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EVALUATION OF THE EFFECTIVENESS OF EMERGENCY CARE TRAINING IN BURNS GIVEN TO SECOND-YEAR NURSING STUDENTS

Dr. Ayşe ÇOLAK

Gümüşhane üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Böümü

Abstract

Objective: The aim of this study was to evaluate the second-year nursing students' knowledge of emergency treatment in burns and the effectiveness of the training given to them on this topic.

Method: The sample of this descriptive study was comprised 110 nursing students studying at a university health sciences faculty. The data were collected by a personal information form and a questionnaire developed by the researchers. In the analysis of the data, number and percentage calculations, arithmetic mean and paired t test were used.

Results: It was found that the mean age of the students was 21.0±1.8, 65.4% were female and 59.1% were living in a house with a stove. 54.3% of the students encountered scald burns, 29.4% applied yogurt to the burned area and 90% did not pop the blisters. The post-test mean score was significantly higher than the pre-test mean score after the training ($p<0.001$). A statistically significant difference was also found between the pre-test and post-test mean scores in the sub-scales of approaches to flame burns, chemical burns, electrical burns, radiation burns and ice burns ($p<0.05$). However, no significant difference was seen between pre-test and post-test mean subscale scores in approaches to scalding and inhalation burns ($p>0.05$) (Table 3).Conclusion: In nursing education, the theoretical knowledge and applications of students to increase emergency response skills in burns that it will be effective in increasing awareness about.

Keyword: Burns, Nurse, Student

Introduction

A burn is a type of serious injury and can lead to physical and psychological negative consequences if it is not treated accurately. The large and deep burn surface delays healing, causes deformities, organ loss, and deaths.[1-5] In the United States (USA), approximately 1.25

million people are admitted to health institutions due to burns annually, and 60.000 of them are treated in the hospital.[6] There are no precise statistics on this issue in Turkey, but it is estimated that every year about 300 thousand people are exposed to burn, and very few of them receive inpatient treatment[7].

Although it has been suggested that the phenomenon of burns involving the reactions of the human body against heat trauma emerged with the discovery of fire, it is known that people are also exposed to burn due to the sun, hot water in hot springs, etc. [1,8] Burns in Turkey poses more problems than other countries. The reason for this is the tools commonly used at home and in the environment (teapot, tandoor, liquid gas stoves) because in our country there is a habit of drinking hot tea in our country, tandoor use continues in eastern provinces, the families with low socioeconomic status use stove to heat their house, and there are some workplace environments where health and safety precautions are not taken adequately.[7,9,10]

8.8% of the burn cases admitted to the emergency clinic should be hospitalized. Since more than 80% of burns are 1st degree and affect less than 20% of the body surface, they can heal with outpatient treatment[3]. Patients with extensive burns need medical care, nursing care, and fully equipped laboratory support in specialized burn units or centers.[3,11] In recent years, it has been observed that understanding the physiopathology of burns, progressing surgical techniques, and advanced technology and the spread of the burn team concept has a great influence on the reduction of the disability and death rates of burned patients and the effective treatment.[4,12] The technology used to make life easier not only offers new possibilities, but also brings the risk of burning, and injuries associated with burns are increasingly encountered[1].

Material-Method

Method

Type of research

This research was carried out in descriptive and cross-sectional type to evaluate the effectiveness of emergency care training in burns given to 1st year nursing students.

The universe and sample of the research

The data of the study were collected in November 2021. The population of the study consisted of 114 second-year nursing department students of a public university. The sampling method was not used because it was aimed to reach the entire population. The inclusion criteria of the study were to study in the nursing department of the relevant university and to accept to participate in the study voluntarily. After obtaining the necessary permissions for the study, the researchers went to the students' classes, and the questionnaires were filled through the face-to-face interview method. The data collection tools were applied to nursing students twice. The first application was performed before the students were given the theoretical knowledge and laboratory practice and the second one was applied after the completion of "Emergency care training in burns" given by the fourth-grade students. 4 students who did not accept to participate in the study and complete the entire form were excluded from the study, and the study was completed with 110 students.

Data collection tools

Patient Information Form

Developed by the researchers, the form consists of 3 parts. In the first part, there are 19 questions including the socio-demographic characteristics of the students (gender, age, family type, place of residence, etc.), the second part involves 7 questions to determine the complementary and alternative methods applied in burns, and in the third part there are 22 questions to determine the emergency care applications of the students. The questions in the third section were classified under the titles of flame burns (3 questions), scalding burns (3 questions), chemical burns (3 questions), electrical burns (3 questions), radiation burns (3 questions), inhalation burns (3 questions) and ice burns (4 questions). The questions are answered as 'correct' and 'wrong' in the form. The answers of half of the 22 questions are correct and half are wrong.

