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Studying the Attitude and Knowledge of Nursing Students towards the Physical Restraint Use in Patients

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Abstract

Physical restraints used by the medical staff are one of the measures to prevent patients from harming themselves and their caregivers in times of agitation. Considering the special sensitivity of the nursing job, the degree of preparation of nursing students for the proper utilization of physical restraints is very important. Therefore, the current study was done to investigate the attitude and knowledge of nursing students about physical restraint use in patients. The current study is descriptive-analytical and sampling was done by census method. To collect data, a standard questionnaire of attitude and knowledge on physical restraints use and a demographic information form was used. Data analysis was done by SPSS version 16 software and independent t-tests, Pearson's correlation coefficient, and one-way analysis of variance. The significance level of the data was less than 0.05. Based on the results obtained from the present study, the average level of attitude was reported for most of the participants. Only 19.7% of students had good knowledge about the use of physical restraints. Master's students had better knowledge than undergraduate students, and this difference was statistically significant (P<0.005). Based on the results of the study, the state of knowledge and attitude of students is not favorable. Since nursing students are future nurses, it is necessary to consider corrective measures to improve their condition in the field of physical restraints.

Keywords: Agitation, Restraint, Patient, Nursing job, Knowledge, Students

Introduction

Agitation occurs in many patients hospitalized in psychiatric and non-psychiatric departments (ICU, CCU, and surgery) [1, 2]. Factors such as metabolic disorders, anxiety, pain, underlying mental illnesses, and delirium are its underlying causes [3, 4]. Urticarial patients show behaviors such as trying to get out of bed, removing attached counters, being violent with staff, increasing mobility, and shaking the bed rails [5]. Therefore, it is necessary to conduct a controlling intervention to control these patients. Chemical and physical inhibitors should be used to control the agitation of these patients. Among the commonly used chemical inhibitors, propofol, morphine, fentanyl, hydromorphone, meperidine butyrophenones, and haloperidol can be mentioned. The use of these drugs can cause side effects such as restlessness, nausea and vomiting, respiratory depression, hypotension, decreased

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gastrointestinal motility, and bradycardia [6]. Therefore, due to the need for frequent use to control the patient's agitation and increase the possibility of causing the mentioned side effects, the use of drugs is limited and it is necessary to use an auxiliary method to reduce the need for chemical inhibitors from the inhibitors. Physical therapy is used independently or as an adjunct in the control of urticaria patients [7].

Devices and equipment that are used on the body or near the person's body in such a way as to prevent the patient from falling from the bed and pulling the connections the patient, and the patient can't remove, are called physical restraints. Gloves, straps, bed rails, and vests are among the physical restraints used in urticaria patients [8]. Restraint is by keeping the legs apart, placing one hand on the head and the other hand on the side, so that intravenous injections are possible if necessary. The patient's head should be slightly higher than the bed level to prevent aspiration and reduce the feeling of vulnerability [9]. Physical restraints can be used to care for chronic patients and psychiatric centers [10]. The uses of restraints in the clinical environment include maintaining treatment plans, preventing the patient from falling, and controlling violent and destructive behaviors, but the most use of restraints is in special care units to prevent the removal of counters and tubes connected to the patient [11].

The conducted studies show the rate of use of 4.3 to 5.18 percent of inhibitors in hospitals, which are often used on adults 65 years and older [12, 13]. The use of physical restraints, despite the positive effects in controlling urticaria patients, can cause many side effects, such as damage to the integrity of the skin, pressure sores, depression, getting stuck on the bed rails, postural hypotension, if the principles of their use are not followed. Fractures and reduction of circulating blood flow, the possibility of thrombosis, feelings of humiliation, and loss of self-confidence in the patient [8, 14]. The use of physical restraints should be considered at the last stage and their use should be limited. Also, if it is used, it should be stopped periodically and the patient's condition should be monitored continuously and once every 24 hours. The patient should be evaluated to revise inhibitor use orders [15-17]. In the study conducted in Spain, in 94.1% of cases, it was up to the nurses to decide to use the inhibitors [18]. In France, due to the absence of a doctor's order to continue and stop the inhibitors, the nurses themselves decided in this regard. They pay the ground [19]. Various studies have shown that the knowledge, performance, and attitude of nurses toward physical restraints are not enough [20, 21].

Considering that in the process of training and preparing nursing students who will have to take care of patients shortly, it is necessary to address all young people as much as possible, on the other hand, this issue has not been given much attention in university education units, so the study The current study was done to determine the knowledge and attitude regarding the use of physical restraint of patients in nursing students.

Materials and Methods

The current study is descriptive-analytical and among 245 nursing students in the Nursing and Midwifery Faculty of the University of Medical Sciences in 2023, 188 undergraduate nursing students and 29 nursing master's students were studied by census method. The criteria for entering the study included a willingness to participate in the study and passing the nursing principles and techniques unit for undergraduate students. Incomplete questionnaires were excluded from the study.

The data collection tool included a demographic profile form (age, sex, academic semester, work experience at the bedside, history of participation in the physical restraint workshop, and student's grade point average) and standard questionnaires of nurses' knowledge and attitudes in the field of physical restraint of patients.

The questionnaire of nurses' knowledge in the field of physical restraint has 13 true and false questions, each correct answer is given a score of one, and each wrong answer is given a score of zero. In this way, the range of scores between 0-13 was calculated and the average total score for students was considered. A higher score indicates higher knowledge. The nurses' attitude questionnaire also has 13 questions on a five-point Likert scale (from strongly agree = 4 to strongly disagree = 0). The range of scores is between 0 and 52, with scores between 0-17 indicating a weak attitude, 18-34 indicating an average attitude, and 35-52 indicating a positive attitude of students regarding the utilization of physical restraint of patients.

