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The Patient Safety Culture Perception of Surgery Nurses and Its Relationship with Sociodemographic Characteristics

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ABSTRACT

The aim of this study was to determine the Patient Safety Culture Perception (PSCP) of the surgery nurses working in the hospitals in Afyonkarahisar and to examine of relationship between PSCP and sociodemographic characteristics. Total of 121 nurses working in the surgery units of the hospitals in Afyonkarahisar participated in this survey. This study, may be defined as a descriptive study by revealing the current status about patient safety culture. "Hospital Survey on Patient Safety Culture" questionnaire is used to collect data. In the study, frequency, percentage mean, standard deviation, independent samples t test and one way ANOVA were used for data analysis. It was found that the general perception of the nurses on all the subscales of the Patient Safety Culture (PSC) was at medium level. However in all other subscales, nurses in government hospitals and University graduated nurses have more negative perception than nurses working in private hospitals and high school graduated nurses accordingly. It was defined that the understanding and perception of the nurses for reporting, communication and your work area/unit who are 20 years old or younger was relatively higher than the others. In conclusion, the PSCP levels of surgery nurses were at medium levels according to this study.
Keywords: Patient safety; patient safety culture; surgery nurse.

Cerrahi Hemşirelerinde Hasta Güvenliği Kültürü Algılarının Belirlenmesi ve Sosyodemografik Değişkenler İle İlişkisi

ÖZ

Bu çalışmada, Afyonkarahisar il merkezinde faaliyet gösteren hastanelerde görev yapan cerrahi hemşirelerinin hasta güvenliği kültürüne ilişkin algılarının belirlenerek, hemşirelerin sosyodemografik özellikleri ile ilişkisinin ortaya konması amaçlanmıştır. Toplam 121 cerrahi hemşireden elde edilen anketler değerlendirmeye alınmıştır. Araştırma hasta güvenliği kültürüne ilişkin mevcut durumu ortaya koyması bakımından betimsel (descriptive) bir çalışma niteliğindedir. Veri toplama yöntemi olarak anket tekniği kullanılmış olup, bu çalışmada Hasta Güvenliği Kültürü Hastane "Hospital Survey on Patient Safety Culture" anketi kullanılmıştır. Verilerin analizinde ortalama ± standart sapma, frekans, yüzde, t testi ve varyans analizi kullanılmıştır. Çalışmada, hemşirelerin hasta güvenliği kültürüne ilişkin her bir boyuttaki genel algılarının orta düzeyde olduğu saptanmıştır. Bunun yanında devlete bağlı hastanelerde görev yapan hemşirelerin, özel hastanelerde çalışanlara göre daha olumsuz bir algı içerisinde oldukları tespit edilmiştir. 20 yaş ve altındaki hemşirelerin hasta güvenliği kültürüne ilişkin çalışılan birim, iletişim ve raporlama ile ilgili algısının diğer gruplardan yüksek olduğu belirlenmiştir. Araştırmada, cerrahi hemşirelerin hasta güvenliği kültürü algısının orta düzeyde olduğu sonucuna varıldı.
Anahtar Kelimeler: Hasta güvenliği; hasta güvenliği kültürü; cerrahi hemşiresi.

INTRODUCTION

Primary target of the health care personals should provide proper health care to patients without causing any harm to them (1). Nurses who are skilled, calm during complicated situations, actively working, capable of thinking seriously, able to cope up with difficulties and creating a bridge among the other personnel in the system are considered very important group for community as they play a key role in creating the PSC (2).

Surgery nursing is more stressful than other nursing departments. As working together with the team in a surgical environment for long period of time, quick decision making, facing issues and complications, makes the surgical nursing more stressful than other nursing departments. In addition to important facts in the surgical clinics like medication errors,

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wrong patient surgery, forgetting surgery tools inside the patient, hospital infections, wrong diagnosis, system disability, patient fall, errors on patient information entered into the system can cause risks on patient safety (3-5). Therefore creating the PSC of the surgical nurses is very important.

American Association of Nurse Executives indicated that, a safety culture for patients should be adopted to unveil the errors and to manage their immediate corrections in the health organizations (6). The PSC in the health organizations will create a friendly environment which assists in discussing the errors, their process and the issues related to the system freely, without the scare of being punished (7). Although PSC is not a new area but its perception and guidelines keep changing every year. Especially, this area has not been studied before among surgery nurses and lack of knowledge is observed among health care organization regarding this.

The aim of this study was to define the PSCP of surgery nurses, working in the hospitals of Afyonkarahisar and to understand the relationship with the socio-demographic characteristics of the nurses.

