

# Views of Senior Nursing Students on Patient Safety

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## ABSTRACT

The objective of the study was to evaluate the views and the level of information regarding patient safety of the senior nursing students in a school of nursing. A descriptive design was used, with a convenience sample of 81 students at a university of military nursing in Turkey. Data were collected by using questionnaire descriptive characteristics of the participants, their knowledge and views about patient safety. The first three topics included in the concept of patient safety from the students' views are provision of medicine safety (87.65 %), avoiding/following up infection in hospitals (87.65 %), avoiding patients' falling down (86.41 %). The views of the participants about the reporting of an adverse event it is found that that they mostly will inform about it to the authorized nurse in the hospital. These findings show that the participants have a positive attitude towards informing about adverse events to others.

This study underlines the importance of education and the need for implementing the patient safety in the nursing education. In order to establish safe environments for health-care and to have lasting effects, the students' awareness about patient safety should be improved.

**Key words:** Patient safety, nurse education, perception, view

## ÖZET

### Son Sınıf Öğrenci Hemşirelerin Gözünden Hasta Güvenliği

Çalışmamızın amacı bir hemşirelik yüksek okulu son sınıf öğrencilerinin hasta güvenliği ile ilgili bilgi düzeylerinin ve görüşlerinin değerlendirilmesidir. Örneklem grubunu 81 askeri hemşirelik öğrencisinin oluşturduğu bu çalışma tanımlayıcı tipte gerçekleştirilmiştir. Veriler katılımcıların tanımlayıcı özellikleri, hasta güvenliği ile ilgili bilgi ve görüşlerini içeren bir anket yoluyla toplanmıştır. Öğrencilerin gözünden hasta güvenliği kavramına giren ilk 3 konu; ilaç güvenliğinin sağlanması (%87.65), hastane enfeksiyonlarının önlenmesi (%87.65) ve hasta düşmelerinin önlenmesidir (%86.41). Katılımcıların gözünden istenmeyen olayların bildirim konusu incelendiğinde; çoğunluğu hastane başhemşiresini olayla ilgili bilgilendireceklerini ifade etmiştir. Bulgular katılımcıların istenmeyen olayların bildirim konusunda pozitif bir tutum içerisinde olduklarını göstermektedir. Bu çalışma hemşirelik eğitiminde hasta güvenliği konusunda eğitimin ve uygulama gereksiniminin altını çizmektedir. Sağlık bakımında güvenli bir ortam oluşturabilmek ve uzun süreli etki sağlamak için öğrencilerin hasta güvenliği konusunda farkındalıkları geliştirilmelidir.

**Anahtar kelimeler:** Hasta güvenliği, hemşirelik eğitimi, algı, bakış

## Introduction

Provision of patient safety and avoiding medical error through each step of health-care are among priorities of the health-care services. Institute of Medicine states that patient safety is one of the goals for the improvement of the health system for the 21th century (1). Since quality and accreditation related studies in the medical services have become widespread, the sensitivity to health-care services in Turkey has been increased (2). Patient safety involves all the steps taken by health-care institutions and health-care staff to prevent any medical error that may lead to adverse health-care events (3).

The term safety culture was introduced after the 1986 Chernobyl nuclear accident. The International Atomic Energy Agency identified a "poor safety culture" as a contributing factor (4).

Although the term "patient safety" has been commonly used in recent years, it is not completely a new concept. For instance, during the period of 1700 BC, there was a reference to patient safety in the Code of Hammurabi as follows: "If the doctor causes the death of his patient or violently injures him, then his two hands will be cut off..." (Article 219). Later, Galen developed the principle of "Primum nil nocere" (First, do no harm) that is still one of the basic paradigms of medicine. In 1883, British government employed the concept of "medical neglect" in the related codes. Florence Nightingale also mentioned about patient safety as follows: "...A hospital should firstly try not to damage the patients... What a hospital should not do is to sow germs" (5).

Since quality- and accreditation-related studies in the medical services have become widespread, the sensitivity to health-care services in Turkey has been increased. The concept of patient safety has

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become one of the interesting topics for patients themselves, academics, jurists, technology firms and consultants in Turkey as a result of the publications of the Ministry of Health such as Directive on Quality and Performance in Health (2011), Notification on Employee Healthcare and Patient Safety (2009) and The Code of Provision of Safety for Patients and Employee (2011) (6-8).

