

Patient safety culture of health professionals

Sağlık profesyonellerinin hasta güvenliği kültürü

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Abstract

Medical institutions should eliminate factors threatening patient safety to give the health service in quality. In this study main purpose is to determine the perception and attitude of health professionals on patient's safety. Material and Methods: A descriptive study was conducted at the university hospital through November 2010-February 2011. The population and sample of research were comprised of health professionals from all departments and response rate was 54% (n=261). Data collected with Hospital Survey on Patient Safety Culture. 70.1% of the health professionals in the study were nurse and 29.9% were assistant doctors, 37.5% of the participants were working at surgery department, 36.4% were in internal medicine departments and 26.1% were in intensive care unit-emergency room-operating room. According to answers given in the survey, high rates were resulted in 'team work within units' and 'overall perception of patient safety'. Low rates were measured for 'staffing' and 'nonpunitive response to error'. Inadequate staffs, accusing-punitive approach, intensive workload, absence of error reporting system are factors weakening the patient safety environment. Awareness of errors, education programs, supporting environment and legal regulations must be done to develop the culture. Also staff's working and shift hours must be regulated.

Keywords: Patient safety culture, health professional, nurses, quality

Özet

Sağlık hizmeti veren kurumlar kaliteli hizmet sunabilmek için hasta güvenliğini tehdit eden faktörleri ortadan kaldırmalıdır. Bu çalışmanın amacı sağlık profesyonellerinin hasta güvenliğine ilişkin görüşlerini ve algılamalarını belirlemektir. Çalışma Kasım 2010- Şubat 2011 tarihleri arasında bir üniversite hastanesinde yürütülmüş tanımlayıcı bir çalışmadır. Çalışmanın evrenini ve örneklemini hastanenin tüm birimlerindeki sağlık profesyonelleri oluşturmuştur ve katılım oranı %54'tür (n=261). Veriler Hasta Güvenliği Kültürü Hastane Anketi ile toplanmıştır. Çalışmaya katılan sağlık profesyonellerinin %70.1'i hemşire ve %29.9'u asistan doktor; %37.5'i cerrahi birimlerde, %36.4'ü dahili birimlerde ve %26.1'i yoğun bakım-acil servis-ameliyathanede çalışmaktadır. Anketin tüm maddeleri incelendiğinde en yüksek olumlu cevap yüzde ortalamalarının 'Üniteler içinde ekip çalışması', 'Güvenliğin kapsamlı algılanması' alt boyutlarına ait olduğu belirlenmiştir. En düşük ortalamaların ise, 'Personel sağlama', 'Hataya karşı cezalandırıcı olmayan yanıt alt boyutlarına ait olduğu belirlenmiştir. Yetersiz personel, suçlayıcı-cezalandırıcı yaklaşım, yoğun iş yükü, hata raporlama sisteminin eksikliği hasta güvenliğini zayıflatan faktörlerdir. Hasta güvenliği kültürünün gelişmesi için hataların farkına varma, eğitim programları, destekleyici ortam ve yasal düzenlemeler sağlanmalıdır. Ayrıca çalışanların çalışma ve vardiya süreleri düzenlenmelidir.

Anahtar kelimeler: Hasta güvenliği kültürü, sağlık profesyoneli, hemşireler, kalite

Introduction

Patient safety is an issue that is relevant for all health care systems and is an important component of quality assurance studies. The National Patient Safety Foundation defines patient safety as 'prevention of errors through the health care services and decrease or removal of effects of errors regarding these services'. Patient safety can also be defined as an activity made by the medical institutions and medical staff to protect patient from any complication that might be by given medical health service (1-5).

At each stage of health care service, providing patient safety and prevention of medical complications are among the priorities of health system. Assuring patient safety and prevention of medical

complications are primary components of quality in health care service. In order to assure quality in health systems, policies should be generated appropriately to regulate and develop applications of medical institutions, medical staff and patients (6-9). Health care institutions should be able to meet basic requirements and carry out procedures that are necessary for patient safety without any missing or failing points and in accordance with the procedure; they should eliminate the factors threatening patient safety in order to give a qualified health service (10-12).