MATERIALS AND METHODS

Study Design

This descriptive study, practical and aggregate features, as it brings out the PSCP of the surgery nurses working in both private and government hospitals of Afyonkarahisar.

Setting and Samples

The population of the study was consisted of 138 surgery nurses working at Afyon Kocatepe University Hospital, Afyon Government Hospital, Private Fuar Hospital and Private Park Hospital, all were located in Afyonkarahisar city center. Sample selection was not performed in the study and, it was aimed to reach all the surgery nurses in all the hospitals of Afyonkarahisar. The study was conducted between December 2013 and March 2014. The surveys were handed over personally to 138 nurses by the researcher, after that the relevant information was passed to them. Total of 121 surveys were included for the assessment process, and 17 of the surveys (the incomplete surveys, not willing to participate, being on vacation etc.) were excluded.

Ethical Consideration

This descriptive study, practical and aggregate features, as it brings out the PSCP of the surgery nurses working in both private and government hospitals of Afyonkarahisar. Necessary written permission from the hospital managements and Afyon Kocatepe University Faculty of Medicine Ethical Committee approval (12.07.2013:94862910-129) was obtained for the study.

Measurements

Survey technique was used for data collection. The survey used in the study consisted of 6 main parts. In the first part of the survey, there were questions to identify the socio-demographic characteristics of the nurses and some evaluation regarding those (number of incidents reported, level of patient safety). Following parts of the survey were consisted of, Hospital Survey on Patient Safety Culture (your work area/unit, your supervisor/manager, communications, frequency of events reported, your hospital) to define the PSCP of surgery nurses. Hospital Survey on Patient Safety Culture was developed by Agency for Healthcare Research and Quality (AHRQ) in United States on 2004 to define the PSCP (8). Validity and the reliability study of the survey in Turkey was carried out by Bodur and Filiz (9), and Cronbach's Alpha coefficient was considered α=0.86.

In the survey was used 5-point Likert response scales of agreement levels (“Strongly disagree=1”, “Disagree=2”, “Neither=3”, “Agree=4” and “Strongly agree=5”) and frequency levels ("Never=1", "Rarely=2", "Sometimes=3", "Often=4" and "Always=5"). it was indicated that the more scores achieved towards 5 on positive points, the better PSCP was present and the more scores achieved towards 5 on negative points the last PSCP was present. The negative points in the scale were analyzed by reverse score.

Participant nurses were briefly informed about the purpose of the study and the methods applied as well as the questionnaire and the scale used by the researcher. The questionnaire and the scale were administered by way of face to face interviews after the written and verbal consent of the subjects had been taken. The questionnaire took approximately 10-12 min to complete.

Statistical Analysis

Statistical Package for the Social Sciences (SPSS) 18.0 was used for the analysis of the collected data. The socio-demographic characteristics of the nurses were presented in frequency and percentage method. Frequency, percentage range together with arithmetic mean and standard deviation were used to describe the PSCP levels of the nurses. In addition to this, parametric tests like independent samples t test (for two groups) and one way ANOVA (for more than two groups) were applied during the comparison of the PSCP of the nurses according to their socio-demographic characteristics. Results were evaluated using 95% confidence intervals (the level of significance was set at $p < 0.05$).

Study Limitation

One of the limitations of this study is that it was done at only surgery nurse with a small sample.

RESULTS

Socio-demographic characteristics of the nurses showed that 47.9% of them were under 25 years old, 26.4% were 31 years or older, 76.9% were females, 60.3% were single and 51.2% were graduated or post postgraduate. Moreover it was determined that 69.4% of the surgery nurses were based in government and 50.4% of these were working in operating room, 60.4% of them were working from 2-7 years, 47.9% of them were working during the day shift, 36.4% of them were working at day-night shifts and 53.7% of them were working between 40-49 hours a week (Table 1). It was found out that 85.1% of them did not report any incidents from the last 12 months, whereas 14.9% of them reported 1-3 incidents in this period (Table 2). When nurses were asked to grade their working units on patient safety, 43.8% of the results were acceptable, 33.9% of them were very good and 9.9% of them were poor and unsuccessful (Table 3).