The field of health care recently focuses on the safety culture and adopts the philosophy of “error-free practices”. In 1999, the Institute of Medicine published the first report with the title of “To Err Is Human: Building a Safer Health System”. After this publication, patient safety began to be recognized as a priority in treatments. This report states that adverse medical events are the eighth cause for deaths (Specifically, more people die as a result of medical errors than from motor vehicle accidents, breast cancer, or AIDS) and that at least from 44,000 to 98,000 Americans die each year as a result of medical errors. The statistical findings published by its Joint Commission indicate that 61.3 % (n=3576) of 5764 patients experienced medical errors during the period from 2004 to 2011 died (9-10).

The findings of the study carried out in England indicate that ten percent of 900,000 patients applied for the hospitals belonging to the National Health System experienced adverse events in these institutions and that nearly half of such events could have been avoided. It is further argued that these adverse events threatening to patient safety might be the causes for the death of 72,000 patients, although it is not clear that how many of these adverse events are direct causes of deaths (11).

Although medical error and patient safety are significant concerns for all healthcare personnel, nurses are often regarded as responsible for medical error (12). Today, nurses carry out various tasks such as observing complex physiological states, using complex devices to save life, organizing the care provided and employing healthcare programs. Therefore, they more frequently take part in the provision of health-care services and therefore, the risk for nurses to make medical error increases (13,14). Nursing students are provided with the opportunity to practice in clinics during their training period. When students are participating in clinical practice, they enter a highly complex system of workplace learning,

in which various interactions affect task performance as well as how and what students learn. In designing courses on the principles of patient safety, educators should be mindful of this complexity (15). There are limited number studies concerning patient safety on a nursing student sample. In one of such studies carried out in Turkey it is found that 77.7 % of the student nurses imperil the patients’ safety (14). In another study dealing with the level of information of the first- and second-grade undergraduate students of the medicine faculty on medical error, it is concluded that “misdiagnose” is the most known medical error (16).

The process of nursing education is a valuable opportunity to provide the students with information about patient safety. The purpose of the study is to identify the views and the level of information regarding patient safety of the senior nurses.

## **Methods**

### **Design and setting**

This study was planned and applied as a descriptive study. Study was executed at a military nursing school in Turkey between September and December 2011.

In military nursing school, an integrated education model is used and, therefore, the curriculum is composed of committees. First-year courses in the nursing education are mostly concerned with basic nursing concepts (the structure and nature of human body, society and environment, etc.). Courses at the second and third years deal with the body systems (basic life requirements of human beings, heart and circulatory system, blood and the immune system etc.). In short, nursing students take the courses of professional nursing courses integrated with basic medical courses such as anatomy, physiology, pathology during the first three years of their graduate education. Examples of the related committees during this period of education are as follows: basic life requirements of human beings, heart and circulatory system, blood and the immune system, respiration, excretion, digestive system and metabolism, mental development and behavior, military nursing activity during the peacetime and extraordinary periods, sexual health and reproductive health. During these committees nursing students learn the structure, functions of the related systems and also, to understand how to evaluate the deviant cases as a part of nursing care. For instance, the

committee of 'human beings basic life requirements; heart and circulatory system' includes the anatomy, physiology, pathology of the circulatory system and the knowledge of the related medication, medical treatment and nursing care. Nursing students are given the information about patient safety during their committees.

Nursing education is organized as internship in the fourth year. In the internship program the general objective is to provide the nursing students with the opportunity to develop proficiency concerning the affective and behavioral skills that are given theoretically during the first three years of their nursing education and that they are expected to have at their graduation. Therefore, during four days of the week the final-year nursing students serve as interns for clinical practice, rotating in medical, surgical, emergency and public health departments. Each rotation period lasts for six weeks.

Before the beginning of internship, final-year nursing students participate in ten-day orientation program. They take five-hour course concerning patient safety and risk management.

### **Participants**

The participants of the study are senior nursing students attending to a military nursing school. The reason for selecting senior nursing students for the sample of the study is that they practice the skills they have learned theoretically and that they frequently come across events involving patient safety. During the academic year of 2011-2012, the study was conducted. There were a total of eighty-five senior nursing students. The mean age of the students is  $21 \pm 0.387$  (Min: 20-Max: 22). No specific sampling technique was followed in the study. Instead, all senior nursing students are included in the sample of the study. However, four student nurses could not participate in the survey questionnaire administration due to personal reasons and leave. Therefore, the participants of the study are a total of 81 senior nursing students.

