Original Article

Identification the Level of Tendency in Malpractıce among Midwife and Nurse Interns

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Abstract

Aim: The study aims to determine the level of proneness to malpractice among nursing and midwifery interns.
Method: The sample of this descriptive and analytical study consisted of 120 intern students studying in their senior year in the nursing and midwifery department of a public university who volunteered to participate in the study. Data was collected using the Student Identification Form and the "Malpractice Trend Scale in Nursing".
Results: In the study, the average total score from the "Malpractice Trend Scale in Nursing" was found to be 4.35±0.47, and the tendencies of the intern nurses to perform medical errors were found to be low. The highest average score the nurses took regarding the sub dimensions of the scale was in medicine and transfusion practices and the lowest average scores were in the communication and prevention of falling sub dimensions. Intern nurses stated their reasons for medical error tendency as too much workload (86.7%) and lack of professional information (63.3%). Additionally, it was found that the tendency for medical error wasn't affected by gender or the type of high school the student graduated from, and that interns who received midwifery education had a lower tendency for medical error than nursing students.
Conclusion and Suggestions: The nursing interns were found to have a low tendency to perform medical errors. Since the students had a higher tendency for error in the prevention of falling and communication fields, it is suggested that these subjects should be reviewed in curricula regarding patient safety and medical errors, given more weight in such programs, and followed more carefully during clinical practice by both teaching staff and clinical nurses.

Keywords: Malpractice, Nursing intern, Midwifery intern

Introduction

Malpractice is defined as an unexpected and undesired result that carries the risk of involuntary death or serious physical or psychological damage during the health care services provided to the patient (Cebeci, et al., 2012; Işık, et al., 2012; Andsoy, et al., 2014; Dikmen, et al., 2014). While the frequency of medical errors wasn't sufficiently known until the 1990's, it is known today that many patients die or come to harm because of medical errors.

The number of people dying because of medical errors is reported to be on par with people dying from breast cancer or automobile accidents. Additionally injuries and disabilities occur throughout the world because of medical errors (Özata & Altunkan, 2010; Pala, 2011; Cebeci, et al., 2012; Odabaşoğlu, 2013; Öztürk & Özata,

2013; Dikmen et al., 2014). 10 of every hundred inpatients come to harm because of medical errors, and 61% of these undesired events are reported to be preventable by the human factor.

Nurses and midwives, who form the majority of people working in health care, face the risk of medical error more frequently than other occupational groups because of factors such as the abundance and variety of their dependent and independent functions, their continuous contact with patients, and busy working hours (Anezz, 2006; Tang et al., 2007;Smits et al., 2010).

In our country, senior year nursing and midwifery students take 40 hours of clinical application courses a week as part of the internship program. Studies have found that these long application hours increases the tendency of intern students for medical errors, and that interns tend to hide their errors for reasons like fearing the reaction of managers, being blamed, and fear of punishment (Landrigan, et al., 2004; Mayo & Duncan, 2004).

Forming a culture that makes preventing errors easier instead of placing blame would make it easier for students to report their errors and prevent further such errors (Wolf, et al., 2006).

Determining the medical errors of nursing and midwifery interns may help catch the errors before they reach the patient and correct them. It is additionally important in taking precautionary measures to prevent/reduce medical errors and developing strategies to solve the problems in the treatment and care system (Anderson, et al., 2009). According to this information, it was aimed in this study to determine the levels of tendency nursing and midwifery intern students have for medical error and affecting factors.

Materials and Method

This descriptive and analytical study was performed between March and May 2015.The universe of the study consisted of 150 students studying in their senior year in the nursing and midwifery department of a public university.

No sample selection was made in the study, and the whole universe was aimed to be reached. The sample of the study consisted of 120 students who agreed to participate and gave informed consent.

Data Collection Tools

The "Personal Information Form" developed by the researchers and the "Malpractice Trend Scale in Nursing" (MTSN) was used for data collection. Personal Information Form: The form was developed by the researcher according to literature, and consists of 21 questions questioning the identifying characteristics of the students (gender, age, department, the high school graduated from etc.) and the reasons for medical errors.

The Malpractice Trend Scale in Nursing

This scale, developed in 2010 by Özata and Altunkan in order to measure the tendency of nurses to make medical errors, consists of 49 items and 5 sub dimensions that include the activities which nurses perform routinely as part of patient care (Özata & Altunkan, 2010). Nurses are asked to mark the items appropriate for them. A higher total score is interpreted as a lower tendency for medical error. The scale has 5 Likert type categories, where 1 is evaluated as "never", 2 as "rarely", 3 as "sometimes", 4 as "usually", and 5 as "always".

