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Determination of the relationship between healthy lifestyle behaviors and health locus of control in nursing students

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ABSTRACT

Aims: The first steps in developing healthy lifestyle behaviors are taken in the community and family, and then they develop and change with education. The attribution of the health-related situations experienced by individuals is related to the health locus of control. Health professionals have important roles and responsibilities in the development and maintenance of these behaviors. This study was conducted to determine the relationship between healthy lifestyle behaviors and health locus of control in nursing students.

Methods: This cross-sectional descriptive relationship-seeking study was conducted with 450 students at Gülhane Nursing Faculty between 01.03.2023 and 01.06.2023. Information about the participants was collected using the sociodemographic data form, multidimensional health control scale form a and healthy lifestyle behaviors scale.

Results: According to the results of the study, the mean age of the students was 21.51±1.47 years. 88.2% of the students were female and 36.7% were 2nd graders. Regression analysis to determine the cause and effect relationship between healthy lifestyle behaviors and multidimensional health locus of control was found significant (F=30.985; p=0.00<0.05). Healthy lifestyle behaviors are explained by internal control, external control and chance control (R^2=0.172). Internal control and external control increase healthy lifestyle behaviors (ß=0.959, ß=1.144). Change control had no effect on healthy lifestyle behaviors.

Conclusion: In this study, it was found that multidimensional health locus of control affected healthy lifestyle behaviors in nursing students. Nursing students' acquisition of healthy lifestyle behaviors and increase in health locus of control levels will enable them to provide these behaviors to the individuals they care for in their professional lives.

Keywords: Nursing, health locus of control, healthy lifestyle behaviors, nursing students

INTRODUCTION

Healthy lifestyle is defined as behaviors that have an impact on the health status of individuals and that they do with their own control (Walker et al., 1988). All behaviors that affect the physical, mental and social health of the individual, as well as the whole of the behaviors that the individual believes and practices for the purpose of staying healthy to prevent diseases are included in healthy lifestyle behaviors (Değerli & Yiğit, 2020). These behaviors include health responsibility, exercise, nutrition, stress management, self-actualization, interpersonal support, health control, spiritual satisfaction and developing social relationships. At the same time, these behaviors are an indicator of the lifestyle that enables the individual to protect and improve his/her health (Johnson, 2005).

Health promotion is the state of maximizing the health behaviors of the individual. Being healthy is a fundamental right of every human being, and improving, protecting and maintaining health is the main goal of health services and health professionals as well as the responsibility of the individual (Kris-Etherton et al., 2022). In this context, individuals taking their own health under control will directly affect their healthy life behaviors. People's attribution of their own health to personal or environmental factors is defined as health locus of control. In other words, it refers to the beliefs about how a health problem is affected by oneself, others or fate (Sardoğan, 2006). Individuals who believe that the events affecting them are mostly under their control are referred to as individuals with high internal locus of control orientation, while those who believe that the events affecting them are mostly controlled by forces outside themselves are referred to as individuals with high external locus of control orientation. Individuals with high internal locus of control orientation cling more tightly to their individual beliefs when they encounter external evidence that may cast doubt on the accuracy of their own behaviors

and perceptions. On the other hand, individuals with a high external locus of control orientation, especially when they perceive the external source as a "respectable" or "expert" person, submit more easily to pressures from others or from outside (Dönmez, 1986).

In order to prevent lifestyle-related diseases and deaths due to these diseases, individuals should acquire healthy lifestyle behaviors (Aksoy & Uçar, 2014). Diseases such as diabetes, cancer and cardiovascular diseases are becoming more common day by day due to increased alcohol and tobacco consumption, improper diet and physical inactivity. These diseases are caused by problems such as excessive weight gain (obesity), increased blood sugar, hypertension, and high blood cholesterol (Kris-Etherton et al., 2022). Factors that cause diseases such as diabetes, cancer and cardiovascular diseases can be prevented by preventing risky behaviors from childhood, especially from adolescence, and gaining "healthy lifestyle behaviors" (Yeung et al., 2021). Healthy lifestyle means that individuals control all behaviors that affect their health and organize their daily activities by choosing behaviors that are appropriate for their health status (Huerta, 2008). It is to protect and improve one's health by paying attention to cleanliness, eating healthy, being physically active, and avoiding habits that harm one's health and body (Yüksel Kaçan & Örsal, 2019). In this context, all individuals in the society should create their own "healthy lifestyles" by gaining positive health behaviors to protect and improve their health (Kaminsky et al., 2022).

It has been found that due to the various difficulties of university students in social, emotional, behavioral, academic, sexual and economic areas, students experience stress and turn to maladaptive health behaviors, including unhealthy diet, inadequate rest, substance abuse (Navarro-Prado et al., 2017). Due to time constraints and economic inadequacy, it has been observed that the consumption of fresh or minimally processed foods decreased and the consumption of ultra-processed products increased in students (Da Silva et al., 2020). At the same time, studies have indicated that students who are constantly worried and stressed about catching up during the day negatively affect sleep quality (Litsfeldt et al., 2020).

Negative behaviors related to health in the early stages of life can negatively affect the course of the individual's future life (Soriano-Ayala et al., 2020). At this point; in order for an individual to practice healthy lifestyle behaviors, he/she must first believe that his/her health is a phenomenon that he/she can develop in his/her own hands and realize that his/her unhealthy behaviors affect him/her. For this reason, in order to correct all these maladaptive lifestyle behaviors in students and to establish healthy lifestyle behaviors, it is necessary to be aware of the situations related to the person's health locus of control, which is one of the variables that significantly affect the perception and implementation of healthy lifestyle behaviors. Due to their professional responsibilities and social roles, healthcare professionals have the ability to be role models with the lifestyles they lead and to influence the group they serve in terms of health education (Phiri et al., 2014). Nursing education is expected to contribute to the development of students' skills and individual health perceptions to protect their own health and the health of the individuals they will care for (Açıksöz at al., 2013). On the other hand, in order for nursing students to improve the health of the individuals they will care for in their professional lives, they must first have healthy lifestyle behaviors and positive health perception (Köse Tosunöz, 2021). This study was conducted to determine the relationship between healthy lifestyle behaviors and health locus of control in nursing students.

METHODS

Ethical Aspects of the Study

While collecting the data, the purpose of the study was explained to the nursing students and they were not forced to participate in the study. Institutional permission was obtained for the study and consent was obtained from the students included in the study. The study was approved by the University of Health Sciences Gülhane Training and Research Hospital Clinical Researches Ethics Committee (Date: 2022, Decision No: 47). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Material and Method

This study is a cross-sectional descriptive relationship-seeking study. This study was conducted between 01.03.2023 and 01.06.2023 at Gülhane Faculty of Nursing, University of Health Sciences. The population of the study consisted of 758 students studying at Gülhane Nursing Faculty in the 2022-2023 academic year and the sample consisted of 450 students who agreed to participate in the study.

Data Collection Tools

Sociodemographic data form, multidimensional health locus of control scale form a and healthy lifestyle behaviors scale were used to collect data from the students participating in the study. Data were collected under the supervision of the researchers. It took students an average of 10 minutes to fill out the form.

Sociodemographic Data Form: The sociodemographic questionnaire consists of 10 questions. It includes students' gender, class, socio-economic status and family characteristics.

Multidimensional Health Locus of Control Scale Form: The multidimensional health locus of control scale was developed by Walltson et al. (1978) (Walltson et al., 1978). The validity and reliability of the scale was conducted by Güzel et al. (2019) and form a was used for this study. The 18 items in the scale are divided into three groups of six items each to assess internal health locus of control, strong others health locus of control, and change health locus of control orientations. Intrinsic health locus of control measures the impact of one's own values on one's health. Strong external level of control measures the level of influence of friends, family, physicians, nurses, etc. on the individual's health. Chance effect measures the level of influences such as chance, luck, fatalism and fatalism on the individual's health. The degree of agreement with the items is scored from "strongly agree=5" to "strongly disagree=0". The 18 items in the scale represent 3 sub-dimensions. Each sub-dimension produces scores between 0-30 on six items. The scores of the sub-dimensions are evaluated one by one and whichever sub-dimension has the highest score, the center that controls health is controlled

as that sub-dimension (Güzel et al., 2019). In this study, the Cronbach's alpha value of the scale was found to be 0.86.

Healthy Lifestyle Behaviors Scale: The healthy lifestyle behaviors scale was developed by Walker et al. (1988) and is a four-point Likert-type scale consisting of 52 items (Walker et al., 1988). The validity and reliability study of the scale in Turkiye was conducted by Bahar et al. (2008). The scale includes 6 subgroups: health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships and stress management. The scale is a 4-point Likert-type scale and is evaluated by giving 1, 2, 3, 4 points to the answers "never", "sometimes", "frequently", "regularly" respectively. All items of this scale contain positive statements, and an increase in the scale score indicates that the participant evaluates healthy lifestyle behaviors more positively (Bahar et al., 2008). In this study, the Cronbach's alpha value of the scale was found to be 0.95.

Statistical Analysis

The data of the study were transferred to the computer environment and standard deviation, arithmetic mean, frequency and percentage calculations were analyzed through the statistical package for the social sciences (SPSS 24.0) package program. Frequency and percentage analyses were used to determine the descriptive characteristics of the students participating in the study, and mean and standard deviation statistics were used to analyze the scale. Kurtosis and Skewness values were analyzed to determine whether the research variables were normally distributed. It was determined that the variables were normally distributed. The relationships between the dimensions that determine the scale levels of the students were examined through pearson correlation and linear regression analyses.

RESULTS

The mean age of the students participating in the study was 21.51±1.47 years. Of the students, 88.2% were female, 36.7% were in the 2nd grade. 51.1% of the students stated that they lived with their families, 66.9% did not receive scholarships, 61.3% had an income equal to their expenses, 95.3% stated that their parents were married, 62.4% stated that their mothers and 38.2% stated that their fathers were primary school graduates, and 91.8% stated that they did not have any chronic disease. Socio-demographic data of the students are shown in Table 1.

The scores of the students on the healthy lifestyle behaviors scale (HLBS) and multidimensional health locus of control scale (MHLCS) sub-dimensions and total scores are shown in Table 2. The mean scores of the students in the health responsibility sub-dimension were 23.49±5.52, in the physical activity sub-dimension were 18.99±5.25, in the nutrition sub-dimension were 21.21±4.89, in the spiritual development sub-dimension were 26.94±4.92, in the interpersonal relations sub-dimension were 27.33±4.85, in the stress management sub-dimension were 20.59±4.56, and in the total scale were 138.57±24.58. The mean scores of the internal control subscale were 27.76±5.24, the mean scores of the chance control subscale were 16.52±6.24, the mean scores of the external control subscale were 21.65±6.07, and the mean scores of the total scale were 62.94±13.5 (Table 2).