Issues threatening patients' safety can be defined as all kind of complicating events that can influence the success of treatment during all care processes. This process should cover the period starting from the first contact with the patient and to the moment that

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treatment finished. According to the literature, it was found that majority of medical errors threatening patient safety are related not to people but to system (6-8,11,13). In this context, in system development:

- Missing and inadequate documentation,
 - Drug treatment without adequate control mechanisms,
 - Lack of affective internal communication and patient information,
 - Lack of security and safety in the facility,
 - Lack of coordination in the institution,
 - Calibration errors of medical devices,
 - Not using double check rule in practices,
- should be considered as the most important factors endangering patient safety (11).

The institutions giving medical health service are complex organizations, in which health professionals from different branches give service through diverse and complex processes. Even these health institutions involved with human life, sometimes they are not lucky in terms of human sources and utilities. Therefore there is a risk of medical errors because of the lack of talent and education of medical staff who are working in medical institutions that have many critical functions. These institutions are also hospitals for training and inexperienced students, assistant doctors have to make practice. So even they are in supervision of expert doctor, medical complications cannot be prevented (11-15). Data on patient safety are hard to collect since there are no standard definitions of complications, surveillance systems rely on self-reporting of the individual that made the mistake. Risk groups are very large and it cannot be exactly determined when the event occurred. These errors may lead to morbidity and mortality of the patients and may cause increase in cost of institutions (15,16).

Patient safety culture is among the leading subjects that should be improved in health care services. Therefore, this study was planned to determine the patient safety culture of health care professionals working in a university hospital, where quality and patient safety issues have become an important concern recently.

Material and Methods

Design and Sampling

The population of this descriptive study comprised of 482 health professionals (297 nurses and 185 assistant doctors) working in the university hospital of Denizli, Turkey and data were collected between November 2010 - February 2011. In the study all of the population have been sample. The study was conducted with 261 health professionals that accepted to participate in the study. 54% of the universe accepted to attend, but 46% refused to participate in the study.

Measurements

In order to collect data, 'Hospital Survey on Patient Safety Culture' was used. Hospital Survey on Patient Safety Culture was developed by Agency for Healthcare Research and Quality - AHRQ in 2004 in order to check patient safety culture in any unit in the hospital. Its reliability and validity study in Turkey was carried out by Bodur and Filiz in 2010. It's a likert type questionnaire that has 12 subscale dimensions and 42 questions including 'overall perception of patients' safety' (4 statements), 'reporting frequency of events' (3 statements), 'team work in different units of hospital' (4 statements), 'medical attention and transitions' (4 statements), 'expectations of management and patient safety promoting actions' (4 statements), 'organizational learning and continuous improvement' (3 statements), 'teamwork within units' (4 statements), 'perspicuous communication' (3 statements), 'feedback and communication about mistakes' (3 statements), 'non punitive response to mistakes' (3 statements), 'staffing' (4 statements) and 'management support for patient safety' (3 statements) (17).

In the evaluation of the questionnaire, the percentage of positive answers is used. This survey widely used in hospitals in USA and data base was developed by AHRQ in order to evaluate results and a Benchmark Score was generated from percentages of positive responses. Results obtained in studies are evaluated by using this Benchmark Scores and the scale's cronbach alpha value was 0.86 (17). The cronbach alpha value was 0.84 in this study.

Statistical Analysis

SPSS for Windows 11.0 (Statistical Package For Social Science) program was used in analysis of the data collected in this study. In the analysis of descriptive statistics (mean, standard deviation, percentage and min max values), One Way Anova, independent sample t test, Kruskal Wallis and correlation test were used. $p < 0.05$ level was considered as statistically significant.

Ethical Consideration

Before carrying out the study, approval of Filiz who developed the Turkish version of the survey and also approval of medical ethics committee and the hospital that the study was conducted were asked. In addition, health professionals were informed for the aims and benefits of the study and their verbal and written informed consent was asked.