Table 1. The range of the nurses according to their socio-demographic characteristics (n=121)

Variables	Groups	n (%)
Age	< 20 Years	19 (15.7)
	21-25 Years	39 (32.2)
	26-30 Years	31 (25.6)
	31-35 Years	17 (14.0)
	≥ 36 Years	15 (12.4)
Gender	Male	28 (23.1)
	Female	93 (76.9)
Marital Status	Single	73 (60.3)
	Married	48 (39.7)
Education	High School	59 (48.8)
	Graduated	62 (51.2)
Hospital type	Private Hospital	27 (30.5)
	Government Hospital	84 (69.4)
Work Area/Unit	Surgical Unit	33 (27.3)
	Intensive care Unit	27 (22.3)
	Operating Room	61 (50.4)
Professional experience	< 2 Years	26 (21.5)
	2-4 Years	37 (30.6)
	5-7 Years	36 (29.8)
	≥ 8 Years	22 (18.2)
Shift	08.00 am-16.00 pm	58 (47.9)
	16.00pm-08.00am	10 (8.3)
	08.00am-16.00pm/ 16.00pm-08.00am	44 (36.4)
	08.00am-08.00am	9 (7.4)
Working Time in Hospital (Hours Per Week)	< 40 Hours	14 (11.6)
	40-49 Hours	65 (53.7)
	≥ 50 Hours	42 (34.7)

Table 2. The range of nurses according to number of events reported

Number of Incidents	n	%
Ever	103	85.1
1-2 events	15	12.4
Atleast 3 events	3	2.5

Table 3. Percentage of respondents giving their work area/unit a patient safety grade

Assessment	n	%
Excellent	15	12.4
Very Good	41	33.9
Acceptable	53	43.8
Poor	7	5.8
Failing	5	4.1

Table 4. Some statistics of PSCP related to subscales

Subscale	Number of Items	Cronbach's Alpha	Mean	SD
YWA/U	18	0.857	3.37	0.59
YS/M	4	0.735	3.09	0.78
Com	6	0.801	3.38	0.84
FER	3	0.726	3.08	0.97
YH	11	0.814	3.40	0.70

SD=Standard Deviation, YWA/U=Your Work Area/Unit, YS/M=Your Supervisor/Manager, Com= Communications, FER=Frequency of Events Reported, YH=Your Hospital

Cronbach's Alpha coefficient (Table 4) was found 0.70 on subscales of PSCP all nurses. Moreover, general arithmetic mean of your hospital (3.40±0.70), communication (3.38±0.84) and your working area/unit (3.37±0.59) was higher than management (3.09±0.78) and reporting (3.08±0.97). When these values were considered, the PSCP mean values were higher than value of 3 which is accepted as middle point on 5 point Likert type scale.

According to Table 5, significant relationship was detected between the age groups and subscales of your work area/unit, communications and frequency of events reported ($p<0.05$).

The perception of your work area/unit, communications and frequency of events reported among nurses of 20 years old or less was higher statistically when compared with other nurses. The PSCP based upon the education levels showed significant difference for each subscale ($p<0.05$). The PSCP of graduated nurses showed lower mean for all subscale when their means were examined. PSCP of nurses working in private hospitals had more positive values in all subscales than nurses working in government hospitals ($p<0.05$).

DISCUSSION

When nurses graded their working environment on PSC, approximately half of them were acceptable and around 10% of them were poor or at unacceptable level. Similarly, the general mean on subscales of PSC was detected at medium levels. These results showed that the PSC is a new subject in Turkey which needs to be focused. This can be explained by "Safe Surgery Control List" application approved and applied by Ministry of Health in Turkey in line with World Alliance for Patient Safety Guidelines for Safe Surgery, which created this application to minimize the fatality due to surgical errors in 2009 (1). The results of this study relates with other studies on patient safety (9-14). "Your work/unit" aspect of PSC shows parallel with "Patient Safety Grade" data and this shows high credibility of the study.

The results showed higher values of PSCP on your hospital, communication and your work area/unit when compared with your supervisor/manager, frequency of events reported. The patients who had surgery and staying in ICU have higher risks on patient safety and medical errors. The reasons of medical errors based upon the organization and the technical fundamentals rather than the individuals for the general patient safety (15,16). The high level of perception on "Your hospital" aspect showed that the manpower is at enough level in the surgery units of the organizations. At the same time this shows that organizations can have sufficient technical fundamentals and organizational integrity. Our results are compatible with (9,11).

The perception on "communication" aspect was assessed at medium level in this study. To improve the patient care, nurses should have necessary equipment and good communication skills. The communication inside the organization and among the team is very important to improve the nursing care (16,17). Tiredness, negligence, stress, noisy working environment, individual and

Table 5. The comparison of PSCP of nurses based upon their socio-demographic characteristics