Pearson correlation analysis was performed to evaluate the relationship between students' healthy lifestyle behaviors and multidimensional health locus of control scale mean scores (Table 3). As a result of the analysis, a significant positive relationship was found between self-actualization and external control and internal control sub-dimensions (r: 0.248, p: 0.000), (r: 0.381, p: 0.000). A significant positive relationship was found between the health responsibility sub-dimension and external control and internal control sub-dimensions (r: 0,362, p: 0,000), (r: 0,260, p: 0,000). A significant and weak positive relationship was found between the physical activity sub-dimension and external control, internal control and chance control sub-dimensions (r: 0.268, p: 0.000), (r: 0.198, p: 0.000), (r: 0.133, p: 0.005). There was a significant positive relationship between the nutrition sub-dimension and external control, internal control and change sub-dimension (r: 0.356, p: 0.000), (r: 0.244, p: 0.000), (r: 0.218, p: 0.000). There was a significant positive relationship between the interpersonal relations sub-dimension and external control and internal control sub-dimensions (r: 0.286, p: 0.000), (r: 0.359, p: 0.000). There was a significant positive relationship between the stress management sub-dimension and external control, internal control sub-dimension, and a very weak positive relationship between the chance control sub-dimension (r: 0.319, p: 0.000), (r: 0.301, p: 0.000) (r: 0.130, p: 0.006). No statistically significant relationship was found between the other sub-dimensions (p>0.005) (Table 3).

Table 1. Socio-demographic data of the students (n=450)

Age (mean±SD)	**21.51±1.47**	
	n	**%**
Gender*		
Female	397	88.2
Male	53	11.8
Class*		
Class 1	68	15.1
Class 2	165	36.7
Class 3	130	28.9
Class 4	87	19.3
Place of Residence*		
Family house	230	51.1
Dormitory	163	36.2
Student house	57	12.7
Scholarship Status*		
Yes	149	33.1
No	301	66.9
Family Income Status*		
Income less than expenditure	104	23.1
Income equals expenditure	276	61.3
Income more than expenditure	70	15.6
Parents marital status*		
Married	429	95.3
Separated	21	4.7
Mother's education status*		
Primary education graduate	281	62.4
High school graduate	126	28.0
University graduate	43	9.6
Father's education status*		
Primary education graduate	172	38.2
High school graduate	155	34.4
University graduate	122	27.1
Presence of chronic disease*		
Yes**	37	8.2
No	413	91.8

*: n (%).**: Type 1 diabetes, hypothyroidism, mitral insufficiency, bipolar disorder, chronic kidney disease, arterial hypertension, allergies, anxiety, polycystic ovary, systematic juvenile idiopathic arthritis, Mediterranean anemia, migraine, glaucoma, SD: Standart deviation

Table 2. Distribution of healthy lifestyle behaviors and multidimensional health locus of control scale mean scores (n=450)

HLBS	Mean±SD
HLBS total score	138.57±24.58
Health responsibility	23.49±5.52
Physical activity	18.99±5.25
Nutrition	21.21±4.89
Spiritual development	26.94 ±4.92
Interpersonal relationships	27.33±4.85
Stress management	20.59±4.56
MHLCS	
MHLCS total score	62.94±13.5
Internal control	27.76±5.24
Chance control	16.52±6.24
External control (Otherpowerful people)	21.65±6.07

HLBS: Healthy lifestyle behaviors scale, MHLCS: Multidimensional health locus of control scale, SD: Standart deviation

Table 3. The relationship between healthy lifestyle behaviors scale and multidimensional control scale scores

HLBS	MHLCS		
	External control (other powerful people)	Internal control	Chance control
Self-actualization (spiritual development)	r: 0.248 p: 0.000	r: 0.381 p: 0.000	r: -0.059 p: 0.208
Health responsibility	r: 0.362 p: 0.000	r: 0.260 p: 0.000	r: 0.073 p: 0.121
Physical activity	r: 0.268 p: 0.000	r: 0.198 p: 0.000	r: 0.133 p: 0.005
Nutrition	r: 0.356 p: 0.000	r: 0.244 p: 0.000	r: 0.218 p: 0.000
Interpersonal relationships	r: 0.286 p: 0.000	r: 0.359 p: 0.000	r: -0.052 p: 0.268
Stress management	r: 0.319 p: 0.000	r: 0.301 p: 0.000	r: 0.130 p: 0.006
Total	r: 0.375 p: 0.000	r: 0.353 p: 0.000	r: 0.090 p: 0.056

HLBS: Healthy lifestyle behaviors scale, MHLCS: Multidimensional health locus of control scale

Regression analysis to determine the cause and effect relationship between healthy lifestyle behaviors and multidimensional health locus of control was found to be significant (F=30.985; p=0.00<0.05). The total change in healthy lifestyle behaviors was explained by internal control, external control and chance control at a rate of 17.2% (R^2=0,172). Internal control and external control increase healthy lifestyle behaviors (ß=0.959, ß=1.144). Chance control has no effect on healthy lifestyle behaviors (Table 4).

Table 4. The effect of multidimensional health locus of control on healthy lifestyle behaviors*

					95% confidence interval	
	ß	SE	t	p	Bottom	Upper
Internal control	0.959	0.245	3.910	0.000	0.477	1.441
External control	1.144	0.225	5.075	0.000	0.701	1.587

*Linear regression analysis

DISCUSSION

In this study, it was found that multidimensional health locus of control affected healthy lifestyle behaviors, internal control and external control increased healthy lifestyle behaviors, while chance control had no effect on healthy lifestyle behaviors. The score obtained from the healthy lifestyle behaviors scale shows us that the healthy lifestyle behaviors of the students are at a good level and this situation is evaluated positively. In a systematic review examining the healthy lifestyle behaviors of high school students in our country, it was reported that the health behaviors of adolescents were at a moderate level (Sümen et al., 2017). The fact that our study was conducted with nursing faculty students is thought to be related to the fact that they adopted health-related lifestyle behaviors in the educational environment. In this study, it was found that the students received the highest score in the internal control sub-dimension of the multidimensional health locus of control scale, that is, the center that controls health was found to be the internal control sub-dimension. Individuals with internal locus of control are self-confident, have high self-efficacy in health, seek and demand more information by not depending on the opinions of others, apply what health professionals say better, and know the importance of their behaviors (Debnam et al., 2012; Sümen & Öncel, 2017). People who think that they can affect their own health with their own behaviors are more likely to engage in healthy life behaviors (Jackson et al., 2007). The fact that the self-actualization and interpersonal relationships of students with higher levels of internal control are higher suggests that students with higher levels of self-actualization may not give much opportunity to the luck factor on their health.

It has been stated that individuals' health behaviors are under their own control and this situation is influenced by external factors. Health professionals, teachers, family and peers play an important role in the health behaviors of individuals. These people constitute role models for how the person will think, feel and behave (Tabak & Akköse, 2006). When young people with high external control tendency perceive other powerful people as respectful or expert, they give more importance to their own behaviors and evaluations (Dönmez, 1986). Studies have shown that external health control is a significant determinant of health behaviors (Cloutier, 2003; Steptoe, 2001). In another study, although external health control was significantly associated with balanced diet and regular physical activity, it was not found to be significant in regression analysis (Hosseini et al., 2017). In this study, external control was found to increase healthy lifestyle behaviors. It shows the importance of students having high external control and getting help from experts in their field when they have a health problem.

In this study, it was found that students did not attribute their healthy lifestyle behaviors to chance control. In İlkan and Alkır's study (2021), it was found that physical activity, nutrit ion, positive life perception, interpersonal relationships, and stress management decreased as the chance fatalistic approach score increased. In their regression analysis, it was stated that chance fatalism did not affect the health behaviors of adolescents (İlhan & Alkır, 2021). In the study of Hosseini and colleagues, it was determined that the luck factor was not a significant determinant of health behaviors (Hosseini et al., 2017). In another study, it was shown that increased chance effect was associated with lower leisure time physical activity behavior (Mercer et al., 2018). Chance locus of control is used to measure the control of variables such as luck, fortune and fate that the individual perceives towards his/her health. In this study, it is thought that the reason why the students did not attribute their healthy lifestyle behaviors to chance control

was due to the fact that they were nursing students receiving health education. The importance of physical activity, stress management and nutrition, which have an important place in healthy lifestyle behaviors, should not be left to chance and students should be told about the importance of gaining their own health responsibilities.

Limitations

The most important limitation of this study was the use of questionnaires based on student self-reports. Therefore, misunderstanding or misinterpretation of the questions might have affected the results of the study. Also it was conducted in only one research school and has a modest sample size.

CONCLUSION

As a result of the study, It has been found that health locus of control is an important factor in displaying healthy lifestyle behaviors of nursing students who will provide care, education and consultancy services to healthy/sick individuals. It was determined that the health behaviors of nursing students were at a good level, and as the internal locus of control and external locus of control scores increased, health behaviors increased positively. The center that controls health was found to be the internal control sub-dimension. In programs to improve the health of students, factors affecting health behaviors should be taken into account. Health education programs should be organized to increase health responsibility before entering the nursing profession. In this context, based on the idea that students' understanding that their health and behaviors are under their own control improves their health behaviors positively, content aimed at improving the internal health locus of control should be included in the training programs.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was approved by the Faculty of Health Sciences Gülhane Training and Research Hospital Clinical Researches Ethics Committee (Date: 2022, Decision No: 47).

Informed Consent

Written informed consent was obtained from the all patients included in the study.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper and that they have approved the final version.

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A review of nursing departments in higher education institutions in Turkiye

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ABSTRACT

Aims: The presence of qualified nurses is an indispensable element for the health system. The training of qualified nurses depends on nursing education and the provision of this education by specialized nurses. This study aims to examine the nursing departments in higher education institutions in Turkiye in terms of some variables.

Methods: The data of this descriptive study were collected between March 20 and 31, 2024 by using the "https://yokatlas.yok.gov.tr" and "https://akademik.yok.gov.tr" and the official websites of 158 universities.

Results: It was observed that the majority of higher education institutions providing nursing education were located within the faculty of health sciences (82.3%), were state universities (65.9%), and were located in the Marmara Region (31.6%). It was determined that 3641 academicians worked in a total of 158 universities across Turkiye, while the most academicians were in the "internal medicine nursing" department, the least academicians were in the "nursing education" department, and 5.5% of the academicians were from outside the field of nursing.

Conclusion: It was observed that there are widespread departments providing nursing education in universities throughout Turkey, although state universities are predominant, foundation universities also prioritize nursing departments and out-of-field academicians are involved in nursing education.