Limitations

This study was limited only to the feedback of the health professionals attended in the study and can be generalised to the health professionals in the hospital

Table 1. Mean Dimension Scores on The Hospital Survey on Patients Safety Culture According to Demographic Characteristics of Health Professionals

	n (%)	Overall perception of patient safety	Frequency of events reported	Team work across units	Handoffs and transitions	Manager expectations and action promoting patient safety	Organizational learning and continuous improvement	Team work within units	Communication openness	Feedback and communication about errors	Non punitive response to errors	Staffing	Management support for patient safety
Overall mean positive response percentage	261 (100)	59.7	28.59	43.27	53.34	47.0	58.63	76.35	47.06	57.13	23.06	22.02	31.89
Benchmark Score		56.0	54.0	47.0	35.0	70.0	66.0	75.0	60.0	59.0	37.0	48.0	62.0
Gender													
Female	199 (76.2)	60.42	29.46	47.22	57.90	50.62	61.46	75.25	55.96	57.93	27.96	27.77	37.03
Male	62 (23.8)	57.67	25.80	30.65	38.72	35.45	49.46	65.72	33.83	47.83	24.73	17.37	20.96
p		0.41	0.97	0.00	0.00	0.01	0.02	0.08	0.00	0.00	0.06	0.00	0.00
Education status													
High school	16 (6.1)	75.00	41.66	53.15	57.85	59.42	87.53	95.32	70.86	77.13	33.36	31.25	29.2
Pre license	43 (16.5)	54.65	17.06	45.35	51.75	45.37	58.13	69.20	56.56	56.60	34.13	36.65	43.4
Baccalaureate degree	202 (77.4)	59.65	30.06	42.07	53.32	46.40	56.43	72.02	48.86	51.83	25.76	23.02	31.36
p		0.64	0.03	0.41	0.09	0.06	0.00	0.06	0.08	0.04	0.45	0.00	0.07
Profession													
Nurse	183 (70.1)	62.55	30.43	45.37	59.02	49.87	63.56	78.27	58.46	58.30	29.86	27.32	36.8
Assistant doctor	78 (29.9)	58.42	24.36	38.50	40.05	40.37	47.00	60.57	35.06	44.43	22.23	22.12	24.76
p		0.02	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.15	0.01
Unit worked													
Internal Units	95 (36.4)	57.90	27.36	46.30	59.47	48.70	53.30	72.65	57.90	53.70	29.10	23.42	34.73
Surgical units	98 (37.5)	60.22	35.06	46.42	50.75	49.97	59.86	71.70	47.96	55.76	25.83	26.80	34.36
Intensive care/ Emergency/ Operating room	68 (26.1)	61.80	21.06	34.55	48.52	40.45	64.23	75.37	47.53	52.43	27.93	30.52	29.40
p		0.60	0.40	0.01	0.23	0.28	0.00	0.09	0.27	0.02	0.41	0.14	0.16
Weekly work hours													
40 hours or less	39 (14.9)	59.60	5.96	44.87	58.35	46.92	51.92	75.00	53.83	43.60	28.20	33.35	57.26
40-49 hours	129 (49.4)	67.42	38.53	46.50	59.07	49.60	66.66	81.20	61.00	64.33	27.13	25.20	33.60
More than 50 hours	93 (35.6)	49.17	24.36	38.20	43.30	41.42	46.96	60.75	37.26	44.46	26.53	23.40	22.60
p		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00

that the research carried out. In addition, even privacy measures taken in the study were explained to attendants, only 54% wanted to participate.

Results

Mean age of health professionals in the study was 30.08 ± 5.08 and 76.2% of them were female, 77.4% of them had a baccalaureate degree and 70.1% of them were nurses. 37.5% of health professionals were working in surgical units, 36.4% of them were in internal medical units. 49.4% of the participant was working for 40-49 hours in a week (Table 1).

When answers of the survey were analysed, it was founded that the highest rate of mean positive responses were given for 'teamwork within units' (76.35%), 'overall perception of patients' safety' (59.7%), 'organizational learning and continuous improvement' (58.63%) and 'feedback and communication about mistakes' (57.13%), while the

lowest rates were given for 'staffing' (22.02%), 'nonpunitive response to mistakes' (23.06%), 'reporting frequency of events' (28.59%) and 'management support for patient safety' (31.89%). In nine dimensions of the survey, average scores were lower than the Benchmarking scores (Table 1).

