

Basic First Aid Knowledge Levels of Students of the Vocational School of Health Services

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BACKGROUND/AIMS

In this descriptive study, our aim was to evaluate the knowledge on basic first aid of students attending the Vocational School of Health Services.

MATERIALS and METHODS

The study group consisted of 296 students in 23 departments of the Vocational School of Health Services. A total of 31 questions administered via the Students Introductory Information Form and Basic First Aid Questionnaire were answered by students who agreed to participate voluntarily in the research. The analyses were conducted using the Statistical Package for the Social Sciences (SPSS) Version 13.0 (IBM Corp.; Armonk, NY, USA) package program in the computer environment with a p-value <0.05 determining the significance level.

RESULTS

It has been determined that 88.9% of the students had previously received basic education on first aid, and 50% of the students believed that their knowledge in this area was sufficient. The basic first aid knowledge score of the students was calculated as 76.03. The most correctly answered question was regarding the definition of basic first aid, while the least correctly answered question was on the chest compression rates.

CONCLUSION

In addition to theoretical courses, if time spent practicing with models in applied courses is not sufficient; it can prevent the students from reinforcing their knowledge. However, in addition to applications during the internship training, professional practice can help the students to acquire the required knowledge.

Keywords: Education, first aid, health services, knowledge

INTRODUCTION

In cases involving accidents or life-threatening emergencies, first aid means that a person (or persons) at the scene provides medical assistance without any medications to save the victims life and/or to prevent the situation from getting worse until the professional health workers arrive at the scene (1-6). In cases when first aid is required, a successfully applied first aid intervention can be lifesaving (3). At any moment in life, an unexpected situation may happen, involving an accident or illness that could require first aid. In such cases, there may not be professional health workers at the scene. In these emergency situations, a health worker may not be immediately available to provide assistance, which means that a member of the public may have to provide first aid in case of an accident or injury, and anyone familiar with the principles of first aid could provide assistance (7). The ability to administered first aid to oneself or to another person is very important because it can contribute to increased survival rates, the prevention of injury, and the healing process (2). Considering all these situations, individuals who provide first aid apply life saving measures until emergency health workers reach the scene, and they play an important role in emergency health services (3).

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As the locations in which accidents requiring first aid happen are frequently crowded, it is natural to assume that universities are among these environments. Although first aid lessons are a compulsory part of the curriculum in the faculties and schools providing health-related education, the number of studies on whether the theoretical and/or practical knowledge levels of the students receiving first aid lessons/education are sufficient is limited (1, 2). In fact, it is important that individuals understand and practice first aid, which can be beneficial for them, their relatives, and even society (3).

The aim of this study was to evaluate the theoretical knowledge level of second-grade students attending the Vocational School of Health Services of a private university in the Turkish Republic of Northern Cyprus. The answers were sought to the following research questions:

- I. What is an average score of the students' knowledge about basic first aid?
- II. Is there a difference on basic first aid knowledge levels between the basic first aid course and the students taking courses and not taking courses?
- III. What are the differences between the students who find their knowledge in first aid to be sufficient and those who feel that they are lacking it?

MATERIAL and METHODS

The research population consisted of 296 second-grade students attending the Vocational School of Health Services of a private university in the Turkish Republic of Northern Cyprus during the 2017–2018 spring semester. In the descriptive study, the sample selection was made by choosing 50% of students, and all participants were reached.

Prior to the study, written permission was obtained from the Directorate of Vocational School of Health Services and from the Ethics Review Board (Near East University Scientific Research and Ethics Committee, 31.05.2018/607). Verbal consent was obtained from the students who accepted to participate voluntarily in the data collection stage.

Data were collected by the researchers using the Student Introductory Information Form and basic first aid questions developed in accordance with the literature. In the Student Introductory Information Form, 10 questions on socio-demographic characteristics such as age and gender, education on basic first aid, participation in activities within the university and/or external, basic first aid practice situation and self-sufficiency in relation to basic first aid were asked.