Keywords: Nurse, nursing education, academician, department

INTRODUCTION

The nursing profession emerged with the identity of a healer woman shaped by women's social roles and models, and Florence Nightingale laid the foundations of the professional nursing profession in the Crimean War (Kıran & Taşkıran, 2015). The first modern nursing education was opened by Florence Nightingale in 1860 at St. Thomas in England. Nursing students were accepted to this school according to various criteria and received their education by nurses. Dr. Besim Ömer Akalın, who was influenced by Florence Nightingale, laid the foundation of modern nursing in Turkiye and opened the voluntary patient care course in 1911 (Çamlıca & Kartal, 2021; Kalanlar & Kublay, 2010; Ay, 2012). Nurses who received certificates from these courses took part in the care of wounded soldiers during the war. During the Republican period, the Red Crescent Nursing School established in İstanbul in 1925 was the first known nursing school. Later, in 1946, vocational high schools of health, which provided three-year education under the Ministry of Health, continued to provide education (Kalanlar & Kublay, 2010). The most important step taken after schooling for the professionalization of the profession was the enactment of the nursing law in 1954 (Official Gazette, 1954). Following this law, the Aegean School of Nursing was opened in 1955 as the first school in Turkiye to offer undergraduate nursing education (Birol, 2009; Ay, 2012). Gevher Nesibe Health Education Institute was established in 1961 in order for nurses to continue their higher education, and as a result of the quality and quantity of the profession developing over time, the first nursing master's program was opened in 1968 and the first doctoral education program was opened in 1972 at Hacettepe University (Birol, 2009; Ay, 2012).

The nursing profession, which has developed over time, has turned into a professional profession that is responsible for bringing the healthy individual to an optimal state of well-being, providing care and treatment to the sick individual, meeting the physical, mental and social needs of the individual, society and family, and has its own scientific infrastructure (Birol, 2009). The most important steps affecting the professionalization process are legal regulations and developments in nursing education. In the call made by the World Health Organization (WHO) in 2016, it was emphasized that the quality of nursing education should

be improved in order to increase the quality of the nursing profession (WHO, 2016). In our country, while the education level of the nursing profession was at the "high school" level in the past years, based on the nursing law enacted in 2007, the condition of being a "bachelor's degree graduate" was sought in order to practice the nursing profession (Nursing Law, 2007). In Canada, nursing education standards were established and it was emphasized that nursing education should be provided by nurse educators (Baker, Cary, & da Conceicao Bento, 2021). According to WHO, theoretical and practical courses within the scope of basic nursing education should be carried out by nurses specialized in this field. Nurse educators should be equipped with the skills to conduct research-based education, develop learning and change theoretical/practical strategies instead of theoretical/practical strategies, and have the diploma degree required to be an educator at the university (WHO, 2000).

The basic need of the health care system is qualified nurses and optimal nursing care. The training of competent and professional nurses to meet this need depends on the student's strategic thinking and clinical experience during the nursing education process (Yürümezoğlu & Kocaman, 2024). This process reveals the importance of nursing education. Effective and accurate delivery of applied courses in nursing education is of universal importance. This education should be provided to students by nurse educators who are experts in their field. It is known that the number of nurse-based experts in nursing undergraduate programs in our country and in the world is insufficient (Boamah, Callen & Cruz, 2021). One of the reasons for this problem in our country is that nursing undergraduate programs are opened in large numbers by focusing on quantitative competencies. These reasons result in the inclusion of academicians outside the field in nursing undergraduate programs. Thus, nursing education is deeply affected and risks that may deeply affect public health arise with the qualitative loss of nurses trained in basic education. With this study, variables such as the distribution of academic staff for nursing departments in higher education institutions will be examined to understand the current situation and to obtain information that will shed light on the planning of nursing education.

METHODS

Ethical Approval

Since secondary data were used in this study, ethical approval permission was not required. The rules of research and publication ethics were followed in this article.

Purpose of the Study

This descriptive study aimed to examine the nursing departments registered with the Council of Higher Education in Turkiye according to the number of academicians, titles, departments, university types and regions. In this direction, answers to the following questions were sought.

- How is the distribution of nursing programs according to university type?
- How is the distribution of academicians in nursing programs according to their departments?
- How is the distribution of academicians in the nursing department according to titles?
- What is the geographical distribution of the nursing undergraduate program?
- What are the specializations of non-field academicians in the nursing department?

Sample The population of the study was the nursing departments in Turkiye and Cyprus affiliated to Council of Higher Education (CHE), and no sample selection was made from the population, and the entire population was reached.

Data Collection Process

The data of the study were collected between March 20 and 31, 2024 by using the databases of the CHE and the official websites of 158 universities. The following databases, which are open to access over the internet, were used to reach the total number of academicians in the nursing department, to evaluate their distribution in nine main science branches, to evaluate the distribution of academic titles, and to evaluate the ratio in seven geographical regions.

- Higher education program atlas (https://yokatlas.yok.gov.tr)
- Council of higher education academic search (https://akademik.yok.gov.tr)

Statistical Analysis

The data collected in the study were compiled through Microsoft Excel program and analyzed using descriptive statistics.

RESULTS

In this study, which was conducted to examine the institutions providing nursing education in Turkiye and the academic staff working in these institutions, it was determined that 158 universities provide education in nursing departments.

When the schools with nursing departments were examined, it was found that there were more nursing departments in public universities (65.9%) than in foundation universities (34.1%), and these departments were mostly located within the faculty of health sciences. The lowest number of nursing departments was found in the school of health (5%) (Table 1).

Table 1. Distribution of schools with nursing departments

University type	Faculty of health sciences/ nursing n (%)	Faculty of nursing/ nursing n (%)	School of health/nursing n (%)	Total n (%)
State	88 (55.7)	15 (9.6)	1 (0.6)	104 (65.9)
Foundation	42 (26.6)	5 (3.1)	7 (4.4)	54 (34.1)
Total	130 (82.3)	20 (12.7)	8 (5)	158 (100)

*Although Cyprus is not among the regions in Turkiye, since the universities in this country are registered with CHE, they are shown in a separate section and in this table.

The distribution of universities with nursing departments by region is given in Table 2. In terms of the total number of universities, the Marmara Region (31.6%) ranks first and the Central Anatolia Region (17%) ranks second. According to the number of public universities, the Marmara Region ranks first again, but it is noteworthy that there are almost twice as many foundation universities in this region. There are no foundation universities in the Eastern Anatolia Region, while there are no nursing departments in any state university in Cyprus.

Table 2. Distribution of universities with nursing departments by region

Regions	University type	n (%)	Total n (%)
Marmara Region	State	17 (10.8)	50 (31.6)
	Foundation	33 (20.8)	
Central Anatolia Region	State	18 (11.7)	27 (17.0)
	Foundation	9 (5.6)	
Egean Region	State	12 (7.6)	14 (8.8)
	Foundation	2 (1.2)	
Mediterranean Region	State	11 (7.0)	13 (8.2)
	Foundation	2 (1.2)	
Black Sea Region	State	18 (11.4)	19 (12.0)
	Foundation	1(0.6)	
Southeastern Anatolia Region	State	10 (6.3)	12 (7.5)
	Foundation	2 (1.2)	
Eastern Anatolia Region	State	16 (10.1)	16 (10.1)
	Foundation	0 (0)	
Cyprus*	State	0 (0)	7 (4.4)
	Foundation	7 (4.4)	
Total		158	100

When the distribution of academic staff according to their academic titles is examined, it is seen that 28.6% of them are assistant professors, 26.9% are lecturers, 14.9% are associate professors and only 11.2% are professors. It was found that the highest number of professors were in the department of internal medicine nursing, followed by the department of women's health and obstetrics nursing; the highest number of associate professors were in the department of public health nursing, followed by the department of psychiatric nursing; the highest number of doctoral faculty members and lecturers were in the department of internal medicine nursing, and the highest number of research assistants were in the department of surgical nursing (Table 3).

Table 3 shows the distribution of academic staff working in nursing departments according to their departments. Internal medicine nursing (15.1%), surgical nursing (14.7%) and public health nursing (13.2%) have the highest number of academic staff, while education in nursing (2%), nursing management (3.9%) and nursing principles (10.9%) have the lowest number of academic staff. It is also seen that 5.5% of the academicians working in nursing education have expertise outside their field. It is noteworthy that the employment of out-of-field academic staff is higher in foundation universities than in public universities.

The basic and specialization fields of out-of-field academic staff are given in Table 4. Although it is seen that the out-of-field lecturers are mostly from the basic field of health sciences, it was determined that academicians from the basic field of social, humanities and administrative sciences, basic field of science and mathematics and basic field of engineering are also included in the nursing departments.

Table 4. Basic and specialization areas of non-field instructors in nursing

Basic area	Area of specialization
Health sciences basic area	Physiology, biochemistry, midwifery, cardiology, medical histology, biology education, gastroenterology, urology, plastic surgery, health management, oncology, pharmacology, health physics, pharmacy, anatomy, nutrition and dietetics, general surgery, health informatics, medical biochemistry, basic immunology, medical history and ethics, veterinary parasitology, veterinary anatomy, veterinary microbiology, veterinary physiology
Social-humanities and administrative basic sciences	Management and organization, management and strategy, forensic social sciences
Science and mathematics basic area	Biology, molecular biology and genetics, chemistry
Engineering basic area	Food engineering

Table 3. Distribution of faculty members in nursing departments in Turkiye according to departments and university types

Department	University type	Teaching staff					Total n (%)	
		Professor	Associate professor	Assistant professor	Teaching assistant	Research assistant		
Nursing principles	State	22	49	102	80	65	318 (8.8)	397 (10.9)
	Foundation	15	10	16	24	14	79 (2.1)	
Internal medicine nursing	State	55	62	137	110	65	429 (11.8)	553 (15.1)
	Foundation	16	5	34	51	18	124 (3.1)	
Surgical diseases nursing	State	31	58	115	109	97	410 (11.3)	537 (14.7)
	Foundation	20	8	42	45	12	127 (3.4)	
Obstetrics and gynecology nursing	State	42	62	86	65	64	319 (8.8)	399 (11.0)
	Foundation	17	4	17	29	13	80 (2.2)	
Pediatric nursing	State	47	56	106	70	80	359 (9.9)	437 (12.0)
	Foundation	8	3	27	32	8	78 (2.1)	
Psychiatric nursing	State	31	78	84	79	65	337(9.3)	426 (11.7)
	Foundation	11	9	27	27	15	89(2.4)	
Public health nursing	State	40	90	83	102	72	387(10.6)	480 (13.2)
	Foundation	6	7	30	31	19	93(2.6)	
Education in nursing	State	2	3	9	30	10	54 (1.5)	75 (2.0)
	Foundation	1	0	2	18	0	21(0.5)	
Management in nursing	State	5	16	44	18	14	97 (2.8)	139 (3.9)
	Foundation	7	0	19	13	3	42 (1.1)	
Non-field teaching staff in nursing	State	13	13	31	24	12	93 (2.6)	198 (5.5)
	Foundation	21	11	31	22	20	105 (2.9)	
Total	n (%)	410 (11.2)	544 (14.9)	1042 (28.6)	979 (26.9)	666 (18.4)	3641 (100)	

DISCUSSION

In the examination conducted to examine the nursing departments in the universities registered to CHE according to some variables, it was seen that there are nursing departments in 158 universities and education is provided with 3641 academic staff. In a study conducted by Yürümezoğlu and Kocaman (2024), when the number of academicians by years was examined, it was found that the total number of academicians was 226 in 1996-1997 academic year, 861 in 2000-2001, 1073 in 2007-2008, 1245 in 2011-2012 academic year, 1894 in 2015-2016, and 2787 in 2022-2023. In our study, it was determined that there were 3641 academic staff in the 2023-2024 academic year. It was found that the total number of academics increased substantially in the last 28 years, and this increase was 30.6% in the last one year. In the same study conducted by Yürümezoğlu and Kocaman (2024), the number of universities was also given. Looking at the total number of universities by years, there were 80 universities in 1996-2000, 92 in 2000-2001, 101 in 2010-2011, 124 in 2014-2015, and 133 in 2015-2016. In 2022-2023, 99 state and 54 foundation universities provide education. In our study, in 2023-2024, there are 104 state and 54 foundation universities, totaling 158 universities providing nursing education. While there has been no increase in foundation universities in the last year, there has been a 5.1% increase in state universities. It can be thought that this situation is primarily related to the objectives of the CHE in establishing universities, and that the establishment of a university in a province contributes to the development of that city is more important than the adequacy of infrastructure. In addition, the fact that nurses have the opportunity to find a job quickly and have the opportunity to be appointed to the state has caused nursing departments to be preferred by students, which has led to occupancy rates above 100%. It can be said that increasing student demand and educational needs have naturally led to an increase in both the number of universities and the number of academicians.