In most of the dimensions, there is a difference in responses regarding the gender, where female's rate of positive responses is higher in all dimensions. The difference was found to be statistically significant in all dimensions ($p < 0.05$) except for 'overall perception of patients' safety' ($p = 0.41$), 'reporting frequency of events' ($p = 0.74$), 'teamwork within units' ($p = 0.08$) and 'nonpunitive response to mistakes' ($p = 0.06$) (Table 1).

No difference was found in most of dimensions of the survey regarding the degree of education ($p > 0.05$). In all dimensions, positive answer rates of high school

graduates were higher than health professionals who were university graduates that have pre-license and baccalaureate degree. This difference was found to

be significant in dimensions of 'reporting frequency of events' ($p= 0.03$), 'organizational learning and continuous improvement' ($p=0.00$), 'feedback and

Table 2. The Degree of Patients Safety According to Units and the Number of Reported Events

	n (%)	Units			P
		Internal Units (95)	Surgical Units (98)	Intensive Care (68)	
Degree of patients safety					
Excellent					0.40
Very good	32 (12.3)	10	15	7	
Acceptable	78 (29.9)	34	23	21	
Weak	99 (37.9)	30	43	26	
	52 (19.9)	21	17	14	
The number of reported events					
None	189 (72.4)	59	83	47	0.00
1-2 events	54 (20.7)	26	11	17	
3-5 events	18 (6.9)	10	4	4	

communication about mistakes' ($p=0.04$) and 'staffing' ($p<0.05$) (Table 1).

In most of divisions of the patient's safety culture there is a difference regarding areas of specialization of the attendants. In all dimensions, the rate of nurse's positive answers were higher than medical doctors and this difference was statistically significant in all dimensions except the dimensions of 'nonpunitive response to mistakes' ($p=0.07$) and 'staffing' ($p=0.15$) (Table 1).

When positive answers were compared regarding the departments, not much difference was found. The scores of the dimension 'organizational learning and continuous improvement' were lower in surgical units ($p=0.01$), and scores of dimensions 'teamwork across units' ($p=0.01$), and 'feedback and communication about mistakes' ($p=0.02$) were lower in emergency, intensive care service and operating room. Positive response rates were found to be lower in emergency service, intensive care and operating room (Table 1).

Regarding working hours there are differences in most of dimensions of health professionals' patient's safety culture. In all dimensions, positive response rates are higher in health professionals that are working 40-49 hours in a week than those working less than 40 hours and more than 50 hours. The difference was statistically significant in all dimensions except for 'non punitive response to mistake' ($p=0.00$) (Table 1).

The safety level of patients in the hospital that the study was conducted was evaluated as 'acceptable' by 37.9% of health professionals and rated as 'very good' by 29.9%. There wasn't any significant difference in the degree of patient safety level regarding the gender, occupation, education status, department and working hours in the hospital that the study was conducted ($p>0.40$) (Table 2).

It was determined that majority (72.4%) of the health professionals did not reported complications in means of patient's safety. There wasn't any significant difference between the gender, age, occupation, education status and working hours ($p>0.05$), while a significant variance measured in means of departments ($p=0.00$) (Table 2).

Discussion

Provision of patient safety in health services, is an issue that should be addressed by each country notwithstanding the development level (5,7,14,15). Patient safety has to be one of the most important components of institutional culture. Medical error or patient safety is one of the crucial subjects of quality assurance programs in health services (4,6,10,13). One of the way of giving high quality and efficient service is to prevent losses regarding medical errors and effective use of resources (15,18). In this study, which was made to determine the perception of health professionals regarding patient safety culture, most of the participants were nurses (70.1%), females (76.2%) and university graduate (77.4%). In the hospital, 61.6% of nurses and 42.2% of assistant doctors accepted to participate in the study. It was observed that nurses are more sensitive on the patient safety issue, as most of the participants were female and nurse. The presence of lectures related to health safety culture in the academic curriculum of nursing might be one of the effecting points.