	Patient safety perception				
	YWA/U	YS/M	Com.	FER	YH
Variables	M ± SD	M ± SD	M ± SD	M ± SD	M ± SD
Age					
< 20 Years	3.72±0.39	3.55±0.57	4.00±0.83	3.52±0.95	3.59±0.62
21-25 Years	3.41±0.66	2.95±0.74	3.26±0.71	3.33±1.12	3.44±0.62
26-30 Years	3.26±0.58	3.02±0.82	3.35±0.98	2.74±0.67	3.27±0.77
31-35 Years	3.24±0.48	3.14±0.75	3.26±0.57	2.76±0.82	3.39±0.31
≥ 36 Years	3.17±0.61	2.93±0.95	3.07±0.89	2.91±0.97	3.30±1.07
P-value	0.035*	0.070	0.009**	0.012*	0.575
Education					
High School	3.60±0.50	3.28±0.74	3.69±0.81	3.47±0.97	3.57±0.67
Graduated	3.14±0.59	2.90±0.78	3.08±0.77	2.70±0.82	3.23±0.68
P-value	<0.001**	0.008**	<0.001**	0.008**	0.008*
Hospital					
Private Hospital	3.74±0.42	3.40±0.68	3.75±0.74	3.44±0.95	3.79±0.61
Government Hospital	3.10±0.56	2.86±0.79	3.12±0.83	2.82±0.92	3.12±0.63
P-value	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**

*p<0.05. **p<0.01. *Note. M= Mean, SD= Standard Deviation. YWA/U=Your Work Area/Unit, YS/M=Your Supervisor/Manager, Com=Communications, FER=Frequency of Events Reported, YH=Your Hospital*

environmental factors and more importantly insufficient training and education are some of the reasons for the human errors in hospitals according to the studies (16). Having effective communication between the nurses in their own units and other unit staff is another important factor to create an efficient PSC according to one of the study (18). These results are consistent with similar studies (9-11,19). Khater et al. (20) stated in his study that communication aspect is one of the area that needs to be improved.

It was found out that the "your supervisor/manager" and "frequency of events reported" aspects of the PSC P of nurses had more negative results than the others. One of the most important aspect was the "your supervisor/manager" for the health organization staff to adopt the PSC and to implement the applications regarding this (21). Therefore managers have very vital role for these applications to come in to reality. The results of "your supervisor/manager" were not promising in the current study. This shows that managers do not embrace or support the PSC applications. The results of one of university hospital of Bahrami et al. (11) also relate our findings as there was also lack of management aspect awareness among supervisor/manager. According to the Ammouri et al.(19) and Sorra et al. (22) the findings of management aspect were at positive level. These differences in findings can be due to cultural differences, different countries and the different mind-set of the managers.

In this study the results of "the frequency of events reported" aspect was more negative compared to the other aspects. Similar results have been found by different studies (2,9,10,23). It was stayed in the study done by Sorra et al. (14) in USA shows that 55% nurses did not report any events. However the numbers of cases of 2 or more reports were relatively higher than other studies. When the results of this study were compared with the study conducted in USA, it showed that reporting culture is at very low level and the number of reports in Turkey is at the lowest level. This can be explained by PSC subject not being very well known, reporter being punished and managers being biased towards reporters. Even though, there is no harm due to the errors but these needs to be reported. By identifying the problems in the system, the more crucial harm can be avoided to the patients.

Literature showed that nurse education level has a positive impact on patient safety outcomes (22). The education organizations of different levels, train nurses at the same time with same title (24). Lack of quality trained and experienced nurses who are the biggest numbers in health organizations may lead to increase on undesired events (10). In this study, the PSCP values of High School graduated nurses were higher than graduated nurses. whereas only "your working are/unit", "communication" and "reporting" lower aspects of PSC values of nurses aged below 20 years were higher than nurses aged 20 or above. This can be explained due to critical approach of the nurses graduated and aged 20 or above towards to assessment of the scales. This study shows differences with studies of Gündoğdu and Bahçecik, Gökdoğan and Yorgun (2,25).

The perception of nurses working in government hospitals was more negative than the nurses working in private hospitals in this study. The government hospitals do not aim for the profit as their primary goal is to provide care. On the other hand private hospitals were established to provide care as well as giving the option to the patients to choose hospital where they can be cared more. However, the primary reason for their establishment is to earn profit by providing care. Due to financial concerns there is always less patient referrals to private hospitals. In line with this, busy working conditions and the high number of patients in government hospitals can be taken the main reasons for the nurses to have negative perception levels when they are compared with their colleagues in private hospitals. Additionally tense competition working environment and the management of the private hospitals adopting tight sanctions towards medical errors, might be the main reasons for nurses in private hospitals having positive PSCP levels. The results of our findings are in accordance of Gündoğdu & Bahçecik (2).

CONCLUSION

The PSCP levels of surgery nurses were at medium levels according to our study. This study is very important as it shows the current PSCP situation in Turkey and for the establishment and improvement of the PSC in Turkey. Having more scientific studies on the subject which is becoming more and more important every day in Turkey will inspire a scientific description and support the establishment of PSC in heath organizations especially among nurses of surgery unit.

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