Ethical consideration of the research

Before the research was conducted, written consent was received from the related institution, and informed consent was obtained from the students in line with the principle of volunteering.

Evaluation of the Data

For statistical analysis in the study, SPSS 22.0 statistical package program was used. In the evaluation of the data, the Kolmogorov-Smirnov distribution test was used to examine the normal distribution in addition to the descriptive statistical methods such as frequency,

percentage, mean, standard deviation, median (25.-75. percentile). In the comparison of variables that did not show normal distribution between groups the Wilcoxon test were employed. p-value <0.05 was considered statistically significant.

Results

The results showed that the mean age of the students participating in the research was 21.00 ± 1.89, 65.4% of them were women, 66.4 had equal income and expenditures, 34.5% were high school graduates, 58.2% spent most of their life in the city, 50.9% lived in a state dormitory, 59.1% used stoves to heat their house, 80% of the students did not receive any training on burns, and 56.7% did not encounter any burn cases (Table 1).

Complementary and alternative medicine (CAM) methods used by the students in burns are given in Table 2. It was seen that 29.4% of the students used yogurt in burns and 53% of them did not use any no CAM methods, 41.8% applied ice on burned areas, 90% did not pop burn blisters, and 55.3% did not approve the removal of clothes in burns (Table 2).

It was determined that in the posttest, the students corrected most of the wrong answers they gave in the pretest. The mean pretest and posttest scores of the students before and after emergency care in burn training were 14,71±2.36 and 18.04±2.57 respectively, and the difference between them was statistically significant (p<0.000). A statistically significant difference was also found between the pre-test and post-test mean scores in the sub-scales of approaches to flame burns, chemical burns, electrical burns, radiation burns and ice burns (p<0.05). However, no significant difference was seen between pre-test and post-test mean subscale scores in approaches to scalding and inhalation burns (p>0.05) (Table 3).

Discussion

This section includes the discussion of the findings regarding the effectiveness of the emergency care training in burns given to the second-year nursing students.

It has been reported that only 21% of parents admitted to the children's emergency service had information about simple first aid applications in New York.[13] In a research carried out in Mardin, it was seen that 60% of the mothers did not have any information about burn wounds, and those who had information received it from health personnel (28.3%) and book magazines and brochures (28.6%). It was found that 89.6% of all mothers participating in the study did not find their knowledge sufficient[14]. It is emphasized in the literature that there are differences in the treatments applied to the burned patient, education has an important role in burn care, and a standard treatment should be administered[15]. Additionally,

the importance of to benefitting from simulation training in the content of undergraduate education in the development of both skill and surgical technical skills in burn education is also highlighted in the literature[16]. It was determined that only 16% of the students in this study received education on burns.

Complementary and alternative medicine (CAM) is defined as a group of non-traditional medical practices that include natural products, manipulations, mind, and body medicine. In a study on the use of CAM in dermatology, antibacterial, anti-inflammatory, and antioxidant properties of honey have been shown to contribute to wound healing, especially in ulcers and burns[17]. In another study, it is indicated that there are clinical positive studies for the use of CAM in cases such as wound healing, burns, aging, and hyperpigmentation today[18]. In our study, 90% of students used traditional methods in case of burns, and 10% did not use any methods.

In a study in the literature, the experiences of a nursing student who cared for a child who just started to walk with full-thickness burns were explained, and his/her homeostasis assessment and monitoring, general fluid and pain management, the level of knowledge on the infection prevention and acute behaviors were analyzed. As a result, the importance of the role of clinical experience in learning was emphasized[19]. Literature also reports that the burn is a special area, and evidence-based practices should be employed to overcome obstacles to clinical skills and practices in burn patient care, to eliminate educational differences, and to provide standard care[20]. Ice application on a burn is a frequently applied method. However, it was indicated in a study that that ice application after burns caused a secondary injury[21]. In another study, bulla and epidermal necrosis developed due to the application ice in burn are mentioned, and the importance of education is stressed in protecting from wrong applications that are known as correct.[22] In our study, 41% of the students were determined to apply ice on the burned area, and 89% of them did not pop the blisters.

In the United States, the annual cost of burns is reported to be 1.3 billion US dollars, and Griffits et al. argue that the cost of treatment for a burned child is 1850 British pounds.[15,23]Considering the cost, the prevention of burns becomes more important. Besides, the education of the future healthcare professionals gains importance in issues such as pain management, drug management, revealing support systems, self-esteem and security requirement, and provision of confidentiality that emerges as a problem in a patient with burns.[24,25]

Declaration of interest

None

Conflict of interest

The authors state that there is no conflict of interest.

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