The Cronbach alpha coefficient of the scale was found to be 0.95, and the scale consists of 5 sub dimensions. The Cronbach Alpha coefficient of the scale for the sample in this study was found to be 0.96.

The internal consistency reliability coefficients of the sub dimensions were 0.92 for the "*Medicine and Transfusion Practices*" sub dimension, 0.89 for the "*Prevention of Infections*" sub dimension, 0.88 for the "*Patient Monitoring and Material-Device Safety*" sub dimension, 0.90 for the "*Prevention of Falling*" sub dimension, and 0.86 for the "*Communication*" sub dimension.

Ethical Consideration

The necessary permissions were taken for the study from the institution where the application would be made. Additionally, informed consents from the students included in the study were taken before the application.

Limitations of the Study

Since no sample selection method was used in the study and the whole of the universe couldn't be reached, the findings of this study cannot be generalized. Another limitation of the study is that the study was conducted in only one institution and that the study depends on self reporting from the students participating in the study.

Additionally, the measurement tool used in the study has some limitations. The validity and reliability study of the scale was performed with emergency room technicians, midwives, and nurses, and has no test-retest study.

Data Analysis

Analysis of the data was performed using the "SPSS for Windows 16.0" software package program. In the evaluation of the data, percentages, item score averages for the scale and its 5 sub dimensions, standard deviations, and the internal consistency coefficients of the scale and its sub dimensions (Cronbach alpha) were calculated. Since the scale scores were found not to show a normal distribution, (Kolmogorov-Smirnov Z=0.086, p=0.030) the non-parametric tests Kruskal Wallis Test and Mann Whitney U Test were used in the analysis of the data.

Results

The ages of the students participating in the study varied between 20 and 25, with an average of 22.26±0.99. 52.5% of the students studied in the nursing department while 47.5% studied in the midwifery department. 49.2% of the students had graduated from normal high schools, 35% from Anatolian High Schools, and 15.8% from Vocational Schools of health (Table 1).

When the tendency for medical error score averages of the students were evaluated, the average MTSN score was found to be 213.37±23.14 (min: 114, max: 245), and a low tendency for error was found.

The total score averages for the sub dimensions of the scale were 79.81±8.58 for the "*Medicine and Transfusion Practices*" sub dimension, 52.66±5.97 for the "*Prevention of Infections*" sub dimension, 37.78± 5.45 for the "*Patient Monitoring and Material-Device Safety*" sub dimension, 21.53±3.30 for the "*Prevention of Falling*" sub dimension, and 21.59±3.44 for the "*Communication*" sub dimension.

A statistically meaningful difference between the tendency for medical error scores of the students according to gender and high school graduated from couldn't be found ($p>0.05$).A statistically meaningful difference between the tendency for medical error scores of the students according to the departments they studied in was found ($p<0.05$) (Table 1).

When the answers regarding reasons for tendency for medical errors were examined, it was seen that 86.7% stated "excessive workload", 63.3% stated "lack of professional knowledge", and 58.3% stated "lack of experience" (Table 2).

The lowest score averages in the "*medicine and transfusion practices*" sub dimension belong to the items "I know the side effects of medicine and apply accordingly" (3.97±0.94) and "I monitor the patient sufficiently after medicine applications" (3.99±0.82).

The lowest score average in the "patient monitoring and materials-device safety" sub dimension belongs to the item "I check if each device is in working condition in the service and report those malfunctioning" (3.89±1.15).

The lowest score in the "*prevention of falling*" sub dimension belongs to the item "I inform patients and their next of kin on reason for falling and necessary precautions" (4.19±0.80).

The lowest scores in the "*communication*" sub dimension were found to belong to the items "I give out the information regarding patient care with the patient beside the bed" (4.27±0.80) and "I immediately record verbal/over the phone doctor requests to the nurse monitoring form" (4.27±0.96) items. The lowest score average in the "*prevention of infection*" sub dimension was found to belong to the item "I change IV bottle and sets every 24 hours" (4.22±0.82)

Table 1. Comparison of the MTSN Score Averages of the Students According to Some Identifying Characteristics

	n	Mean Rank	t/p
Gender			
Female	111	61.55	t: 1.156*
Male	9	47.61	p: 0.248
Department			
Nursing	63	53.34	t: 2.371*
Midwifery	57	68.41	p: 0.018
Graduation			
Anatolian High SchoolsVocational	42	55.08	t:1.949**
Schools of health	19	59.13	p: 0.377
Normal high schools	59	64.80	

