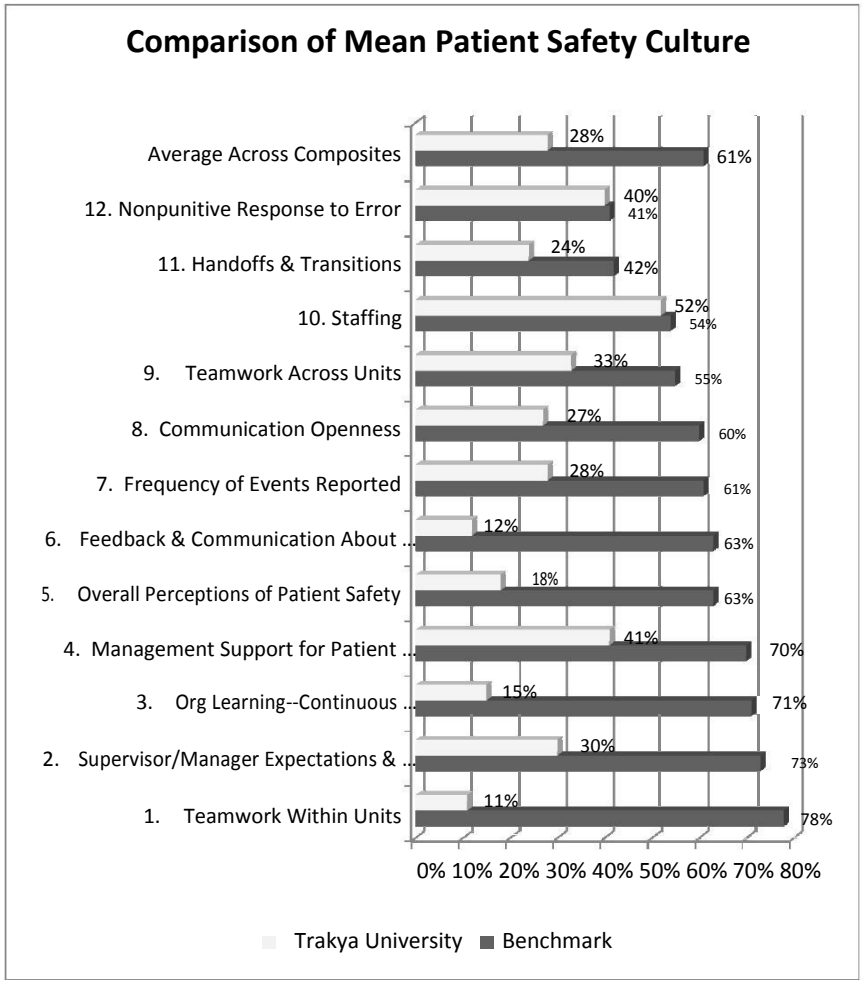

Figure 1. Comparison of mean patient safety culture composite scores of General Surgery Department, Trakya University and benchmark scores (Obtained from 386 US teaching hospitals).

positively worded items, percent positive response is the combined percentage of respondents within a hospital who answered "Strongly agree" or "Agree," or "Always" or "Most of the time". For negatively worded items, percent positive response is the combined percentage of respondents within a hospital who answered "Strongly disagree" or "Disagree," or "Never" or "Rarely".

In addition, the mean for each subscale used (listed above) in the HSOPSC was calculated. Subscale scores were calculated by taking the average score of the subscale items. In all cases, the possible range of scores is from 0 to 100%, with higher scores indicating a more positive response.

RESULTS

In total, 129 healthcare staff members provided survey feedback (response rate 89%). Of 125 healthcare personnel who participated in the study, 53 (41%) were physicians, 72 (56%) were nurses and 4 (3%) were other healthcare personnel. For the survey, a total of 125 people responded to the unit section worked with, a total of 123 people responded to the executives section, 122 people to the communication section, 121 people to the section of frequency of reported events, 121 people to the section of the degree of patient safety, 121 people to the section of hospital section, and 114 people to the section of personal information.

The responses to the questions in the sub dimensions of the questionnaire related to the difference between the opinions of the doctors and nurses were analyzed by Mann-Whitney-U test. Questions were analyzed by nonparametric correlations; first the whole group and then doctors and nurses separately (Table 1).

The percentage of positive responses was highest for 'staffing' (52%), 'management support for patient safety (41%) and 'non-punitive response to error" (40%); and lowest for 'teamwork within units (11%), feedback and communication about error (12%), and organizational learning and continuous improvement (15%). The overall mean score for positive perception of patient safety culture was 28% (Figure 1).

The percentage of positive responses for subcriteria

Table 1. Research questionnaire.