A total of 21 questions were asked about basic first aid. The questions included the definition of the subject, adult and child basic life support, respiratory blockages, positions, bleeding, fractures, dislocations and sprains, epileptic seizures, penetrating and cutting tool injuries, burns, freezing, tourniquet application, security measures, animal bites, insect stings, and limb ruptures.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) Version 13.0 (IBM Corp.; Armonk, NY, USA).

Pearson's chi-squared test and Fisher's exact test were used to compare the number of correct answers among students. A p-value <0.05 was considered significant.

RESULTS

The mean age of 296 students was 21.91 ± 2.41 ; 36.1% (n=107) were female, and 63.9% (n=189) were male. In Table 1, it can be seen that 88.9% of the students received basic first aid education. It was found that the ratio of students who found their knowledge to be sufficient in basic first aid was equal to the ratio of students who found their knowledge to be insufficient (n=148; 50%; in both groups).

In our study, the mean first aid score of the students was evaluated. Accordingly, it was determined that their basic first aid knowledge point average was 76.03. When the average score of basic first aid knowledge according to gender is examined, it is found that females had a score of 76.46, and the score of males was 75.79. While the average knowledge score of the students who were previously trained about basic first aid was 76.01, it was determined that the average score of the students who found their knowledge to be sufficient was 77.47 (Table 2).

Table 3 shows the correct and incorrect response rates of the subjects whose basic first aid knowledge was examined. While the ratio of answering the questions is high, the issues of chest compressions, airway obstruction, tourniquet application, and shock position had the highest number of incorrect answers.

TABLE 1. Descriptive properties (n=296)

Descriptive properties	(n)	(%)
Taking basic first aid education		
Yes	263	88.9
No	33	11.1
Finding one's knowledge sufficient about basic first aid		
Yes	148	50%
No	148	50%

TABLE 2. Info points averages

Basic first aid knowledge average score	n	Mean score
Knowledge point average by gender		
Woman	107	76.46
Man	189	75.79
The average knowledge score for the students who were trained and not trained in basic first aid		
Yes	263	76.01
No	33	76.19
The average knowledge score of the students who find themselves sufficiently knowledgeable regarding basic first aid		
Yes	148	77.47
No	148	74.58

TABLE 3. Correct answer rates for basic first aid questions

Basic first aid questions	True		False	
	n	%	n	%
Definition of basic first aid	288	97.3	8	2.7
Chest compression rates	64	21.6	232	78.4
Baby consciousness control	241	81.4	55	18.6
Respiratory tract blockages	121	40.9	175	59.1
Coma position	236	79.7	60	20.3
External bleeding	266	89.9	30	10.1
Fractures, dislocations, and sprains	226	76.4	70	23.6
Epileptic seizure	277	93.6	19	6.4
Penetrating, cutting tool injuries	264	89.2	32	10.8
Burn	230	77.7	66	22.3
Tourniquet application	95	32.1	201	67.9
Nasal bleeding	252	85.1	44	14.9
Freezing	276	93.2	20	6.8
Safety precautions	271	91.6	25	8.4
Safe zone	254	85.8	42	14.2
Animal bites, insect stings	221	74.7	75	25.3
Shock position	102	34.5	194	65.5
Limb ruptures	253	85.5	43	14.5
Pediatric cardiac massage	285	96.3	11	3.7
Chest compression/artificial respiration rates	235	79.4	61	20.6
Artificial respiration	269	90.9	27	9.1

TABLE 4. Distribution of basic first aid questions in students who find their knowledge about first aid sufficient/insufficient

Basic first aid question	Sufficient		Insufficient		p
	True	False	True	False	
Baby consciousness control	131	17	110	38	0.002
Animal bites, insect stings	120	28	101	48	0.011
Chest compression/artificial respiration rates	127	21	108	40	0.006

TABLE 5. Accurate response rates for basic first aid questions given by gender

Basic first aid question	Women		Men		p
	True	False	True	False	
External bleeding	105	2	161	28	0.00
Nasal bleeding	99	8	153	36	0.007

In Table 4, the rates of students who did not find their knowledge about first aid sufficient/insufficient according to these data, there was a statistically significant difference in the topics covering the baby consciousness control, animal bites, insect bites, and chest compression/artificial respiration rates ($p < 0.05$).