After the necessary explanations about the research, obtaining written consent from the students, and ensuring the confidentiality of their information, the eligible students in the Faculty of Nursing and Midwifery completed a three-part paper questionnaire in the form of self-reporting. The data collected with SPSS-16 software was analyzed by descriptive statistics and inferential independent t-tests, Pearson's correlation coefficient, and one-way analysis of variance (ANOVA). A significance level of 0:05 was considered.

Results and Discussion

Among the 217 students who participated in the study, 52.3% were girls and 83.5% were studying at the undergraduate level. The average GPA of the students was 16.87. Among the students, only 11% of them mentioned the experience of participating in workshops related to the inhibitor, while most of them were senior

students. 66.1% of students had work experience at the bedside, which the 7th and 8th-semester nursing students mentioned as student work **(Table 1)**.

Table 1. Demographic specification of research units.

Variable		M±SD
Age		24.73±5.09
GPA		16.87±2.09
Variable		N (%)
Work experience at the bedside	Yes	144 (66.1%)
	No	73 (33.9%)
Gender	Female	114 (52.3%)
	Male	103 (47.7%)
Experience participating in the physical restraint workshop	Yes	24 (11.05%)
	No	193 (88.95%)
Grade	Bachelor	188 (86.63%)
	MSc	29 (13.37%)

The average knowledge of nurses in the field of using physical restraints is 5.68 with a standard deviation of 1.93, also the attitude results showed that 3.8% had a positive attitude, 72.9% had an average attitude, and 18.8% had a weak attitude towards the use of restraints **(Table 2)**.

Table 2. Knowledge and attitude of the research units regarding the physical restraints use.

Variables	Range of attainable grades	N	Max.	Min.	Mean	Standard deviation
Knowledge	0-13	217	11	2	5.68	1.93
Attitude	0-52	217	50	12	32.61	3.25

The results reveal that there is a significant direct relationship between knowledge, educational level, and work experience at the bedside of students (P=0.002). Regarding the relationship between the level of attitude and demographic characteristics, only the work experience in the hospital showed a significant relationship (P<0.05). The demographic results showed that a low percentage of students had a history of participating in training related to physical restraint and this low percentage was made up of senior students, which can indicate receiving these trainings in clinical environments and empowerment courses from the centers. Be clinical Maintaining a safe environment for patients with restlessness and hallucinations by nurses is challenging, and one of the measures is the correct use of physical restraints. Also, studies of many adverse effects of the inappropriate use of physical restraints, including local damage to the place where restraints are used, nerve damage from restraints were obtained, and students had an average attitude towards the physical restraints use. The average knowledge score related to physical restraint was 68.5. This score shows that the students had little knowledge and it is not consistent with the results of the studies of Mahmoud [22]. The reason for this can be seen in the research units. Because the research units in these studies were nurses, while in the present study, the knowledge of nursing students was investigated. In some studies, which was conducted on nursing students, it was reported that the main causes of delirium were post-traumatic stress disorder and prolonged ICU stay [23, 24]. Therefore, it is necessary to teach nursing students about the familiarity and correct use of physical restraints in university education, so that as future nurses, they can acquire the necessary knowledge to use them without complications. The results of the study showed that nursing students have a low average score (68.5%) on the knowledge of using physical restraints on patients. Their clinical experience duration has a positive effect on the physical restraints use, and the more clinical experience nurses have, the greater their physical restraints knowledge [25]. Therefore, the lack of clinical experience of students can be considered as the reason for this. Areas of misconceptions were also found among students. For example, more than half of the participants indicated that placing the patient in a supine position on the bed was appropriate, so they still had no idea about applying restraints to prevent any physical harm. There is room for improvement when patients use restraints. Students' performance was less satisfactory in responding to items related to the concept and principles of using physical restraint [14]. For example, more than 50% of them reported that physical restraint can protect residents from harm, which is incorrect; it is consistent with the study of Kor *et al*. [26]. On the other hand, according to the results of the study, it was observed that work experience in the hospital has a significant relationship with the level of knowledge, so it can be concluded that the reason for the low level of knowledge of the students is the lack of work experience in is their bedside.

The average score of the questions related to students' attitudes was 72.9%, which shows that most students have an average attitude towards physical restraint use [27]. If nurses apply physical restraints as a routine practice and without any consideration, it may prolong the use of restraints and lead to more provocative behavior especially in people with dementia [28]. Similar to Karagozoglu *et al.*'s [25] study, the present study found that more than half of college students stated that they did not feel guilty when they imposed restrictions on older adults. Unfortunately, the staff's awareness of the psychological effects was low, indicating that most seemed to use physical restraints. The results of the blind study reported the students' attitudes as appropriate, which is different from the results of the present study [26]. The reason for this inconsistency can be related to the participants of the blind study who were trained in physical restraint and had a history of participating in physical restraint workshops, so it may explain their improved results. Most of the researched units stated that applying physical restrictions creates a negative feeling in the residents because their freedom is denied. In the past few decades, an increasing number of restraint reduction training programs have been implemented in various healthcare facilities, such that in various studies 80 to 90% of participants have participated in a training program on the use of physical restraints [29]. While in the present study, only 11% of the participants had a history of participating in the workshop. Increased education may help improve people's performance and attitudes toward restraint use. Most students thought that there was no alternative to physical restraints for critically ill patients. Today, reducing the use of restraints is advocated in various guidelines, and restraint use should be a last resort. A wide range of alternative methods for physical restraint such as environmental modification, regulation of medication use, and active attention to client needs should be available [30].

Conclusion

This study showed that nursing students do not have satisfactory knowledge and attitude in using physical restraints. Since the inappropriate use of physical restraints can have many inappropriate side effects, it is necessary to give the necessary training to nursing students through theoretical training as well as in clinical units.

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