Subscales and survey items	Average % positive response
Overall perceptions of safety	18
Patient safety is never sacrificed to get more work done	10
Our procedures and systems are good at preventing errors from happening	14
It is just by chance that more serious mistakes do not happen around here	27
We have patient safety problems in this facility ®	20
Frequency of events reported	28
When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?	26
When a mistake is made, but has no potential to harm the patient, how often is this reported?	26
When a mistake is made that could harm the patient, but does not, how often is this reported?	31
Manager expectations and actions promoting patient safety	30
Manager says a good word when he/she sees a job done according to established patient safety procedures	30
Manager seriously considers staff suggestions for improving patient safety	23
Whenever pressure builds up, my manager wants us to work faster, even if it means taking shortcuts ®	48
My manager overlooks patient safety problems that happen over and over ®	17
Organizational learning—continuous improvement	15
We are actively doing things to improve patient safety	14
Mistakes have led to positive changes here	20
After we make changes to improve patient safety, we evaluate their effectiveness	10
Teamwork within units	11
People support one another in this facility	13
When a lot of work needs to be done quickly, we work together as a team to get the work done	11
In facility, people treat each other with respect	11
When one area in this unit gets really busy, others help out	10
Communication openness	27
Staff will freely speak up if they see something that may negatively affect patient care	16
Staff feel free to question the decisions or actions of those with more authority	50
Staff are afraid to ask questions when something does not seem right ®	16
Feedback and communication about error (Cronbach's α = 0.82)	12
We are given feedback about changes put into place based on event reports	15
We are informed about errors that happen in the facility	7
In this facility, we discuss ways to prevent errors from happening again	13
Non-punitive response to error	40
Staff feel like their mistakes are held against them ®	56
When an event is reported, it feels like the person is being written up, not the problem ®	35
Staff worry that mistakes they make are kept in their personnel file ®	30
Staffing (Cronbach's α = 0.02)	52
We have enough staff to handle the workload	63
Staff in this facility work longer hours than is best for patient care	64
We use more agency/temporary staff than is best for patient care	11
We work in 'crisis mode' trying to do too much, too quickly ®	69
Management support for patient safety	41
Management provides a work climate that promotes patient safety	44
The actions of management show that patient safety is a top priority	34
Management seems interested in patient safety only after an adverse event happens	44

Table 1. Contd.

Teamwork across units	33
Units do not coordinate well with each other ®	45
There is good cooperation among units that need to work together	39
It is often unpleasant to work with staff from other units ®	15
Units work well together to provide the best care for patients	34
Handoffs and transitions	24
Things 'fall between the cracks' when transferring patients from one unit to another ®	35
Important patient care information is often lost during shift changes ®	11
Problems often occur in the exchange of information across units ®	34
Shift changes are problematic for patients in this facility ®	15
Overall	28

was highest for "we work in 'crisis mode' trying to do too much, too quickly (69%) and the lowest subcriteria for "we are informed about errors that happen in the facility (7%)".

The percentage of "zero or no response" reported events was 82%. General Surgery Department's overall patient safety grade was 86%.

DISCUSSION

To the best of our knowledge, this study is the first one that investigated patient safety culture in Trakya University founded in 1974. We know that a strong safety culture can help reduce medical errors Firth-Cozens and Mowbray, (2001), and hospitals' leaders have been encouraged to take responsibility for assuring patient safety (Institute of Medicine, 2001; Joint Commission on Accreditation of Healthcare Organizations, 2003; National Quality Forum, 2002, 2003).

All of the mean values of General Surgery Department, Trakya University for patient safety culture were below 50% except "staffing". Our results suggest important opportunities for improvement. The overall safety grade is encouraging us for further steps. The patient safety culture score for General Surgery Department, Trakya University was lower than US hospitals. Only the 12th (nonpunitive response to error) and 10th (staffing) questions' results are similar.

There is no structured patient safety system available yet in Turkey. Besides, the events, which threaten the safety of patients and personnel, are monitored, recorded, analyzed and improved according to the standards at the hospitals accredited/to be accredited by an international accreditation agency. However, the fact that reporting culture is quite different among the institutions and corporate efforts are made rather than a common structure should not be ignored. Societies, which aim to develop patient safety and quality of health, were established in recent years in Turkey in order to spread the patient safety awareness and develop the culture.

Public authorities in Turkey addressed the patient's complaints and rights rather than patient safety until last year. The interest of the government on this issue was shown by way of organizing Seeking Patient Safety meetings in 2006. Also as a result of the agreement made between JCAHO and the Ministry of Health, studies were started and trainings were initiated at the pilot hospitals in order to realize hospital standards.

Governmental or non-governmental organizations should establish a patient safety program and communication system based on international good practice studies, and should regard the patient's safety as a prioritized field to be improved (Daniel et al., 2005).

Prescriptive guidance on how to create cultural change is still limited, although there is emerging consensus on some of the cultural attributes that contribute to patient safety such as teamwork, leadership support, and communication (Wong et al., 2002).

The most important finding of this study is the lack of a structured system and leadership on patient safety in hospitals. This study shows that hospital management must have a big role in creating the culture of patient safety. An action plan must be prepared according to survey results. Administrators, the owner of this process must declare to everyone ownership, ensure open communication between managers-employees and between patients and provide its continuity, identify patient safety threatening situations and delegate responsibility to reduce errors, allocate resources, ensure continuity of training. This action plan must be carried out by both education and practice. Patient safety should be added to the curricula of medical school and nursing schools (WHO Patient Safety Curriculum Guide for Medical Schools – http://whqlibdoc.who.int/publications/2009/9789241598316_eng.pdf) (2013). Patient safety issue must not be an individual effort; it must be structured organizational and national aim.

In this context, developing a procedure for patient safety, medical, or establishing incident reporting form or other alternative tools for medical errors or near misses, all employees should be educated about patient safety, and root cause analysis should be done for sentinel events. Established Health Quality Standards by Ministry of Health which is similar with JCI Accreditation Standards should be a mandatory for university hospitals too.

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