When the schools with nursing departments were examined in the study, it was found that there were more nursing departments in state universities than in foundation universities, and that these departments were mostly located within the Faculty of Health Sciences. It can be thought that the fact that the majority of nursing departments do not meet the necessary criteria to become a faculty due to reasons such as not having sufficient infrastructure and teaching staff may be the reason for this situation. In our country, university education is commonly provided by state universities (CHE, 2024), similarly, it is an expected result that nursing education is provided by state universities. In our study, when the distribution of universities according to regions was analyzed, the Marmara Region ranked first and the Central Anatolia Region ranked second. Although Marmara University ranks first in terms of the number of public universities, it is noteworthy that almost twice as many foundation universities are located in this region. While there are no foundation universities in the Eastern Anatolia Region, it was determined that there is no nursing department in any state university in Cyprus. Similarly, in the study of Yürümezoğlu and Kocaman (2024), it was observed that the Marmara and Central Anatolia Regions had the highest number of universities, whereas in our study, there was a decrease in the number of foundation universities in Cyprus. It can be said that this situation is related to the increasing number of public universities. The establishment of universities is influenced by the dynamics of the province where they are established and is preferred according to the potential of the city. In terms of population, the Marmara and Central Anatolia Regions are home to 26,412,501 and 13,689,883 people, respectively, and contain large cities such as İstanbul and Ankara (TSI, 2023). Therefore, almost half of both public and foundation universities are located in these two regions. In addition to the infrastructure required for nursing education, the opportunities offered by the city to students and academics working in these universities cause these universities to be preferred. The lowest number of universities in Cyprus can be said to be related to the fact that all of the universities there are foundation universities and students pay a fee for their education.

When the distribution of the academic staff according to their academic titles is examined, it is seen that the majority of them are "doctoral faculty members". It was found that the highest number of professors were in the department of internal medicine nursing; the highest number of associate professors were in public health nursing; the highest number of doctoral lecturers and lecturers were in the department of internal medicine nursing, and the highest number of research assistants were in the department of surgical nursing. The higher number of professors, doctoral faculty members and lecturers in the department of internal diseases compared to other departments may be thought to be due to the fact that internal diseases constitute the basis of nine departments and that there are more higher education programs in this field. In the study, when the distribution of academic staff working in nursing departments according to departments was examined, it was seen that there were the highest number of academic staff in internal medicine nursing and the lowest number of academic staff in the department of education in nursing. When the reason for the low specialization in the field of education in nursing is evaluated, the priority areas determined by CHE include surgical nursing, child health and diseases nursing, gynecology and obstetrics nursing, psychiatric nursing, Internal diseases nursing and nursing principles (CHE, 2024). The lack of education in nursing and nursing management among these majors may be a reason for the low number of academicians in these fields. Another factor may be that postgraduate programs for education in nursing and nursing management are not common.

Another finding of the study is the employment of instructors outside the field of nursing. One of the main reasons for the employment of instructors outside the field may be the disproportion between the number of trained instructors of nursing origin and the number of nursing undergraduate programs, and the lack of sufficient academicians of nursing origin. The fact that CHE (2024) leaves the staffing criteria to the relevant university in the staff appointments of universities may also be effective in the formation of out-of-field employment. Although it is seen that this employment is mostly in foundation universities and frequently from the health sciences basic field, it can be said that the fact that academics from the engineering basic field are also in nursing departments is related to the fact that it is easier to employ academics in dynamic departments such as nursing. The high

number of non-field academics in foundation universities can be thought to be due to the fact that foundation universities open uncontrolled nursing departments with the aim of commercial gain and being a preferred department.

CONCLUSION

In line with the research findings, it is seen that there are widespread departments providing nursing education in universities across Turkiye, and although state universities are predominant, foundation universities also prioritize nursing departments. It has been observed that the number of nursing departments and academicians has increased over the years, the highest number of academicians are in Internal medicine nursing, the lowest number of academicians are in nursing education departments, and out-of-field academicians are also involved in nursing education. In order to prevent out-of-field employment in nursing education and to train sufficient academicians for the departments, it is recommended that nursing graduate programs become widespread and advanced studies should be carried out in this field.

ETHICAL DECLARATIONS

Ethics Committee Approval

Since secondary data were used in this study, ethical approval permission was not required. The rules of research and publication ethics were followed in this article.

Informed Consent

Since secondary data were used in this study, informed consent not need.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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Analysis of medical malpractice news in newspapers: a retrospective review

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ABSTRACT

Aims: The aim of this study was to determine which types of medical malpractice occurred and how they resulted by analyzing the medical malpractice news reflected in the newspapers in Turkey.

Methods: This descriptive and retrospective study was conducted on April 1-30, 2024. The virtual archives of seven national newspapers with the highest circulation (Sabah, Turkiye, Hurriyet, Sozcu, Akşam, Milliyet, Posta) were scanned using the keywords "nurse", "doctor", "health", "nurse errors", "doctor errors", "medical error", "wrong medicine", "wrong surgery", "wrong diagnosis", "wrong treatment", "wrong blood" and "wrong patient". The population of the study consisted of 144 news articles.

Results: It was observed that most of the news about medical malpractice in newspapers were in 2017 and 2021, and 74.3% of them were performed by doctors. It was determined that the most common medical malpractice was surgical errors, followed by medication errors, death occurred in 38.2% of the cases as a result of malpractice, followed by disability/organ loss, and in the majority of cases, criminal complaints were filed as a result of malpractice.

Conclusion: The study revealed that medical malpractice errors reported in the news were mostly committed by physicians and surgical errors, and death and disability occurred as a result of medical malpractice. Further studies examining the factors affecting the occurrence of medical malpractice that may lead to death are recommended.

Keywords: Malpractice malpractice, newspaper news, nursing, drug applications

INTRODUCTION

Health is defined as a state of complete physical, mental and social well-being [World Health Organization (WHO) 2006]. In the event that the well-being of the individual deteriorates for any reason, the individual applies to institutions that provide health services in order to regain his/her health or to maintain the continuity of his/her health. The healing power provided to individuals for disease prevention, diagnosis and treatment provided by health institutions is called health service (Uyurdağ et al., 2022). In health services provided by health personnel, undesirable events may occur and the individual may suffer harm instead of benefit. Therefore, accurate and high-quality provision of healthcare services is very important for every individual who is likely to face possible risks and who expects safe healthcare services (Çarıkçı et al., 2021).

Medical malpractice is defined as medical malpractice that causes undesirable consequences such as death and disability in the patient (Değtaş, 2018). It is mostly caused by situations such as negligence, imprudence, carelessness, lack of professional skills, lack of care, fatigue, feeling of burnout, failure to comply with regulations and rules by health professionals. The concept of medical error includes the concept of medical malpractice. While medical malpractice represents a definite harm as a result of the error, medical error may not cause definite harm to the patient even if there is an error (Çarıkçı et al., 2021).

According to the WHO (2023), medical errors include medication errors, surgical errors, diagnostic errors, patient misidentification, infections, patient falls, pressure ulcers, blood transfusion errors and venous thromboembolism. The most common medical errors are surgical errors and medication errors. One out of every ten patients in the world suffers harm instead of benefit from healthcare services (Slawomirski & Klazinga, 2020). Half of this harm is caused by medication errors. Medication errors are categorized as wrong drug, wrong dose, wrong patient, wrong route of administration, wrong time, wrong speed of administration (WHO, 2023). The fact that the task of administering drug

therapy to the patient is the responsibility of nurses and that the majority of these errors are preventable reveals the importance and role of the nursing profession (Kırşan et al., 2019).

Provision of health services always brings challenging processes due to factors such as working conditions and working environment. Health services provided by health professionals continuously to meet the care needs of patients are affected by many reasons such as shift work, problems in workflow, insufficient number of personnel, workload, conflicts within the health team, economic problems and communication problems (Aktan & Atay, 2021). In a study conducted on the reasons for nurses to make medical errors, it was determined that long working hours increased the tendency to make medical errors (Er & Altuntaş, 2016). In another study, it was shown that nurses working with the shift system had a much higher tendency to make medical errors compared to nurses working during the day (Kandemir & Yüksel, 2020). In a study conducted by Karacabay et al. (2020), it was determined that nurses with 11 years or more of working experience in their professional life had a low tendency towards medical errors. In a study conducted with pediatric nurses, it was found that the tendency of nurses with bachelor's and master's degrees to make medical errors was lower than high school graduates (Tural et al., 2021).

In order to prevent medical errors before they occur, they must first be defined in every dimension. Today, with the development of technology and communication, the easy accessibility of information allows us to be aware of every situation encountered in the field of health (Aktan & Atay, 2021). In addition, these errors can create situations that bring about judicial processes and even lead to death. Medical malpractice is reflected in the media through written communication organs. Written communication tools have a great share in the society's being informed about medical malpractice, raising awareness, gaining awareness and seeking their rights in action (Avşar et al., 2016). Defining medical malpractice incidents, determining the underlying causes and prevalence are very important in taking possible measures, managing the process and producing solutions. Medical malpractice should be prevented or investigated to minimize it in order to ensure patient safety, increase the trust and satisfaction of the society in the healthcare system, obtain positive health outcomes and increase the motivation and job satisfaction of healthcare providers.

METHODS

Ethical Approval

Since secondary data were used in this study, ethical approval was not required. This article complied with the rules of research and publication ethics.