### **Measurement**

A questionnaire prepared by the investigators and containing questions on descriptive characteristics of the participants included age, year in nursing school, their knowledge and views about patient safety, was used to collect the data.

### **Data collection**

The study was applied after written ethical approval of the ethical committee of the military education and research hospital and application permission of the nursing school. The application was realized by surveying on volunteer students after making necessary explanations about the aim of the study and the application procedures to the participants. The survey was filled by the participants in the classrooms and took about 30 minutes.

### **Data analysis**

The SPSS 15.0 (Statistical Package of Social Sciences Inc. Chicago, IL, USA) package program was used to evaluate data after transmission of data to computer environment and making necessary error controls. Descriptive statistics were shown in numbers (n) and percentages (%) for the variables obtained by counting and in mean  $\pm$  standard deviation for variables obtained by measurement.

### **Results**

The findings on the views and the level of information on patient safety of the student nurses are given below.

Table 1 shows the distribution of the participants' level of information concerning the concept of patient safety. As seen from the Table 1, 98.77 % of them have previously heard the concept of patient safety. In regard to their source of information about the concept of patient safety, it is found that 95.06 % of the student nurses (n=77) have learned the concept from the lessons they took. Clinical practices were also found to be one of the information source for the concept of patient safety for 53.08 % of the participants (n=43). Furthermore, 28.39 % of the participants (n=23) were found to be informed about the concept of patient safety through books. Presentations at congress were also found to inform the 21.98 % of student nurses (n=17) regarding the concept of patient safety. Only 9.87 % of the student nurses (n=8) were found to be informed by television about the concept of patient safety. Newspapers were also among the information sources about the concept of patient safety for 8.64 % of the participants (n=7). The rate of participants who informed about the concept of patient safety from their friends was found to be 8.64 % (n=7). In regard to the participants' views about their information level concerning the

concept of patient safety are as follows: the rate of the participants who regarded their information about patient safety as sufficient was found to be 66.67 % (n=54), whereas the rate of the participants who regarded their information as insufficient was found to be 45.68 % (n=37).

Table 2 presents the participants' views about the topics included in the concept of patient safety. These topics are found to be as follows: provision of medicine safety (87.65 %), avoiding/following up infection in hospitals (87.65 %), avoiding patients' falling down (86.41 %), designating and verifying the patients' identity (79.01 %), provision of safety in regard to transfusion of blood and blood products (77.77 %), provision of surgical safety (76.54 %), practices about basic life support (blue code) (74.07 %), provision of safety of infant and children patients (pink code) (60.49 %), provision of effective communication in healthcare service (56.79 %), avoiding physical attacks, sexual abuse and violence against patients (64.19 %), disasters (earthquake, fire, flooding) and extraordinary cases (red code) (48.14%), provision of employee safety (41.97 %), checking the visitors' entrance (49.38 %), having security in hospitals (45.67 %), queuing in hospital (37.03 %) and visiting hours (30.86 %).

Table 3 indicates the views of the student nurses in regard to hypothetical adverse events which occur as a result of their actions and to those which occur as a result of others' action. The views of the participants about the reporting of an adverse event if this hypothetical adverse event caused by themselves are as follows: the rate of those who reported that if such an event occurs, they will inform about it to the authorized nurse in the hospital is found to be 92.59 % (n=75). The rate of those who reported that if such an event occurs, they will inform about it to the directorate of nursing services in the hospital is 33.33 % (n=27). The rate of those who reported that if such an event occurs, they will inform about it to their close friend is found to be 13.58 % (n=11). The rate of those who reported that if such an event occurs, they will inform about it to the patient is 7.40 % (n=6). Only 1.23 % of the participants (n=1) reported that they will not inform anyone in such a case.

