

Determination of nurses' tendency to medical error and the factors affecting this in the Turkish Republic of Northern Cyprus

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Abstract

Objective: To determine nurses' tendency towards malpractice and the factors affecting such a behaviour.

Method: The descriptive, cross-sectional study was conducted in October 2018 at four public-sector hospitals in the Turkish Republic of Northern Cyprus, and comprised nurses. Data were collected using the Malpractice Trend Scale in Nursing. Data was analysed using SPSS 21.

Results: Of the 236 female nurses with mean age 39.22±8.32 years, 166(70.3%) were married; 95(40.3%) had bachelor's degrees; 124(52.5%) worked in internal medicine clinics; 75(31.8%) had been working for >20 years; 86(36.4%) had been working in the same clinics for 1-5 years; and 108(45.7.0%) were working in shifts. The mean Malpractice Trend Scale in Nursing score was 64.62±19.86, indicating low level of tendency. Age, duration of work and shifts had significant association with scale scores ($p<0.05$)

Conclusion: The tendency towards malpractice was found to be low among the nurses in the study, and age, duration of work and shifts were significant factors affecting the tendency.

Keywords: Medical error, Malpractice, Nurse, Health safety. (JPMA 72: 1335; 2022)

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Introduction

Within the framework of the legal understanding of all health professionals, practices should be carried out within the framework of the concept of "permissible risk" in the shape of complications. In this respect, the health professional is obliged to take possible precautions before the application, except in the case of emergencies. Even if bad results occur due to the action within the framework defined as permissible risk, the situation does not entail any responsibility for the employee because the person has complied with the duty of attention and care. Carelessness and negligence are medically regarded as "medical malpractices".¹ Malpractice is often defined as carelessness and neglect. Medical malpractice is defined as an act of commission or omission that harms the patient by deviating from the practices that are generally accepted in the diagnosis and treatment process of the patient by the medical profession.²

Medical errors are among the main problems of health systems. There is no health system that does not encounter medical errors.³ During the coronavirus disease-2019 (COVID-19) pandemic, which started in Wuhan, China, in 2019, and affected the whole world, the burden on the health systems increased manifold. It is thought that the increasing burden of treatment and care increases problems in a health system. Nursing errors are a serious

threat to patient safety and can lead to increased public concern and distrust of healthcare providers and denial of treatment. Therefore, the causes of nurses' errors, the reasons for not reporting them, and the ways to reduce errors need to be examined.⁴

The alarming increase in disability and death rates due to medical errors in recent years has underscored the need for global effort to provide quality and safe healthcare services.⁵

Medical error has been defined by the Joint Commission for the Accreditation of Healthcare Organisations (JCAHO) as harm to the patient "as a result of appropriate and unethical behaviours of the healthcare professionals ... inadequate and negligent behaviour in professional practices".⁵⁻⁷

Medical error is defined as an act or a situation that harms the person due to the fact that the health personnel did not follow standard medical practices intentionally or negligently, did not apply the right treatment or did not give treatment to the patient.⁸

Research shows that although medical errors do occur frequently, there is great variability in whether or not these errors are reported. Therefore, employee perceptions associated with organisational culture, climate and commitment, and reporting process are investigated to determine the effects on participants' intentions to talk about medical errors.^{9,10}

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According to Giraldo et al., safety reporting systems have an important role in improving the quality and safety of health services.¹¹ The World Health Organisation (WHO) has frequently drawn attention to the issue of patient safety, by launching campaigns like 'Safe surgery saves lives'.¹²

Causes of medical error include human factors, like fatigue, insufficient training, etc., organisational factors, like workplace structure, policies, etc., and technical factors, like inadequate automation, inadequate equipment, etc.¹³ While malpractice practices cause loss of morale and motivation in nurses, they cause health problems in patients it causes distrust towards employees and dissatisfaction with the health system in the community.¹⁴

Within the healthcare team, nurses play a key role in the management of medical treatment, and play an active role in preventing medical errors. The International Council of Nurses (ICN) in 2006 recommended steps to be taken to reduce errors and to ensure patient safety.^{7,12}