Purpose of the Study

The aim of the study is to examine the medical malpractice news reflected in the newspapers of the last 10 years according to some variables. For this purpose, answers to the following questions were sought;

- What is the distribution of medical malpractice in the last 10 years?
- By whom, where and in which type are medical malpractice errors committed?
- What is the level of impact of those exposed to medical malpractice and how is the legal process?

Research Implementation

This descriptive and retrospective study was conducted between April 1-30, 2024. Before starting the study, the researchers contacted the Press Advertisement Agency and asked for a list of the newspapers with the highest circulation. The seven national newspapers with the highest circulation (Sabah, Turkiye, Hurriyet, Sozcu, Akşam, Milliyet, Posta) were determined in line with the information provided by the Press Advertisement Agency via e-mail. To collect the data, the virtual archives of seven national newspapers were accessed and scanned with the keywords "nurse", "doctor", "health", "nurse errors", "doctor errors", "medical error", "wrong medicine", "wrong surgery", "wrong diagnosis", "wrong treatment", "wrong treatment", "wrong blood" and "wrong patient". As a result of the scanning, a total of 2919 news reports were reached, and 144 news reports constituted the population of the study after the repeated news reports and those with different content were removed. The distribution of the news on medical malpractice in the last 10 years, by whom and where the error was made, the types of errors, the final status of the person exposed to the error, whether the news were sufficient in terms of content, and the domestic and international distribution levels were analyzed.

Data Collection Form

In this form developed by the researchers, there are eight questions including the variables examined within the scope of the research on medical malpractice.

Statistical Analysis

After the data were collected, they were transferred to Microsoft Excel. Numbers and percentages were used to analyze and present the data.

RESULTS

In the study in which medical malpractice news for the last 10 years were analyzed, 144 news were found. The distribution of the medical errors according to some variables is presented in the tables below.

Table 1 shows the distribution of medical malpractice according to years. In the analysis, it was determined that the most medical malpractice occurred in 2017 and 2021 with 13.9%, and the least medical malpractice occurred in 2019 with 4.1%.

Table 1. Distribution of medical malpractice cases in newspapers by years

Year	n	%
2014	8	5.5
2015	10	7.0
2016	16	11.1
2017	20	13.9
2018	18	12.5
2019	6	4.1
2020	10	7.0
2021	20	13.9
2022	19	13.1
2023	17	11.9
Total	144	100

Table 2 shows the distribution of medical malpractice committed by whom. Medical malpractice was mostly committed by physicians with 74.3% and by nurses with 9.0%.

Table 2. Distribution of medical malpractice according to by whom

Causing medical malpractice	n	%
Doctor	107	74.3
Nurse	13	9.0
Dentist	8	5.5
Doctor and nurse	4	2.8
Uncertain	4	2.8
Health personnel	4	2.8
Beauty expert	2	1.4
Pharmacist	1	0.7
Circumcision	1	0.7
Total	144	100

Table 3 shows the distribution of the places where medical malpractice occurred. Medical malpractice occurred most frequently (37.5%) in private hospitals and least frequently at home.

Table 3. Distribution of medical malpractice according to the location

Place of medical malpractice	n	%
Private hospital	54	37.5
State hospital	48	33.3
Uncertain	16	11.1
University hospital	12	8.3
Private clinic	11	7.7
Family health center	2	1.4
Other (home)	1	0.7
Total	144	100

Table 4 shows the distribution of medical malpractice types. The most common type of medical malpractice was "surgical errors" and the least common type was "patient falls".

Table 4. Distribution of medical malpractice types

Type of medical malpractice	n	%
Surgical errors	72	50.0
Medication errors	36	25.0
Diagnostic errors	19	13.2
Blood transfusion errors	6	4.1
Infections	5	3.5
Patient misidentification	3	2.1
Neglect	2	1.4
Patient falling	1	0.7
Total	144	100

Table 5 presents data on the final status of the person as a result of medical malpractice. When the analyzed data are analyzed, it is seen that the highest rate of death and disability/organ loss occurred as a result of medical malpractice. It was determined that 38.2% of the individuals who were subjected to medical malpractice died and 27.8% experienced disability and organ loss. It was observed that 26.4% of the individuals' disease worsened and 7.6% of the individuals' disease improved.

When the data in Table 6 are analyzed, it is seen that the highest level (36.1%) is criminal complaint/complaint. It is seen that 25.7% of medical malpractice cases are in the judicial and investigation stage.

Table 5. Distribution according to the status of the person subjected to medical malpractice

Last status of the person	n	%
Death	55	38.2
Disability/loss of organ	40	27.8
His/her illness worsened	38	26.4
His/her illness has been cured	11	7.6
Total	144	100

Table 6. Distribution by legal process resulting from medical malpractice

Legal process	n	%
Criminal complaint/complaint	52	36.1
Judiciary/investigation	37	25.7
Uncertain	40	27.8
Compensation penalty	11	7.6
Imprisonment	2	1.4
Judicial control	1	0.7
Dismissal	1	0.7
Total	144	100

Table 7 presents data on the content of news on medical malpractice. It is seen that 83.3% of the news items provide sufficient information, while 16.6% have deficiencies in content.

Table 7. Distribution of news on medical malpractice according to their content

News content	n	%
Sufficient	120	83.3
Insufficient	24	16.7
Total	144	100

Table 8 shows that 88.9% of the news on medical malpractice occurred in Turkiye and 11.1% occurred abroad.

Table 8. Distribution of medical malpractice according to the country of origin

The place where it was made	n	%
Turkiye	128	88.9
Outside Turkiye	16	11.1
Total	144	100

DISCUSSION

Within the scope of the research conducted to examine medical errors, 144 news articles were analyzed. It was determined that most of these news articles were published in 2017 and 2021. In a study conducted in England, it was observed that medical malpractice cases more than doubled from 2007 to 2012 (Bourne, 2016), and in a study conducted in Taiwan, the number of medical error cases increased four times more in 2007 than in 2004 (Chen, 2012; Hwang, 2018). Especially in situations such as the COVID-19 pandemic, the duties and responsibilities of healthcare workers increase much more (ILO, 2021). In our country, it is expected that long working hours and heavy workload will affect the provision of health services and patient care during the pandemic period (Baki & Piyal, 2020). In our study, it is seen that medical malpractice cases increased over the years, but

contrary to expectations, there was a decrease in the years between 2019 and 2020, and increased approximately twice again in 2021. This may be attributed to the limited number of applications to healthcare institutions in the first year of the COVID-19 pandemic and the conditions that require the healthcare team to work more diligently. In addition, even if medical malpractice cases did occur, it may have been delayed in being reported in the print media. In the research, a sudden increase is observed in 2021. It has been reported that many factors such as increased expectations of patients and their relatives from healthcare personnel, reflection of medical malpractice news in the media with developments in the field of technology, increased interest in the litigation process related to these news, increase in the number of lawyers handling medical malpractice cases, and precedent setting of the penalties imposed are effective in the increase in medical malpractice cases (Çarıkçı et al., 2021). In addition to the factors mentioned, the increase in our study may be attributed to increased hospital admissions after the pandemic process, resumption of health services that were stopped, especially surgical operations, and increased fatigue and burnout experienced by healthcare personnel due to the pandemic.

In the study, it was found that the majority of medical errors were committed by doctors, followed by nurses. In the studies conducted by Kırtışoğlu et al. (2018) and Gürbeden (2016), it was reported that medical malpractice was mostly committed by doctors and secondly by nurses. These results are similar to our study. It can be said that the fact that doctors have a leading role in the treatment process of the patient, that doctors are legally given the responsibility of treatment, that doctors prescribe the drugs necessary for the treatment of the patient, and that doctors perform interventions with high complications such as surgical operations cause this situation. In our study, nurses were found to be in second place and the literature supports this result (Ernawati et al., 2014; Saravi et al., 2015). This may be thought to be due to the fact that nurses are in constant interaction with the patient and administer the drug treatment recommended by the doctor.

It was found that medical malpractice occurred mostly in private hospitals. In the study conducted by Çarıkçı et al. (2021), it was reported that medical malpractice occurred mostly in private hospitals. The high number of private hospitals among the places where medical malpractice occurs may be an explanation for the fact that medical malpractice is more common in private hospitals due to reasons such as inadequate healthcare personnel, low quality healthcare professionals providing services due to low wage policies, negligence and carelessness due to intensive and long working hours, and the ability of professional groups to perform tasks outside their job description.

In our study, it was found that medical malpractice was mostly experienced in the form of surgical errors and medication errors. In the study conducted by Jena et al. (2011), it was observed that medical malpractice lawsuits were mostly caused by surgical errors, and among surgical specialties, orthopedics and neurosurgery had the highest risk of litigation, and as a result of the research, it was determined that 15% of orthopedic surgeons and 19.1% of neurosurgeons received complaints every year due to malpractice. According to Bolcato et al. (2021), it was observed that medical errors were most common (37%) in the surgical branch. In our country, in the study conducted by Gürbeden (2016), it was observed that surgical errors ranked first among the types of medical malpractice. In our study, surgical errors were observed at the highest rate and this result is consistent with the literature. In our study, medication errors ranked second. In a study conducted in Bali, the rate of medication errors was 20.4% (Ernawati et al., 2014), and in a study conducted in Iran, the rate of medication errors was 28% (Saravi et al., 2015). In our country, the rate of medication errors was found to be 15.2% in a study conducted by Istanbullu et al. (2012). In our study, the rate of medication errors among medical malpractice errors was 25%, which supports our study.

In our study, it was found that the highest number of deaths and disability/organ loss occurred as a result of medical malpractice, and it was concluded that diseases worsened and more health problems were experienced as a result of medical malpractice. In a study conducted in Australia, it was concluded that 18,000 patients died and around 50,000 people became disabled due to medical malpractice within a year (Weingart et al., 2000). In another study also conducted in Australia, it is estimated that medical errors cause approximately 17,000 deaths each year (Lim, 2022). According to studies conducted by Makary & Daniel (2016) and Rosenthal (2022), approximately 250,000 deaths occur each year in the United States due to medical malpractice. It is stated that medical errors account for 10% of all deaths in the United States and rank third among all deaths (McMains, 2016; Andersan, 2017). In the study conducted by Can et al. (2011) in Turkiye, it was observed that the majority of medical malpractice cases resulted in death. Our study results are similar to the studies conducted in the world and in Turkiye. This situation reveals the seriousness and importance of medical malpractice globally.

In the study, it is seen that the highest level of criminal complaints is filed as a result of medical malpractice and 25.7% of medical malpractice cases are in the judicial and investigation stage. In a study conducted in Germany, it was determined that approximately 40,000 lawsuits were filed in a year due to medical malpractice (Sommer et al., 2016). In the United States, 7.4% of physicians are accused of a medical error every year and 1.6% of them receive a penalty due to this accusation (Jena, 2011). The increase in the number of medical malpractice cases both in terms of news reports and judicial processes may be attributed to the increase in the level of knowledge of patients and their relatives about patient rights, developments in the field of technology, the increase in the number of examples that will set a precedent for the litigation process related to these news reports, and the penalties/compensations imposed. In our study, it was observed that 83.3% of the news about medical malpractice in newspapers had sufficient content, while 16.7% had incomplete content. This may be thought to be due to the media organization that made the news or the concealment of some information due to the sensitivity shown to the privacy of the patient-patient relatives. It is seen that 88.9% of the news on medical malpractice analyzed within the scope of our research took place in Turkiye and 11.1% took place abroad. It can be said that this result is not related to the fact that medical malpractice news is less common outside the country, but it is due to the selection of medical malpractice news from newspapers published in Turkiye.