*Mann WhitneyU Test ** Kruskall Wallis Test

Table 2. The Thoughts of the Students Regarding the Reasons for Malpractice

	n	%
Excessive workload	104*	86.7
Interns not working in a specific clinic	57*	47.5
Unrelated tasks being handed to interns	57*	47.5
Lack of experience	70*	58.3
Stress	57*	47.5
Lack of Professional information	76*	63.3
Being tired	54*	45
Not liking the occupation	40*	33.3
Lack of mistake prevention systems	33*	27.5
Procedures being incomprehensible or insufficient	52*	43.3
Tasks, authorization, and responsibilities not being defined	25*	20.8
Irregular records	74*	61.7
Lack of communication	27*	22.5
Negative physical environment	38*	31.7
Lack of knowledge on the treatment and care of the patient	48*	40

*More than one answer

Discussion

In our study, the average total score taken from the "Malpractice Trend Scale in Nursing" was found to be 4.35±0.47. Since according to the scoring of the scale used in the study, a higher score means a lower tendency for error, the tendency of nursing interns can be said to be low. In a study where Güneş et al. (2014) worked with nursing interns, the total score average of the students was low with a score of 3.95±0.28 (Güneş, et al., 2014). In a study where Çetinkaya et al (2013) worked with intern nurses, they also found that the tendency of intern nurses for medical error was low (Çetinkaya, et al., 2013).

These results are compliant with our results. These results may be tied to the facts that intern nurses are responsible for a lower number of patients, don't work night shifts, and that they usually have the support of educational staff or clinical nurses during serious applications. Additionally, the courses regarding patient safety and medical error that the interns took during their education can be said to be effective.

However, in a study by Bodur et al (2012) 37% of the students were found to make medical errors during clinical applications, with 12% of these errors resulting in harm to the patient (Bodur, et al., 2012). In literature, the risk of student nurse and midwifes making medical errors is reported to be high, and the students are reported to tend to hide their errors for reasons such as fearing the reaction of teaching staff and managers, shyness, and fear of being blamed or punished (Mayo & Duncan, 2004; Bodur,et al., 2012). The answers of intern nurses can be affected by such factors in our study.

The highest average score the nurses took regarding the sub dimensions of the scale was in medicine and transfusion practices (4.3±0.48), and the lowest average scores were in the communication (4.31±0,68) and prevention of falling (4.30±0,66) sub dimensions. The average scores for the other two sub dimensions were 4.38±0.49 for hospital infections and 4.39±0.60 for patient monitoring and materials safety. As it can be seen, the tendency for error in the falling and communication sub dimensions is higher than the others. This case suggests that intern nurses have a higher risk of making medical errors in these fields. This result was interpreted to suggest that these subjects should be reviewed in curricula regarding patient safety and medical errors, and given more weight in such programs.

The lowest score average in the "medicine and transfusion *practices*" sub dimension belongs to the item "I know the side effects of medicine and apply accordingly" (x=3.97±0.94). The tendency of intern nurses for medical error in medicine application was thus found to be high. In a study conducted in our country with senior year nursing and midwifery students, the error rate in medicine application was found to be high with 59% (Bodur, et al., 2012). In a study by Wolf and Hicks (2004), nursing students were found not to follow the dosage and right time principles from among the eight principles of medicine application (Wolf & Hicks, 2004).

In a study by Aygin and Atasoy, the majority of surgical nurses stated that they didn't have enough knowledge on premedication medicine and their side effects, and that they considered the knowledge given by the doctor as sufficient (Aygin & Atasoy, 2002). However, not knowing the side effects of medicine and not monitoring the effects after application may cause death or serious harm in patients (Cebeci et al., 2012). According to these results, the importance of nurses complying with the eight principles of medicine application (right patient, right medicine, right effect, right dosage, right way, right form, and right time, right recording) can be stressed.

The lowest score average in the "patient monitoring and materials-device safety" sub dimension belongs to the item "I check if each device is in working condition in the service and report those malfunctioning" (x=4.01±1.00). Safe material use is in the purview of patient safety. In many developed countries, insufficient patient monitoring is one of the most common causes for

cases related to application errors (Dikmen et al., 2014).

Insufficient or inappropriate material use directly affects patient outcomes, and may harm the patient. In this context, it is suggested that training courses on appropriate material procurement and use should be reviewed.

One of the sub dimension in the scale with the lowest score average is "prevention of falling". The lowest score in this sub dimension belongs to the item "I inform patients and their next of kin on reason for falling and necessary precautions" (x=4.19±0.80) (Table 2).This finding is similar to studies by Cebeci et al (2012) and Dikmen et al (2014) where graduated nurses formed the samples (Cebeci, et al., 2012; Dikmen, et al., 2014).