According to WHO reports, medical errors and adverse events occur worldwide, including in developed countries, such as Australia, Canada and the United Kingdom.¹⁵⁻¹⁷ In the United States, every year 44,000 to 98,000 people die and every day at least 100 people die due to medical errors; 40,000 people in England and 5,000 to 10,000 people die in Canada as a result of medical errors; and in Germany, 100,000 medical errors occur every year, leading to 25,000 deaths.¹⁸

A study found five main factors causing medical errors and getting under-reported: personal factors, workplace factors, managerial factors, work culture, and error reporting system. These factors were further classified into proximal and distal factors.¹⁹

Most nursing errors were in the form of functional errors. Risk factors were divided into nurse, organisation, ward and patient-related factors. The reasons for nurses' failure to report errors included professional reputation and legal problems. Error reduction strategies include nursing education and management controls.²⁰

A study in Nigeria revealed that nurses had good knowledge and perception of medication administration errors.¹⁹

A study during which Yiğitsoy was hospitalised in the Turkish Republic of Northern Cyprus (TRNC), stated that nearly half of the nurses (42.7%) made a medication error and more than half (56.5%) witnessed a medication error by a healthcare professional other than her.²⁰

According to the medical error data of the TRNC Ministry of Health National Safety Reporting System, drug and

patient safety mistakes mostly occurred in the clinics. Nurses performed most laboratory (67.36%), drug (41.50%) and patient safety mistakes (32.64%). For all types of errors, the most notifications were made between 8am and noon; surgical error 51.84%, drug 50.13%, laboratory 40.39%, and patient safety mistakes 32.29%.^{3,21,22}

According to a report by the Turkish Nurses Association (THD) in 2008, indicated that long working hours pose a risk to patient safety.²³

The current study was planned to determine medical error tendencies of nurses working in TRNC state hospitals, and the factors affecting such a behaviour.

Subjects and Methods

The descriptive, cross-sectional study was conducted in October 2018 at four public-sector hospitals in the TRNC. After approval from the ethics review committee (ERC) of Dr Burhan Nalbantoğlu Public Hospital and Girne American University, the sample was raised. The study universe comprised all the nurses working in the four hospitals. Due to the rather large universe, it was planned to limit the sample to nurses working in the surgical and internal medicine departments, including those working in the outpatient clinics, the laboratories and those in the administrative staff. They were approached and those who volunteered to participate and exhibited speaking, perception, expression and visual skills were included. Those who did not furnish consent were excluded.

After taking informed consent from the subjects, data was collected using the Employee Information Form (EIF) and the Malpractice Trend Scale in Nursing (MTSN). EIF included questions about nurses' demographic and professional background, like gender, age, educational status, working period, unit, etc., as well as their knowledge regarding malpractice. MTSN ranks nurses' tendency to commit malpractice through 49 items across five subscales.²² The subscales are: Medication and transfusion practices, Prevention of infections, Patient follow-up and security of equipment devices, Prevention of fallings, and Communication. Each item is scored on a Likert scale; 1= never, 2= rarely, 3= sometimes, 4= often, and 5= always. Higher scores indicates lower tendency to malpractice. The scale's Cronbach's alpha coefficient was 0.9524 and that of the subscales was similar to earlier studies.^{13,25}

Data was collected through face-to-face interviews with the subjects according to the nurses' roster that was taken from the respective hospital administration.

Data was analysed using SPSS 21. Dependent variables comprised nurses' knowledge and understanding of malpractice and MTSN score. Independent variables were

sociodemographic and professional characteristics of the subjects. Chi-square, Mann Whitney U and Kruskal Wallis tests were used as appropriate, and 95% confidence interval (CI) was calculated when necessary. $P < 0.05$ was considered statistically significant.

Results

Of the 644 nurses in the four hospitals, 469(73%) working in the surgical and internal medicine clinics were approached, with a response rate of 236(50.3%). Of these 236 woman nurses having a mean age of 39.22 ± 8.32 years, 166(70.3%) were married; 95(40.3%) had bachelor's degrees; 124(52.5%) worked in internal medicine clinics; 75(31.8%) had been working for >20 years; 86(36.4%) had been working in the same clinics for 1-5 years; and 108(45.7.0%) were working in shifts (Table 1).

Table-1: Sociodemographic and professional characteristics of the nurses (n=236).