Limitations

The findings in this study consist of news from the archives of seven national newspapers with the highest circulation and cover the last 10 years. Since the number of newspapers is limited to seven, it consists of news from the last 10 years, the research was conducted on the internet, and there may be news that are not reflected in the newspapers, the number of medical malpractice news obtained does not reflect the actual number of medical malpractice news, and this number may be higher in reality. This is a limitation of the study.

CONCLUSION

Healthcare workers are at high risk of medical malpractice due to factors such as challenging working conditions, workload, stress and anxiety, sleep problems, insufficient rest, lack of attention, and environmental conditions. In the study, it was observed that most of the medical malpractice cases reported in newspapers occurred in 2017 and 2021, and 74.3% of them were committed by physicians. It was determined that the most common medical malpractice was surgical errors, followed by medication errors, 38.2% resulted in death, followed by disability/organ loss, and in the majority of cases a criminal complaint was filed as a result of medical malpractice. Medical malpractice leads to many serious effects on human health, most of which are irreversible. It is recommended that studies be conducted to identify the factors that lead to malpractice and to develop solutions to reduce and control these factors.

ETHICAL DECLARATIONS

Ethics Committee Approval

Since secondary data were used in this study, ethical approval was not required. This article complied with the rules of research and publication ethics.

Informed Consent

Since secondary data were used in this study, informed consent not need.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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Current knowledge and approaches in peripheral intravenous catheter practice

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ABSTRACT

Peripheral intravenous catheterization is one of the most common invasive nursing interventions applied to hospitalized patients. This intervention, which is of great importance for the effective implementation of treatment, is performed using a peripheral intravenous catheter. In peripheral intravenous catheter applications, local and systemic complications may occur due to application errors and care deficiencies. These complications cause patients to be exposed to unnecessary diagnostic procedures and treatment, prolonged hospitalization, and increased mortality and morbidity rates. In this context, it is very important for healthcare professionals, especially nurses, to integrate the data obtained from current research and guidelines on peripheral intravenous catheter applications into their practices. In this review, the points to be considered in peripheral intravenous catheter applications and the basic principles of catheter intervention are summarized with the current literature.

Keywords: Nursing care, peripheral intravenous catheter, complications

INTRODUCTION

Intravenous (IV) fluid therapy or IV infusion is a form of treatment applied by administering IV drugs and fluids directly into the vein (Kuş & Büyükyılmaz, 2019). Intravenous, interventions are frequently applied to hospitalized individuals for purposes such as providing fluid and electrolyte balance, regulating blood components, providing and maintaining vascular patency, ensuring patient nutrition, and administering drug treatments (Atabek & Karadağ, 2019; Potter et al., 2019). This intervention, which is of great importance for the effective administration of treatment, is performed using a peripheral intravenous catheter (PIC). Peripheral intravenous catheterization is one of the most frequently used interventions among invasive nursing interventions.

Studies have reported that the annual number of PICs used in hospitals is more than two billion worldwide and around 20 million in Turkiye, with more than 80% of inpatients undergoing PIC (National Vein Access Management Guide [NVAMG], 2019; Forsberg et al., 2018). PIC is beneficial and therapeutic when performed with the correct procedural steps. However, some complications may occur in cases of misapplication, inadequate diagnosis and care (Kuş & Büyükyılmaz, 2019; Çelik & Avşar, 2021). Common complications at this point include phlebitis, hematoma, infiltration, extravasation, venous spasm, local infection, pain, nerve injury and systemic complications (Potter et al., 2017).

In addition, various complications may develop depending on factors such as the patient's vasculature, catheter diameter, catheter material, duration of catheter stay in the vein, fluid infusion method and fluid flow rate (Denat & Erdoğan, 2016). These complications may cause patients to be exposed to unnecessary diagnostic procedures and treatment, prolonged hospitalization, increased mortality and morbidity rates, increased workload of healthcare personnel, decreased quality of care and serious economic losses (Biçer & Temiz, 2021; Aydın & Arslan, 2018; Beccaria et al., 2018). The literature shows that 90% of PIC applications are removed from the patient before the treatment is completed due to complications and 35-50% of PIC attempts result in failure (Carr et al., 2017; Nickel, 2019; Takahashi et al., 2020).

Kraiwan et al. (2024) studied 441 patients with a total of 497 PIC sites and reported that 2.41% of all sites developed level 1 and 2 phlebitis, 1.01% developed level 1 and 2 infiltration and 0.6% developed mild to moderate extravasation. In addition, use of IV crystalloids and IV analgesic drugs were shown among the factors associated with the occurrence of infiltration complications (Kraiwan, 2024). They found that more complications developed in patients who received antibiotic treatment, received parenteral nutrition solution, underwent multiple interventions in the same vein, and had a long catheter use time.

In this review, the points to be considered to reduce possible complications in PIC applications and the basic principles of catheter intervention will be explained based on the results of the current literature.

POINTS TO CONSIDER IN PIC IMPLEMENTATION

Deciding on the area where peripheral intravenous catheter (PIC) will be applied, selecting the appropriate catheter number, knowing the PIC application procedure, following the process with regular controls, performing intravenous catheter care and maintaining the intervention effectively by observing potential complications are among the responsibilities of nurses (Çelik & Avşar, 2021). To minimize PIC complications, nurses need to update their knowledge about PIC care, identify risk factors, and perform care based on scientific evidence (Beccaria et al., 2018).

PIC administration should be determined according to the patient's general condition, age, vascular characteristics, comorbidities, suitability of peripheral vascular access sites, characteristics of the infusion fluid, the purpose of the treatment and the expected duration of infusion therapy (INS, 2021). In addition, PIC should be preferred in treatments where drugs and solutions suitable for peripheral therapy (< 900 mOsm/L, not vesicant or irritant) are administered for less than 6 days (Moureau & Chopra, 2016).

Catheter Building Material

While the use of metal or plastic catheters is decreasing in PIC application, the use of polyurethane catheters is increasing (Atabek & Karadağ, 2019; Kuş & Büyükyılmaz, 2019). Polyurethane catheters should be preferred in PIC selection because they are soft, cause less vein damage and are resistant to kinks (UDEYR, 2019; Berse et al., 2020).

Catheter Size (Diameter and Length)

It is recommended that the size of PICs to be applied to patients should be determined according to the patient's age, diagnosis, vein condition, activity status and the fluid/drug treatment to be administered (INS, 2021). In the literature, it is recommended to use the smallest catheters possible to prevent vein damage and to ensure that the administered drugs or fluids mix with the blood (Gabriel, 2018; Nickel, 2019). According to UDEYR (2019), it is recommended to use PICs numbered 14-16 for infusion of fluids that need to be given intensively and rapidly, numbered 20-24 for intermittent and slow drug and fluid applications, and at least numbered 20 for parenteral nutrition. The Infusion Nurses Association Practice Guideline (2021) states that PICs can be used in vulnerable patient populations such as the elderly and children, and catheters numbered 24-26 can be used for low-speed infusion treatments. In addition, it is recommended that smaller diameter catheters should be preferred in patients in whom surgical intervention is not planned, blood transfusion is not performed, vein length is short and feeding is difficult; and larger diameter catheters should be preferred in adults, patients with acute trauma, and patients with visible and palpable veins (INS, 2021). It is also stated that rapid fluid and blood infusion, transplantation treatment procedures and treatment of acute trauma conditions can be applied with large diameter catheters numbered 14-18 (Phillips & Gorski, 2014).

Duration of Catheter Use

It is known that PIC can be used safely for up to 72-96 hours as long as there is no risk of infection and phlebitis. It is stated that the catheter should not be changed routinely and the frequency of catheter intervention should be minimized unless complications are observed (INS, 2021; Gorski et al., 2021; Nickel, 2019; Cooper, 2019).

In a study by Urbanetto et al. (2018) on the duration of catheter use, it was reported that the incidence of phlebitis symptoms increased as the duration of catheter use increased (≥72 hours). (2012), it was found that PICs were used for a longer period of time without complications when replacement was performed in the presence of clinical indication instead of routine replacement between 72-96 hours. In another study, it was found that there was no difference in the development of complications between the experimental group in which PIC exchange was performed according to clinical findings and the control group in which routine exchange was performed (Lu et al., 2018). According to UDEYR (2019), it is recommended that short peripheral catheters should be removed when not in use for 24 hours or longer, peripheral catheters should be changed only in the presence of clinical indications in adults and children, and evaluated at least once in each shift. It is also recommended that catheters inserted under emergency and non-aseptic conditions should be recorded and replaced with a new catheter as quickly as possible within 24-48 hours. Nurses should use scales such as infiltration scale and phlebitis diagnostic scale during catheter evaluation and record their observations (Çelik & Avşar, 2021). According to Nickel's (2019) recommendation, a maximum of two catheter interventions are recommended for a patient by a healthcare professional in first-time or repeated PIC interventions. Studies indicate that the complication development rates of repeated failed attempts in catheterization are between 35% and 50% (Tosun et al., 2020; Simin et al., 2019; Carr et al., 2016). 2.4. Verilen Liquid/Drug Types

The pH values of fluids and drugs may differ from the pH values of blood (Potter et al., 2019). Acidic and basic fluids and drugs damage the tunica intima layer of the vein and cause the development of complications. Some drugs pose a higher risk for complications. (2016) reported that the use of steroids, phenytoin, dextrose, ampicillin/sulbactam combination, vancomycin and highly concentrated electrolytes increased the risk of complications. In another study, it was reported that acidic, basic compounds and vasopressors cause extravasation (David et al., 2020). In addition, it is stated in the literature that drugs should not be administered in liquid infusions and drugs should be diluted with an appropriate amount of liquid (at least 100 ml) and administered as intermittent infusion (UDEYR, 2019). In the transitions between fluid treatments, it is stated that washing should be done before and after treatment with ready injectable saline solution (Duarte-Clíments, 2021).

Osmolality of Liquid

The difference between the osmolarity of intravenously administered fluids and the osmolarity of blood may cause irritation of the fluids on the vein wall. Normal serum osmolarity is usually in the range of 275-295 mOsm/kg. It is stated that hyperosmolar agents such as parenteral nutrition solutions, magnesium sulfate, potassium chloride, sodium

bicarbonate will cause extravasation (David et al., 2020). According to the Infusion Nurses Society (INS) (2021), fluids with an osmolarity higher than 600 mOsm/L should generally be administered centrally.