Patients hurting themselves because of falling is one of the most common reasons for complaint and legal action for nurses (Turkan & Tuğcu, 2004; İntepeler, et al., 2014). In literature, medical error rates caused by insufficient patient monitoring and falling are reported to be significantly high (Mülayim & İntepeler, 2011; İntepeler, et al., 2014). Nurses can't prevent patients falling in the hospital setting completely, but may minimize it by effective protective measures (Hitcho, et al., 2004). The most common approach suggested is identifying the risk level that defines the tendency for falling in patients, and applying nursing interventions towards preventing falling (Savcı, et al., 2009). This result in our study shows the importance of intern nurses evaluating the falling risk of patients in patient admission, forming falling prevention protocols according to literature, and using these protocols.

Another sub dimension with one of the lowest score averages is the "communication" sub dimension (4.31±0.68). Communication problems or lack of communication between health care personnel are important reasons for medical error (Top, et al., 2008). In a study conducted in our country, nurses were found to believe 83.1% of the errors in a hospital to be caused by communication problems (Gökdoğan & Yorgun, 2010). Communication in the health care team is done in various ways. One of the most common methods is verbal or written reports. Recording and reports are widely used communication techniques for gaining information on the health of an individual. Reports are written or verbal information exchanges in the health care team, and in order to make reports and records effective, certain basic principles should be considered (Potter & Perry, 1995).

In our study, intern nurses stated their reasons for error as excessive workload (86.7%), lack of professional knowledge (63.3%), and lack of experience (58.3%). In a study by Andsoy et al (2014), the reasons for medical error among nurses were reported to be careless work style (39.2%) and lack of education (28%) (Andsoy, et al., 2014). In other studies on the subject, the reasons for medical error among nurses were stated to be being tired, excessive workload, intense working style, and stress (Bodur, et al., 2012; Hicks, et al., 2008; Parshuram, et al., 2008). Thus, our findings can be said to be largely similar to literature. Additionally in our study, intern nurses stated lack of education (28%) to be a reason for medical error. Even though patient safety and medical error aren't directly addressed as courses in nursing curricula, they are in the context of theoretical and clinical training. However, these results show a need for a comprehensive training focused on forming a patient safety culture.

In our study, analyses on certain variables that were thought to affect the tendency for medical error were performed. 15.8% of the (n=19) of the intern nurses in the study group had graduated from vocational schools of health. The intern nurses who had previously graduated from vocational schools of health were considered to previously gained knowledge on patient safety and medical error, and the effect of this case on tendency for medical error was examined. According to our results, there was no statistically meaningful difference between the

tendency for error scores according to gender or the type of high school graduated from, and these variables were found not to be determining variables for medical error tendency.

Similar to our results, in a study by Güneş et al (2014) no statistically meaningful difference between tendency for medical error scores according to gender and age was found (Güneş, et al., 2014). According to this result, the gender and type of high school graduated from can be said not to affect the level of tendency for medical error.

A statistically meaningful relationship between the department the interns studied in and their tendency for medical error scores was found. According to this finding, interns who study midwifery can be stated to have a lower tendency of performing medial errors compared to those studying nursing. The curricula regarding patient safety and medical error risks are parallel in the midwifery and nursing departments of the school the study was conducted in. This result is thus thought to arise from the differences between the study groups.

Conclusion

According to the results of the study, the tendency intern nurses had for medical error was found to be generally low, with a higher level of tendency for error in the prevention of falling and communication sub dimensions. Additionally, it was found that gender and the type of high school graduated from were not determining variables for tendency for medical error levels, and that interns studying midwifery had a lower tendency for medical error than those studying nursing. Another important finding is that the prevention from falling and communication sub dimensions had higher tendency for error levels. It is suggested that these subjects should be reviewed in curricula regarding patient safety and medical errors, given more weight in such programs, and followed more carefully during clinical practice by both teaching staff and clinical nurses.

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Relevance to clinical practice

In this study, determining the medical errors of nursing and midwifery interns may help catch the errors before they reach the patient and correct them

In nursing and midwifery education, creating a culture which make it easier to avoid errors,non-accusatory,facilitating the reporte errors of students and will be able to prevent the creation of a new error. Also, it is important for midwives and nurses to know the error area for ability to protect themselves against the law. The study results are can be used to taking measures to be developed for preventing/reducing medical errors, also be used to promote to develop strategies to solve treatment and care system problems.

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