The views of the participants about the reporting of an adverse event if this hypothetical adverse event caused by others are as follows: the rate of those who reported that if such an event occurs, they will inform

**Table I. Participants' level of information about the patient safety (N =81).**

	n	%
Have you ever heard the concept of patient safety?		
Yes	80	98.77
No	1	1.23
Sources of learning the concept of patient safety*		
Committee lessons	77	95.06
Clinical practices	43	53.08
Books	23	28.39
Presentations at the congress	17	21.98
Television	8	9.87
Friends	7	8.64
Newspapers	7	8.64
My information about the concept of patient safety		
Sufficient	54	66.67
Insufficient	27	33.33
Information need about the concept of patient safety		
Yes	37	45.68
No	44	54.32

\*n is doubled.

**Table II. Views of the nursing students about the topics covered within the concept of patient safety (N =81).**

	n*	%
Provision of medicine safety	71	87.65
Avoiding/following up infection in hospitals	71	87.65
Avoiding patients' falling down	70	86.41
Designating and verifying the patients' identity	64	79.01
Provision of safety in regard to transfusion of blood and blood products	63	77.77
Provision of surgical safety	62	76.54
Practices about basic life support (blue code)	60	74.07
Avoiding physical attacks, sexual abuse and violence against patients (Black/grey code)	52	64.19
Provision of safety of infant and children patients (pink code)	49	60.49
Provision of effective communication in healthcare service	46	56.79
Disasters (earthquake, fire, flooding) and extraordinary cases (red code)	39	48.14
Provision of employee safety	34	41.97
Checking the visitors' entrance	40	49.38
Having security in hospitals	37	45.67
Queuing in hospital	30	37.03
Visiting hours	25	30.86

\*n is doubled.

about it to the authorized nurse in the hospital is found to be 85.18 % (n=69). 43.20 % (n=35). The rate of those who reported that if such an event occurs, they will inform about it to the directorate of nursing services in the hospital is 12.34 % (n=10). The rate of those who reported that if such an event occurs, they will inform about it to the patient is found to be 4.93 % (n=4). Unlike, the above hypothetical case, no student reported that they will not inform about it to anyone if the adverse event is caused by others' action.

The views of the participants concerning the role of the nurses in the provision of patient safety are given in Table 4. It is found that the participants mostly regard the role of nurses in the provision of patient safety as significant in relation to the following functions. Specifically, 49.38 % of them (n=40) reported that nurses should play a role in the provision of medicine safety and 46.91 % of them (n=38) reported that nurses must assume a role in the provision of surgical safety. The rate of the nursing students who stated that nurses should take part in avoiding the patients' falling down is found to be 34.56 % (n=28).

## Discussion

The findings given above are discussed in this section about the views and the level of information on patient safety of the student.

People may come across various risky events throughout their life. However, learning about the risks is possible only when they are recognized. Based on this recognition, risks can be analyzed, minimized and controlled. Therefore, strategies to reduce risks can be developed to control them (17). Thus, information about the risks in regard to patient safety is very crucial for nursing students to control them. In 2009, The World Health Organization emphasized the importance of patient safety education in the undergraduate curriculum in its recommendations about a patient safety curriculum (18). Building patient safety information for senior nursing students of all education and training is required. Patient safety skills and behaviours should begin as soon as a student enters a hospital, clinic or health service. In this study, Senior nursing students (%98.77) explained that they have already known about patient safety by their lessons and practical studies in school because of having 5 hours-courses about patient safety and risk management.

**Table III. Views of the nursing students about the reporting of adverse events threatening the patients' safety (N =81).**

While caring for your patient, if you do anything damages his/her safety, you; n* %		
Inform about it to the head nurse in the clinic	75	92.59
Inform about it to the directorate of nursing services in the hospital	27	33.33
Inform about it to my closest friend	11	13.58
Inform about it to my patient	6	7.40
Inform about it to my anyone	1	1.23
While caring for your patient, if you observe anything damages his/her safety, you;		
Inform about it to the head nurse in the clinic	69	85.18
Inform about it to the directorate of nursing services in the hospital	35	43.20
Inform about it to my closest friend	10	12.34
Inform about it to my patient	4	4.93
*n is doubled.		

**Table IV. Views of nursing students about the role of nurses in provision of the patient safety (N =81).**

	n*	%
Provision of medicine safety	40	49.38
Provision of surgical safety	38	46.91
Avoiding patients' falling down	28	34.56
Provision of effective communication in healthcare service	21	25.92
Avoiding/following up infection in hospitals	18	22.22
Designating and verifying the patients' identity	16	19.75
Provision of safety in regard to transfusion of blood and blood products	4	4.93
No answer	18	22.22
*n is doubled.		