When all articles and dimensions of the survey were analysed, it was determined that positive responses to 'team work within the unit', 'overall perception of patient safety', 'organizational learning and continuous learning' and 'feedback and communication about error' were more, while the lowest rates were measured in 'staffing', 'nonpunitive response to mistakes', 'frequency of reporting mistakes' and 'management support for patient safety'. In a study carried out by Basbakkal et al. on nurses using the same survey, higher rates of positive responses were resulted in 'overall perceptions of

patient safety' 'teamwork within units' and 'handoffs and transitions' and lower rates were measured in 'nonpunitive response to mistakes', 'staffing' and 'reporting frequency of mistakes' (19). In that study, highest rates of positive response were measured in 'teamwork within units', 'manager expectations and actions promoting patient safety', 'Management support for patient safety' and 'organizational learning and continuous improvement', while the lowest rates were measured for 'nonpunitive response to error', 'handoffs and transitions' and 'staffing' (9). Coherence in different studies discloses the fact that perspective to patients' safety is similar in different countries and there are deficiencies in patient safety. As stated by Tutuncu et al, this is because due to fear of managers and co-workers, the presence of a accusing and punitive approach in institutions, absence of mistake reporting systems in hospitals and the fact that few health professionals give service to large number of patients (18).

The patient safety level was found to be 'acceptable' by 37.9% of health professionals and 'very good' by 29.9%. In the study carried out by Dursun et al. using the same survey on nurses and auxiliary health personnel, the degree of patient safety was measured as 'very good' by 49.2% and 'acceptable' by 27.6% (20). In the study of Bodur and Filiz, 36.0% of the participant replied it 'very good' and 49.0% replied it 'acceptable' (21). In study of Basbakkal et al., 52.0% of nurses rated it as "acceptable" and 38.0% rated it as "very good" (19). In AHRQ, 22.0% replied the patient safety level as 'excellent' and 48.0% rated as 'very good' (9). Even there is coherence between the results, the variance in AHRQ shows that studies on quality and patient safety are new in our country and practice of patient safety is inadequate and remains limited to quality studies.

In the study, it was found that most of the health professionals (72.4%) did not report the mistakes regarding the patient's safety. In many studies that are made for patient safety, it is stated that reporting of mistakes by health professionals is failing. In studies of Bodur and Filiz, the corresponding figures were found to be respectively 90.0% and 84.0% and in the study of Basbakkal et al 97.0% (17,19,21). In the literature, the reasons of this were given as; intensive working of physicians and nurses, the punitive and accusative approach to mistaken professionals in institutions, being afraid of reactions of managers and colleagues and lack of mistake reporting systems in hospitals (4,7,11,12,15,18). In the study of AHRQ, this rate was 53.0%. The difference between the studies made in Turkey and the study of AHRQ might be because of personal attitudes on the correction and prevention of errors, institutional practice and structures on patient safety and difference in countries' laws (9,13,14). In order to prevent this, activities for the development of positive attitude on patients safety can be organised,

a nonpunitive institutional culture can be developed and work conditions can be improved.

Conclusion

The development of patient safety culture is the responsibility of all health professionals. Moreover, there should be a structure that management and staff make their own and undertake the responsibility and fulfil their duties.

The results of the study showed that health safety is perceived adequately and showed that there is an active team work in between units and professionals are open to learning and continuous improvement. It was also concluded that health professionals in the institution are open to feedback and reporting mistakes, but reporting of the events and support of hospital management to them is insufficient. In accordance with the result of the study, the level of patient safety culture should be measured regularly, necessary revisions and adaptations should be made according to results, institution's management should have a nonpunitive approach, obstacles to reporting of errors should be cleared, communication systems that will facilitate the reporting of error should be established and used, the management of the institution where the study was conducted should be informed about the results, and constructive recommendations should be made when necessary, small working units should be established in different units in order to stimulate activities for patient safety, it should be made possible for all professionals in the institute to address the issue and the institution should reserve sources to develop the patient safety culture. It should be acknowledged that patient safety and relevant institutional culture is one of the issues in health institutions that should be having priority and necessary studies should be started to render the issue more popular.

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