Variables	n (%)
Age	
20-29 age group	38 (16.1)
30-39 age group	68 (28.8)
40-49 age group	104 (44.1)
50 and over age group	26 (11.0)
Marital Status	
The married	166 (70.3)
Single	70 (29.7)
Education status	
High school	36 (15.3)
Associate Degree	42 (17.8)
License	95 (40.3)
Master / Doctorate	63 (26.7)
Part of Work	
Internal Clinics	124 (52.5)
Surgical Clinics	92 (39.0)
Emergency	20 (8.5)
Working Time in the Profession	
Less than 1 year	8 (3.4)
1-5 years	60 (25.4)
6-10 years	41 (17.4)
11-15 years	27 (11.4)
16-20 years	25 (10.6)
20 years and above	75 (31.8)
Clinical Working Time	
Less than 1 year	12 (5.1)
1-5 years	86 (36.4)
6-10 years	41 (17.4)
11-15 years	34 (14.4)
16-20 years	17 (7.2)
20 years and above	46 (19.5)
Hours of Work	
Daytime work (07.00-14.00)	99 (41.9)
14.00-21.00	3 (1.3)
21.00-07.00	6 (2.5)
Seizure. Shift	128 (54.2)

Overall, 118(50%) nurses did not see any medical error, while 97(41.2%) said their colleagues had seen medical error once. Further, 146(61.9%) nurses said their colleagues were not exposed to any legal procedures; 73(30.9%) said their colleagues had been sued with the proceedings having ended in his/her favour; 39(16.6%) developed contagion; and 39(16.6%) developed malformations due to the medical error. Overall, 230(97.5%) nurses said they had not committed any medical error, and those who did 6(2.5%) had not faced any legal challenge.

The mean MTSN score was 64.62 ± 19.86 , indicating low level of malpractice tendency. The mean scores of the subscales were noted separately (Table 2).

Age, duration of work and shifts had significant association with MTSN scores ($p < 0.05$) (Table 3).

Table-2: Average Scores for Total and Sub-dimensions of MTSN.

MTSN Sub-Dimensions	Number of items	Mean \pm SD	Cronbach Alfa
Communication	5	7.62 \pm 2.80	0.81
Hospital Infections	12	15.73 \pm 5.11	0.75
Medications and Transfusion	18	22.09 \pm 7.56	0.71
Patient follow-up/material safety	9	12.53 \pm 4.17	0.77
Falls	5	6.65 \pm 2.44	0.80
MTSN Total Score	49	64.62 \pm 19.86	0.88

MTSN: Malpractice Trend Scale in Nursing, SD: Standard deviation.

Table-3: ADistribution of MTSN and subgroup mean scores according to certain characteristics of the participants (n=236)

Variables	Communication	Hospital Infections	Medication and Transfusion	Patient Followup/ Material Safety	Falls
Age					
20-29 age group	8.62 \pm 2.75	12.73 \pm 5.15	21.09 \pm 6.56	8.53 \pm 4.16	6.66 \pm 2.30
30-39 age group	8.61 \pm 2.68	14.73 \pm 5.16	09.16 \pm 7.42	11.53 \pm 4.00	6.70 \pm 2.38
40-49 age group	7.52 \pm 2.81	15.45 \pm 5.26	23.09 \pm 6.26	12.53 \pm 3.17	5.95 \pm 2.04
50 and over age group	6.62 \pm 2.69	13.46 \pm 4.89	19.09 \pm 7.50	10.03 \pm 3.97	5.65 \pm 2.23
	$p=0.587$	$p=0.526$	$p=0.025$	$p=0.001$	$p=0.653$
Working Time in the Profession					
Less than 1 year	8.72 \pm 2.74	12.70 \pm 5.10	21.09 \pm 7.46	11.50 \pm 4.15	5.32 \pm 2.02
1-5 years	7.60 \pm 2.76	15.73 \pm 5.01	22.98 \pm 7.43	12.43 \pm 4.17	4.55 \pm 2.78
6-10 years	3.61 \pm 2.71	13.73 \pm 5.18	20.09 \pm 6.56	13.53 \pm 3.97	6.64 \pm 2.02
11-15 years	6.52 \pm 2.70	14.72 \pm 4.98	22.12 \pm 6.98	13.53 \pm 4.11	6.65 \pm 2.34
16-20 years	7.62 \pm 2.69	15.73 \pm 5.12	22.09 \pm 7.78	12.51 \pm 3.78	4.43 \pm 2.97
20 years and above	6.52 \pm 2.65	7.73 \pm 5.17	22.18 \pm 7.32	10.42 \pm 4.21	6.65 \pm 2.44
	$p=0.061$	$p=0.004$	$p=0.819$	$p=0.955$	$p=0.915$
Hours of Work					
Daytime work					
(07.00-14.00)	5.42 \pm 2.73	14.70 \pm 5.10	14.29 \pm 7.45	10.53 \pm 4.17	6.31 \pm 2.11
14.00-21.00	8.53 \pm 2.75	15.63 \pm 5.00	22.29 \pm 8.20	11.23 \pm 3.15	4.31 \pm 2.43
21.00-07.00	7.53 \pm 2.67	15.73 \pm 5.16	21.15 \pm 7.48	12.54 \pm 4.22	6.65 \pm 2.40
Seizure, shift	9.52 \pm 2.72	15.73 \pm 5.20	22.00 \pm 7.46	12.53 \pm 4.12	5.65 \pm 2.02
	$p=0.004$	$p=0.842$	$p=0.002$	$p=0.719$	$p=0.530$