Table 5 shows the rates that differed significantly in the answers of students evaluated according to their gender. Thus, there was a statistically significant difference in relation to external bleeding and nose bleeding ($p < 0.05$).

DISCUSSION

Similar to the results of a study conducted to determine the level of knowledge and factors affecting the basic first aid knowledge in a vocational school of health services students, in our study, the rate of correct answers to 21 questions asked to measure the knowledge level of the students about basic first aid was highly correct (2). In the results of a study conducted on medical students, it was determined that the students did not respond correctly to all questions about first aid (8, 9). In our results, it was found that there was a lack of information about these subjects based on the students' incorrect answers to questions regarding basic first aid, including the rate of chest compressions applied per minute in the active heart massage, first aid in respiratory tract obstructions, tourniquet application, and the shock position. As stated by Büyükkayacı Duman et al. (1), it is thought that students lack knowledge in relation to some questions, and this means they cannot fully comprehend the situation/event. In the study on the first aid knowledge levels of class teachers, it was found that 95.9% of the teachers did not know how to perform cardiac massage (7). According to the findings of a similar study, university students have serious shortcomings in basic subjects such as chest compression and artificial respiration. The reason for this is the absence of courses with the first aid content in the departments outside the health sector. In our study, the most incorrectly answered question was determined as the one related to the rate of chest compression for an effective cardiac massage. The research universe comprised students attending a vocational school of health services. Therefore, this indicates that the rate of chest compression requires more practice and observation rather than theoretical information.

In studies conducted on different audiences, such as a police school, vocational school students, and non-physicians, basic first aid was the most correctly answered question in the research conducted by different researchers (96.7%, 88.2%, 91.8%) (2, 10, 11). According to the results of our study, the basic first aid definition question was answered correctly with a rate of 97.3%, which is similar to the literature.

In our study, the average score for the basic first aid knowledge of the students was determined to be 76.03. Similar to the results of our study, in a study that involved the first-year medical students, the average score for basic first aid was 68.0 (9). In contrast to these results, this rate was determined to be 5.96 in a study conducted with forestry and forestry vocational school students (3). This ratio was determined to be 42.42 ± 16.44 in the results of a first aid study on prisoners (12). In the light of the information in the literature, it can be thought that education, and particularly the education received in the field of health, have a significant effect on the first aid knowledge point average. In addition, studies determining the level of first aid knowledge of students, nurses, or policemen are also important to identify educational deficiencies related to first aid.

In a study that examined differences in first aid knowledge according to gender, a higher number of female students correctly answered the statement related to "cuts and dirty wounds are washed with soapy water, and tincture is applied" in comparison to male students. In the same study, in response to a question stating that "for patients poisoned with caustic substances such as bleach or oil, vomiting should be induced immediately," it was

found that females answered this question correctly more frequently (1). According to our study results, the questions that were answered correctly less frequently by both male and female students were related to coma position ($p < 0.319$), fractures, dislocations, and sprains ($p < 0.443$), penetrating and cutting tool injuries ($p < 0.541$), burns ($p < 0.589$), and limb fractures ($p < 0.235$) (Table 3).

A total of 11.1% of students who participated in the research stated that they had not received the first aid training. In a study by Usta et al. (3), 44% of the participants claimed that they had no training, and Nayir et al. (13) determined that teachers had knowledge of first aid, while 61.5% of the participants did not receive first aid training. According to the literature, the number of people who received first aid training in our study is high (88.9%). The reasons of this could be that first aid is a basic and compulsory course in many departments related to vocational schools of health services. The expansion of first aid training will contribute to an increase in the first aid knowledge levels.