In this study, the participants provided sixteen topics that they regarded as the topics covered by the concept of patient safety. Of these sixteen topics thought to be parts of patient safety by the nursing students samples, the followings are included in the regulation of employee and patient safety published by the National Ministry of Health (7) provision of medicine safety, avoiding/following up infection in hospitals, avoiding patients' falling down, designating and verifying the patients' identity, provision of safety in regard to transfusion of blood and blood products, provision of surgical safety, practices about basic life support (blue code), provision of safety of infant and children patients (pink code), provision of effective communication in healthcare service, avoiding physical attacks, sexual abuse and violence

against patients, disasters (earthquake, fire, flooding) and extraordinary cases (red code) and provision of employee safety. They also consider the following events as part of patient safety: Checking the visitors' entrance, having security in hospitals, queuing in hospital and visiting hours. The participants' knowing the most of the topics of patient safety included in the related regulation (6,7) indicates their level of information about patient safety (Table 2). Furthermore, their views on the role of nurses in the provision of patient safety also reflect their knowledge about the related regulation (Table 4). This may predict that when the participants begin to assume a direct responsibility in healthcare services, they will attempt to reduce the risks against patient safety. Although majority of the student nurses regard their information about patient safety as sufficient, 45.68 % of them reported that they need much information about it (Table 1). Therefore, it is possible argue that these student nurses are aware of their lacking information concerning patient safety.

In the clinical practice environment, there has been increased interest in defining medical errors and potential errors as a strategy for promoting patient safety (19).

The most frequently reported topics as part of patient safety by the student nurses are "provision of medicine safety", "avoiding/following up infections in hospitals" and "avoiding patients' falling down". Research indicates that common medical errors by nurses are medicine-related errors, insufficient control of infection and unsafe use of medical devices (23-25). Özata and Altuncan (2010) found that the most common medical errors in regard to patient safety are medicine-related errors, infections, cases of fall down, insufficient follow-up, communication problems and unsafe use of medical equipment (23) (Table 2).

In the study, it is also found that the participants have a positive attitude towards informing about adverse events to others. Similarly, Karaoğlu, Şeker, Kara, and Okka (16), found based on the undergraduate students' reports that majority of the medical students inform about any event threatening the patient safety or about their own errors to the hospital management. This result was similar to our study (Table 3). Furthermore, students' awareness about patient safety positively affects their attitude towards informing about an adverse event to others.

On the other hand, related researches suggest that the rate of such reporting of medical errors in Turkey is lower. It is argued that there are various factors inhibiting effective reporting of adverse events such as the fear of punishment/sanction/accusation (24). However, it can be argued that since student nurses do not have any experience of such fear, they have much more positive attitude towards reporting of adverse events. In order to establish the system of patient safety, there should be safety culture instead of punishments, accusations and sanctions when a medical error occurs. Particularly, during the pre-service education of nurses, topics related to patient safety should be emphasized. Because such an education approaches towards the adverse events threatening patient safety and risk management will provide the basis for safety culture. Researches suggest that when medical students lead to a medical error threatening patient safety or when they witness such an adverse event, they mostly share this event with their close friends (25). However, in our sample the rate of student nurses who reported that when they do or witness an adverse event threatening patient safety, they will inform about it to their close friend is much lower. This finding may indicate that education towards patient safety in our curriculum has attained the desired outcomes (Table 3).

## Conclusions

In conclusion, this study underlines the importance of education and the need for implementing the patient safety in the nursing education. Majority of the participants are found to define most of the topics included in patient safety. Furthermore, the participants are found to think that any event threatening the patients' safety should be reported. Safety culture that is a necessary ground for patient safety is a complex phenomenon. In-service training activities for all health-care staff should include topics regarding safety culture. In order to establish safe environments for health-care and to have lasting effects, the program of nursing education should include patient safety and the students' awareness about patient safety should be improved.

## Limitations

This study aimed at determining the information level and views of senior nursing students about the concept of patient safety. Therefore, their previous

experience in training is not studied in relation to whether or not they have done anything threatening the patients' safety. This topic can be analyzed in future studies.

### Conflict of interest

The authors did not report any conflict of interest in regard to the study.

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