MTSN: Malpractice Trend Scale in Nursing.

Discussion

Medical errors made in nursing practice do not hurt the patient and the family alone, but it may cause material and moral damage to the nurse as well.

In the current study, the average age of nurses was 39 years. Yiğitsoy reported the average age of nurses to be 38 years, and in Salar's study, 47.7% belonged to the age range 20-50 years.^{20,21} Some studies, however, showed the nurses to be younger.^{15,16}

All the nurses in the current study were women. The majority of nurses in literature happen to be women.^{16,19,20} The nurses in the current study said medical errors were due to carelessness 87(36.9%), not taking adequate precautions during treatment and care 166(70.5%), nurses being new or lacking professional exposure 146(61.9%), intensive workload 172(72.9), not paying enough attention to care 47(19.8%), and most of them said not knowing the legal procedures related to such affairs was a major reason. In addition, the nurses stated that the insufficient number of nurses and the high number of patients in the clinic negatively affected the situation. The participants stated that they believed working as night shift and shift/fixed shift nurses might increase the tendency to malpractice. A study found five main factors causing medical errors and under-reporting: personal factors, workplace factors, managerial factors, work culture and error reporting system.¹⁸ According to a study, nurse education and skills, lack of knowledge, fatigue, neglect, outline disruption, negligence during care are the problems.⁴ Studies conducted under the definition of human factors, institutional factors and technical factors reported findings similar to those of the current study.^{5,8,13,16} The 'Working Conditions of Nurses in Turkey' report stated that nurses working long hours posed a risk to patient safety.²³

Mean total MTSN and subscale scores in the current study were similar to those reported earlier.²⁰

Medication errors are the most common type of error that threatens patient safety. It has also been reported that patient falls are among the frequently encountered medical errors.¹⁴ The findings of the current study are in contrast to those of studies which suggested that patient care was independent of the nurses and the status of the MTSN score.^{17,25}

The current study found that almost half of the nurses made medical errors during daytime. Studies have stated that medical errors occur especially during the morning hours.^{3,10,26} It is known that nurses working in shifts suffer nighttime sleeplessness and fatigue, which disrupts their biorhythms, and that explains medical errors in the

morning hours.^{3,14,19,21,22}

In the current study, there was no difference between falling patients and MTSN scores. Patient safety errors are the least frequently reported type of medical errors.^{3,8}

The limitation of the current study is its small sample size owing to the low response rate of 50.3%. The number of nurses compared to the high number of patients in TRNC hospitals and the resultant workload made it impossible for many to participate.

In the light of the findings, however, the current study suggests that the matter needs to be explored further with larger samples.

Conclusion

The tendency towards malpractice was found to be low among the nurses in the study, and age, duration of work and shifts were significant factors affecting the tendency.

Disclaimer: The text is based on an MPhil thesis.

Conflict of Interest: None.

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