This study was limited to the second-year students attending the Vocational School of Health Services. According to the findings obtained from the study, when the average of the students' response to the questions about first aid is taken into consideration, the correct response rates are high for many questions. However, it is important to note that some students also answered them incorrectly. The reasons for these incorrect answers could be that the student was not attending the Vocational School of Health Services and/or had moved from another part of another faculty to the Vocational School.

In non-health departments where first aid courses are not compulsory, it is possible to provide basic first aid training to students. The incorrect answers of students to the basic first questions can be analyzed further to determine what information they are lacking and to take corrective action in a timely manner. Considering that some of the basic first aid questions have been incorrectly answered by the students, it is necessary to examine the problems they have missed and correct them early. In this context, to add the first aid class to the departments that are not obligatory, to increase the interest in the class, to increase the visual and audio materials, to organize first-aid-related seminars such as symposiums and/or courses during the training periods, to increase the basic first aid hours, and to provide students with a certificate of achievement or certifications are important. In addition, it will be possible to increase the awareness of the students regarding the fact that receiving a first aid training in any period of their education will have a direct impact on their knowledge and could potentially save lives.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Near East University Scientific Research and Ethics Committee (31.05.2018/607).

Informed Consent: Verbal informed consent was obtained from students who participated in this study.

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REFERENCES

- Büyükkayacı Duman N, Koçak C, Sözen C. First aid knowledge levels of university students and the factors affecting these levels. *Hittit University Social Sciences Institute Journal* 2013; 6(1): 57-70.
- Barutcu CD, Dilek GA, Çakmak Ö, Köksoy S, Polat M. Level of knowledge and factors affecting first aid in vocational high school students. *IJCS* 2017; 10(3): 1563-8.
- Usta G, Küçük U, Torpuş K. An investigation into vocational school students' first aid knowledge and attitudes. *HOD* 2017; 2(2): 67-77.
- Al-Musa HM, Bharti RK, Alsamghan AS, Asiri M, Alqahtani MS, Al-Qahtani D, et al. Knowledge of first aid skills among medical students in King Khalid University, Abha, Saudi Arabia. *Int J Sci Res* 2017; 10(1): 1-6.
- Altındaş S, Tok Ş, Aslan FG, Pilavcı Adıgül M, Ekerbiçer HÇ, Altındaş M. Assessment of first aid knowledge level of university students. *Sakarya Tıp Dergisi* 2017; 7(3): 125-30. [\[CrossRef\]](#)
- Khatatbeh M. First aid knowledge among university students in Jordan. *Int J Prev Med* 2016; 7: 24. [\[CrossRef\]](#)
- Erkan M, Göz F. Determination of the teachers' level of knowledge about the first aid subject. *Atatürk Üniversitesi Hemşirelik Yükseköğretim Dergisi* 2006; 9(4): 63-8.
- Abbas A, Bukhari S, Ahmad F. Knowledge of first aid and basic life support amongst medical students: A comparison between trained and un-trained students. *J Pak Med Assoc* 2011; 61(6): 613-6.
- Almoammar NA, Fathalla A, Alotaibi FF, Alshahrani KM, Alanazi AM, Alwarni AA, et al. Assessing the level of first-aid knowledge among undergraduate medical students in King Sud University. *Int J Pharm Red Allied Sci* 2018; 6(1): 58-63.
- Polat SA, Turacı G. First aid knowledge and attitude of a police training school's students. *AÜTD* 2003; 35: 27-32.
- Dündar C, Sünter T, Coşkun M, Topbaş M, Pekşen Y. The evaluation of health workers' knowledge levels about first aid working at primary health care units in Samsun. *OMÜ Tıp Dergisi* 1999; 16(2): 113-9.
- Köksoy S, Öncü E, Şermet Ş, Sungur MA. First aid knowledge levels of prison inmates. *Tr J Emerg Med* 2012; 12(1): 20-4. [\[CrossRef\]](#)
- Nayir T, Uskun E, Türkoğlu H, Uzun E, Öztürk M, Kişioğlu AN. The first aid knowledge levels and attitude of the teachers who work in Isparta city center. *SDÜ Tıp Fak Derg* 2011; 18(4): 123-7.