BASIC PRINCIPLES IN PIC APPLICATIONS

In PIC applications, there are basic principles to be considered in hand hygiene, glove use, skin asepsis, anatomical region used, frequency of use, tools placed in the catheter entry, fixation and maintenance of the catheter site.

Hand Hygiene and Glove Use

To prevent catheter-associated infections; hand hygiene should be practiced meticulously before and during catheter insertion and aseptic technique should be followed during catheter interventions. Effective hand hygiene can be achieved by rubbing hands with alcohol-based hand antiseptic until dry or by hand washing with soap and water. Clean gloves should be worn while wearing the PIC. Wearing gloves does not eliminate the need for hand hygiene; hand hygiene must be ensured before and after gloves are put on (UDEYR, 2019).

Skin Antisepsis

Preparation of the catheter insertion site and skin cleansing before PIC is very important in preventing catheter-associated infections. Before skin evaluation, the patient should be questioned about any history of allergy or sensitivity. If the area is visibly dirty, it should first be cleaned with soap and water. Then, the area to be treated with PIC should be wiped with alcohol containing >0.5% chlorhexidine or 70% alcohol containing 2% chlorhexidine in a single motion by gently pressing from top to bottom and the area should be allowed to dry spontaneously for at least 15 seconds or two minutes. It is also stated that in individuals with contraindications to the use of alcohol-containing chlorhexidine, povidone iodine or only 70% alcohol solution should be preferred (Gorski, 2021; Nickel, 2019).

Anatomical Region Used and Frequency of Use

The recommended PIC insertion site in the literature is the forearm, but the appropriate catheter and vein should be selected considering the infusion fluid to be administered, the patient's age, weight and duration of treatment (Erdoğan & Denat 2016; Gorski et al., 2016; Potter et al., 2019). When determining the area for PIC, the choice should be made from distal to proximal extremity. Cephalic, basilic or metacarpal veins should be preferred (Nickel, 2019). Application to veins that are difficult to palpate, red or painful should be avoided. In a study, it was found that nurses mostly preferred upper extremities in PIC applications (Berse at al., 2020). Lower extremity veins and flexion areas should not be preferred unless it is mandatory due to the risks such as infiltration, phlebitis and dislocation of PIC (Gorski et al., 2016; Potter et al., 2019). In cases requiring application to these areas, the area should be immobilized (Erdoğan & Denat, 2016). In addition, lower extremities should not be used in patients with diabetes due to the risk of tissue damage and tissue necrosis. PIC should not be preferred on bony prominences, hand and joint areas, and areas where the vein bifurcates unless absolutely necessary (Phillips & Gorski, 2014; Potter et al., 2019). PIC should not be placed in the relevant extremity in patients who have undergone mastectomy and have a fistula (Potter et al., 2019). When vein selection is difficult in PIC applications, various imaging devices such as ultrasound can be used (Simin et al., 2018).

Tools Placed at the Catheter Entrance

The need for tools such as a drip setting set that ensures that the fluids and drugs given to the patient via PIC are delivered in a certain amount per hour, a three-way tap that allows multiple drugs and fluids to be given to the patient from the same PIC, and an infusion pump that is attached to the Y-port of a primary infusion fluid and has a short set should be evaluated (Uzun, 2012). In PIC applications, catheter connections with screw-locking (luer-lock) system should be preferred and needle-free intervention apparatus should be used to reduce the risk of catheter-associated infection. The needle-free apparatus should be cleaned with 70% alcohol before each use and intervention should be performed after complete drying (INS, 2021). In a study, it was determined that there was a 50% decrease in PIC-induced infections and annual care costs in patients using needle-free apparatus compared to the 3.5.

Catheter Site Fixation and Care

It is recommended to fix the catheter as catheter movement may increase the risk of complications. The nurse should fix the PIC in the vein by assessing the patient's age, skin turgor, skin integrity and skin damage caused by the previous fixation material. It is recommended to use transparent and semi-permeable polyurethane dressings for fixation of the catheter site to ensure visibility of the infusion site and facilitate assessment (Gabriel, 2018; Simin et al., 2019). Skin microflora at the catheter site is known to play an important role in catheter-associated infections. Therefore, catheters should be covered with a sterile catheter dressing material so as not to interfere with vascular circulation and treatment (Loveday et al., 2020). The catheter insertion site should be monitored for redness, edema, increased temperature and signs of infiltration as long as it is inserted. The catheter dressing must be changed when its integrity is compromised or visibly soiled. The skin antiseptic should be allowed to dry completely before the dressing is placed, at least 30 seconds for alcoholic chlorhexidine and 1.5-2 minutes for povidone-iodine. The application of cream containing antibiotics to the catheter entry site is not recommended except for hemodialysis catheters due to the increasing effects of fungal infections and antimicrobial resistance (UDEYR, 2019).

Intravenous washing/locking: In the literature, it is recommended to evaluate catheter function by flushing and aspiration before intermittent use of catheters and when clinically indicated for continuous infusions. The type and size of the catheter, the age of the patient and the type of infusion therapy being given should be taken into consideration when selecting the flushing volume. At a minimum, approximately 5 ml of preservative-free saline in a volume equal to twice the internal volume of the catheter system should be used to flush peripheral catheters. If preservative-containing saline is used, no more than 30 ml should be used within a 24-hour period to reduce the potential toxic effects of benzyl alcohol (Adams et al., 2016; Frank, 2016).

Change of sets: Sets should be routinely replaced at the recommended intervals according to factors such as type of solution, frequency of infusion (intermittent or continuous). If the integrity of the product or system is compromised

or contamination is suspected, the set should be replaced immediately. In addition to routine changes, the set should also be changed when the PIC site is changed or a new catheter is inserted. The packaging should be checked for latex content and latex-containing sets should be avoided for patients with latex allergy (Ranum & Hagle, 2014; O'Grady, 2011; Adams et al., 2016).

Primary and secondary continuous infusion sets do not need to be routinely changed before 72-96 hours (except for sets administering lipids, blood or blood products, etc.). Secondary infusion sets added to the primary continuous set should be changed every 24 hours. Intermittent infusion sets should be changed every 24 hours. After each intermittent use, a new, sterile and compatible cap should be aseptically attached to the catheter insertion end of the administration set (Guanche-Sicilia, 2021). The transfusion administration set should be replaced after the completion of each unit or every 4 hours. Sets used for propofol infusions should be replaced every 6 or 12 hours according to the manufacturer's instructions. Sets of IV lipid emulsion infused alone should be changed every 12 hours. Parenteral nutrition solutions and sets should be changed every 24 hours at the latest.

Use of safe products for patient/staff: An estimated 35 million healthcare workers are injured with sharps annually worldwide. Needlestick injuries are a common occupational risk for healthcare workers. The most commonly transmitted infections are human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV). Safety injectors and PICs should be preferred for safe injection practices. Thus, a 95% reduction in needle sticks and injuries can be achieved. An integrated closed system with a safety strip should be preferred to reduce blood leakage from the PIC body and blood exposure risks (UDEYR, 2019).

Needle sticks and injuries can be prevented by using a needle-free intervention apparatus. A blunt needle tip that protects healthcare workers from needle sticks and injuries that may occur during drug preparation, cleans glass and fungal particles that may be mixed into the solution during drug preparation thanks to its filter, and thus protects patient health and safety should be used.

PATIENT/RELATIVE AND STAFF TRAINING

Patient education is important for early diagnosis of complications. The Turkish Society for Hospital Infections and Control (2019) emphasized the need to inform the patient and obtain consent before invasive procedures. The nurse should educate the patient/relative about the intended and expected outcomes, infusion therapy, potential complications or treatment-related side effects, risks and benefits. Patients and relatives should also be informed about aseptic technique, prevention of infection and other complications, including hand hygiene. They should support the patient to avoid touching the catheter insertion site or drape, to keep the site dry and avoid sudden movements, and to report any pain, swelling or redness at the catheter site to healthcare personnel. They should also be informed about where to report complications and symptoms that may occur after the catheter is removed or the patient is discharged, and about the safe storage, maintenance and disposal of solutions, consumables and equipment (UDEYR, 2019).

Prevention and control of catheter-associated bloodstream infections should be part of the basic education of nursing students at both undergraduate and graduate levels. Healthcare workers should be educated on indications for PIC use, rules for insertion and care, and infection control measures. The knowledge and compliance of all personnel involved in PIC insertion and care with current guidelines should be regularly evaluated (UDEYR, 2019).

CONCLUSION

PIC applications are one of the invasive interventions that nurses are responsible for and frequently apply. In this context, it is important for nurses to perform their practices by taking into account the current literature and guidelines regarding this practice in order to improve the quality of care, prevent complications, increase patient comfort, and reduce costs and workload. In addition, determining current approaches to reduce and prevent complications in safe PIC practices and increasing research in this field will contribute to improving the quality of patient care and achieving effective results by integrating it into clinical practice.

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Referee Evaluation Process

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The authors have no conflicts of interest to declare.

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper and that they have approved the final version.

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Case report of an adolescent's suicide attempt through drug intoxication and nursing care

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ABSTRACT

Suicide is a serious public health problem with increasing prevalence. It ranks fourth among the most common causes of death, especially in adolescents. The negative events they experience negatively affect the psychosocial health of adolescents and may lead them to suicide. The most common method used as a means of suicide is drug overdose. It is possible to prevent suicide by strengthening psychosocial support systems, early intervention programs and increasing access to mental health services. This case report aims to provide guiding information for necessary nursing care by focusing on the experiences of an adolescent who attempted suicide.

Keywords: Adolescent, suicide attempt, nursing care, case report

INTRODUCTION

Suicide is a preventable cause of death. Adolescents are among the most risky groups related to suicide (WHO 2023). Adolescence, which is the stage of transition from childhood to adulthood, is a critical period that involves many physical and psychosocial changes. Reasons such as family conflicts, lack of acceptance by peers, decline in academic success, identity confusion and inadequacy in emotional relationships negatively affect the psychosocial health of adolescents (Çetinkaya et al. 2016). When adolescents cannot cope with the problems they experience sufficiently, they may see suicide as a solution in intense despair (Onar et al. 2021).

The fact that suicide is a preventable phenomenon reveals the importance of the approach to the individual who attempts suicide. Supporting the individual before or after the suicide attempt, developing coping skills, strengthening the social support system and self-esteem will prevent suicide from being chosen as a solution (Efe et al. 2023). In this context, nurses who provide continuous care to individuals have critical roles in the management of the suicide process (Çetinkaya et al. 2016). It is the duty of nurses to protect, improve and maintain adolescent health, identify risk factors, and plan and implement appropriate interventions (Efe et al. 2023). With this case presentation, it was aimed to draw attention to the suicide phenomenon by sharing information about an adolescent who committed suicide and to provide appropriate nursing care for this individual.

CASE

AA is a 17-year-old woman, a third year high school student. She was found unconscious at home by her grandmother in the morning. She was hospitalized in the emergency department with a diagnosis of drug intoxication. This was AA's first suicide attempt. There was no conflict before the suicide attempt. Glasgow coma score (GCS) of AA was 10-12: 10-12 and the light reflex was biletarel isochoric. The individual who attempted suicide took 15 tablets of Parol, 10 tablets of Coraspirin, 8 tablets of prozac and injected 8 Oxapar subcutaneously. Therefore, there are needle marks on AA's left arm and neck. Emergency intervention was planned and AA was given 1200 mg of mucinac (NAC) in 500 cc. of serum physiologic (SF). mucinac (NAC) infusion was given and a foley catheter was inserted. When she regained consciousness, she repeatedly expressed that she wanted to kill herself and refused to drink activated charcoal which was recommended for treatment in the first period. Since the patient was taking Coraspirin, 4 mg. Vitamin K was administered IV as a puff, 50 mg of activated charcoal was administered and gastric lavage was performed. In addition to these, 40 mg. Pantpas, 4 mg. Kemoset IV puff and 500 cc. SF was given in infusion.

AA, whose acute treatment was completed, was hospitalized in the pediatric intensive care unit for further investigation and treatment due to an incomplete diagnosis of suicide attempt. GCS: 15, body temperature: 36.7ºC, saturation value:

96%, blood pressure arterial: 113/57 mmHg, pulse: 93/min. It was observed that the patient was agitated, resistant to treatment, attempted to escape from the clinic and repeatedly expressed that she wanted to die. In the psychosocial evaluation, AA stated that her parents divorced when she was a young child and this situation affected her badly. After the divorce, AA lived with her grandmother. She stated that she hated her mother, did not want to see her, and was subjected to violence from her mother when she stayed at her mother's house, so she did not see her mother frequently. Her mother is diagnosed with bipolar disorder and uses medication for this disorder. Her father does not have any chronic illness and she states that she sees her father frequently. She stated that she had a different mindset from other people and that she was excluded by her friends because of this and that people did not understand her. She says that she does not want to go to school because she is ostracized by her friends and even wants to continue her schooling through open education. The patient said that she was fed up with life and depressed, so she attempted suicide.

AA was diagnosed with obsessive compulsive disorder 5 years ago, Lustral tablets were started by her physician, and Prozac 3x1 tablets were started on the grounds that the medication did not treat her sufficiently. She stated that the medication was still ineffective and that her psychiatrist gave her the wrong medication. AA stated that she was obsessed with order, that when things were messy, she lost her appetite and sleep, lost her focus and had a bad day. She stated that this obsession with order was not related to cleanliness and meticulousness, and that when she tidies up, she also tidies up her thoughts in her head, gets rid of negative thoughts and relaxes in this way. She said that she holds her breath when she feels bad and that it feels like meditation. She stated that she enjoys philosophy, literature and biology.

Since the patient still had suicidal thoughts on the 2nd day of hospitalization, psychiatry consultation was requested. According to the results of the evaluation, the patient was given psychoeducation, suicidal measures were explained and Rileptide 1x1 mg and Rivotril 2x1 mg were added to the treatment. On the 3rd day of hospitalization, NAC infusion treatment was stopped because the control blood tests were in the normal range and the patient's self-harm thoughts were observed to decrease.

Case-Oriented Nursing Care

It is important to provide effective nursing care to the patient hospitalized in the pediatric intensive care unit to manage the physical, psychological and social problems. The quality of this care is of vital importance because AA repeatedly states that she "wants to die". In line with the information received, priority diagnoses are included in the nursing care that should be provided to AA (NANDA, 2020).

Nursing diagnosis 1: "Suicide risk" due to thinking that death is the only solution

Objective: To prevent the risk of suicide by creating a safe environment and relieving the person from despair.

Nursing interventions:

- Evaluate their thoughts about suicide by asking them openly.
- A relationship of trust is established with the individual.
- A suicide contract is made and the individual is followed up at frequent intervals
- A safe environment is created by removing piercing and cutting tools that may harm the safety of the adolescent from the environment.
- An interview is planned with the adolescent and self-expression is supported.
- Self-esteem of the adolescent is strengthened by using effective communication techniques.
- The adolescent is directed to favorite activities.

Evaluation: It was observed that suicidal thoughts decreased. She expressed that she did not want to die.

Nursing diagnosis 2: 'Ineffective coping' due to her inability to solve the problems she experienced

Objective: To enable adolescents to cope effectively with the problems they face.

Nursing interventions:

- Therapeutic communication is established with the adolescent and trust is gained.
- The adolescent is supported to express her feelings.
- The adolescent's motivation is assessed, the adolescent is enabled to fulfill her responsibilities and participate in activities effectively.
- Coping methods used by the individual are determined.
- It is ensured that the adolescent finds the appropriate method among effective coping methods.
- An event that causes moderate distress is addressed and restructured with alternative coping methods.
- Psychosocial support is provided.
- Problem solving skills are acquired.

Evaluation: The adolescent identified appropriate coping methods for herself. She chose meditation as the coping method that suited her.

Nursing diagnosis 3: 'Risk of impaired liver function' due to excessive paracetamol intake

Objective: To anticipate possible deterioration in liver function.

Nursing interventions:

- Blood tests of the adolescent are performed regularly.
- It is ensured that she drinks plenty of water to remove toxic substances in her body.
- Abnormal values in laboratory tests are detected.
- Recommended treatments are applied.
- The individual is carefully monitored for signs of impaired liver function.

Evaluation: Blood tests were monitored regularly. No impairment in liver function was observed.

Nursing diagnosis 4: 'Bleeding Risk' due to excessive anticoagulant intake

Objective: To monitor for signs of bleeding and shock and take precautions accordingly.

Nursing interventions:

- The adolescent is monitored and hourly vital follow-up is performed.
- Invasive interventions are minimized.
- Blood tests are performed and hemogram is monitored.
- Environmental conditions are improved to prevent trauma-related bleeding.
- The adolescent is monitored for signs of internal bleeding and shock.

Evaluation: The adolescent was monitored for bleeding and shock symptoms. The patient was monitored and hourly vitals were monitored. Daily hemogram monitoring and fluid intake and output were monitored. Necessary safety precautions were taken to prevent bleeding due to trauma.

Nursing diagnosis 5. Parents' Divorce and Living with Grandmother 'Change in Family Processes'

Objective: To strengthen the adolescent's bond with her family and to ensure the continuity of this bond.

Nursing interventions:

- A safe environment is created to enable the adolescent to express her feelings about the parents' divorce.
- Emphasizing that the divorce process is a normal process, the adolescent focuses on what can be done to restructure this process.
- Adolescents who have divorced parents are encouraged to participate in support groups.
- Psychoeducation is provided to strengthen family relationships and ensure healthy communication with each other.

Evaluation: A relationship of trust was established with the adolescent. A meeting was held with the adolescent's family and they were supported to establish healthy communication.

Nursing Diagnosis 6. 'Social Isolation' Due to Problems with Peers and Mother

Objective: To reintegrate the adolescent back into society, to strengthen her communication with her environment and to solve the problem with her mother.

Nursing interventions:

- Trust-based communication is realized with the adolescent and a sense of trust is established.
- They are asked to express their feelings and thoughts about the problems they experience with their peers and mother.
- Problems experienced by the adolescent with her environment are determined.
- Social and communication skills of the adolescent are developed.
- The adolescent is encouraged to communicate with peers.
- The adolescent is directed to group activities.
- The adolescent's mother is interviewed and problems are identified.
- The adolescent's mother is trained to express her anger verbally, not through actions. If necessary, the adolescent is referred to mental health services.

Evaluation: A sense of trust was created with the adolescent and short-term social skills were gained. She was enabled to express her feelings and thoughts about the problems she experienced with her mother and peers. The adolescent was encouraged to communicate with her peers.

DISCUSSION

Suicide is the tenth leading cause of death in adulthood and the fourth leading cause of death in adolescence (Miniksar et al. 2020, WHO 2023). When the risk factors affecting suicide attempt are examined; many factors such as gender, familial factors (divorce, domestic violence, etc.), peer bullying, accompanying psychiatric illness, mother or father having psychiatric illness, ineffective coping, deterioration in social relations, environmental factors lead adolescents to suicide (Yeniay et al. 2022).

When the risk factors of the case were examined, AA attempted suicide because she was a girl, her parents were divorced, her mother and herself had a psychiatric diagnosis, she was subjected to violence from her mother, she was excluded by her peers and she coped with these problems ineffectively. Studies have shown that suicide attempts in girls are 3-9 times higher than in boys (Kurt et al. 2020). Especially the fact that girls are more emotional and experience mental conflicts more intensely leads them to suicide attempts (Yöntem et al. 2021). Another risk factor in suicide cases is the presence of psychiatric diagnosis and the use of psychiatric drugs (Kurt et al. 2020). According to a study, 43.3% of adolescents who came to the hospital with a diagnosis of drug intoxication were found to have at least one psychiatric diagnosis (Miniksar et al. 2020). It was observed that AA had a diagnosis of OCD and used psychiatric medication, and used some of her medication in suicide attempt.

When the methods used in suicide attempts were examined, it was determined that hanging, firearms, drug intake, jumping from a height and piercing cutting tools were used (Yeniay et al. 2022). Looking at the studies, it is seen that the most common method used by adolescents is drug overdose (Miniksar et al. 2020, Dinleyici et al. 2018). It can be said that the easy accessibility of drugs is one of the reasons for this, and that AA's taking the drugs that she already had made it easier for her to prefer this method.

In our country, studies to prevent suicide attempts are not of sufficient number and quality, and there are many myths about suicide (Efe et al. 2023). Myths such as it is wrong to talk about suicide or that people who say they will commit suicide will not actually commit suicide prevent intervention before suicide attempt. Interventions are mostly carried out after the suicide attempt (Çetinkaya et al. 2016). For this reason, the American Academy of Pediatrics and the National Institute of Mental Health recommend suicide risk screening for adolescents over the age of 12. With suicide risk assessment that can be performed by primary health care organizations, suicide attempts can be detected and prevented at an early stage (Greydanus et al. 2024). In addition, providing adolescents with supportive trainings such as coping with stress, problem solving, assertiveness skills and effective communication techniques may prevent adolescents from experiencing helplessness.

CONCLUSION

Suicides during adolescence are increasing in the world and in our country. The most common method used in adolescent suicides is drug overdose. Pre-determination of risk factors is very important in the prevention of suicide. It is the duty of the nurse to identify the risk factors in adolescents and prepare appropriate intervention programs. The trust of the adolescent should be gained by providing therapeutic communication with the adolescent, methods of coping with stress should be taught in order to cope with problems, family relationships should be strengthened, suicide risk symptoms should be explained to the family and necessary precautions should be taken. Intervention programs to prevent suicide attempts should be increased. Primary health care institutions and schools have a great role in this regard.

ETHICAL DECLARATIONS

Informed Consent

The patient signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper and that they have approved the final version.

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