Research Paper: Knowledge and Attitudes of Students in Khalkhal Medical Sciences Faculty on Health Actions in Emergencies

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ABSTRACT

Background: Health measures in an emergency are one of the cases where damage caused by disasters can be reduced with proper implementation, and the health crisis can be controlled. This requires awareness and knowledge of health and rescue authorities, students, and even people in an emergency situation. Therefore, the purpose of this study was to investigate knowledge of students' and attitude in Khalkhal Medical School in the field of emergency health measures.

Materials and Methods: This is a descriptive-cross sectional study, which was conducted in the 2013-2014 school year in Khalkhal Medical School using a researcher-made questionnaire. Designed questionnaire include questions about personal information, level of knowledge (10 questions) and attitude (10 questions) towards health measures in an emergency. This study was conducted among 200 students who were either in semester 5 or higher. The sampling method was of census-type. To determine the reliability of the questionnaire, Alpha Cronbach's Coefficient obtained to be 0.8. To compare mean scores in different groups, one-way ANOVA, chi-square test, and independent T-test were used.

Results: The results showed that 8% of students were well aware, 65.5% were moderately aware, and 26% were poorly aware. In addition, 29% of them had right attitude, 15% had moderate attitude, and 9% had a poor attitude towards health measures in emergencies. Among different disciplines regarding knowledge and attitude, no significant difference was observed ($P<0.05$) and there was a significant difference between age groups regarding the level of knowledge and attitude ($P<0.05$).

Conclusion: The results of the study showed that there was no significant difference in knowledge and attitude towards health measures in emergencies among students. Moreover, the results showed that some of the fields under study had a relatively small understanding of health measures in emergencies. Therefore, to enhance their level of knowledge, the need for more detailed planning is felt, and courses should be included for students of the University of Medical Sciences in this regard.

Keywords:
Knowledge and attitude, Health measures, Emergencies, Students

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1. Introduction

Disaster is the condition in which the facilities required to have a normal life are lost as a result of a sudden natural and abnormal process and the ability of society in supplying health care is highly reduced [1]. The incidence of natural disasters such as floods, earthquakes, storms, etc., often has devastating effects on human societies and causing heavy casualties on their inhabitants [2].

According to the World Health Organization (WHO) in 2008, in the past 100 years, about 81 significant incidents occurred in Iran which killed approximately 160,000 people, wounded more than 170 thousand people and injured more than 44 million people [3]. Iran is prone to the incident and is one of the ten most incident-ridden countries in the world regarding the natural disasters. According to statistics, among the 43 infamous events, 34 of them have occurred in Iran [4, 5]. Iran is one of the world's most incident-ridden countries because it is located on the earthquake belt and frequently terrible earthquakes occur, the worst of them were earthquakes in Bam and Roodbar. Secondly, due to the existence of numerous rivers, floods arise from time to time.

In addition to many economic and psychological injuries, these natural disasters cause the displacement of many people due to the destruction of buildings and infrastructure of life like food stores and healthcare organizations. However, these unwanted phenomena cause mortal and financial losses, but a quick review and environmental health interventions can minimize its amount [4, 5]. After most of the disasters, many people are exposed to adverse environmental effects. One of the primary needs is the immediate creation of the best facilities for improving environmental health control to the extent which conditions and resources make it possible [6].

Emergency measures recommended are the same health measures in a normal condition which are simplified. Emergency health measures, which should be taken into consideration including monitoring the shelter for the injured, enough access to safe and healthy drinking water, food hygiene, wastewater feces and garbage disposal, fighting against pathogenic carriers, evaluation of the risk of post-disaster epidemics, etc. [7-10]. It is clear that one of the most fundamental needs, which should be considered in the relief operation is providing the most up-to-date recovery facilities and environmental health control, to the extent that existing resources and facilities make it possible [9]. The success rate of emergency control requires the need for community knowledge and the cooperation of various specialties. Essential interventions such as health education, environmental awareness, social requirements, and budget increase in development are necessary to prevent the prevalence of common diseases in camps [11, 12].

The success rate of emergency management requires community knowledge, the cooperation of various specialties, and training in the field of environmental health activities such as water quality control, food control, waste collection methods, collecting and sanitizing sewage, monitoring and assistance in the construction of sanitary toilets, health baths, monitoring and assistance in the burial of corpses and carcasses, and personal protection in crisis situations [13].

Knowledge and attitude of individual's health measures in emergencies reduce the effects of the crisis, and the purpose of measuring people's knowledge and attitude is to achieve knowledge of individuals, and if necessary, educating health care programs to improve the situation in emergencies. Few studies were conducted regarding the knowledge and attitude of individuals in the field of health measures in emergencies among students in Iran. This study aims to investigate knowledge and attitudes of Khalkhal Medical School students about health measures in emergencies.

2. Materials and Methods

This research is a descriptive study which was conducted in cross-section form in the 2013-2014 academic year. The population studied included four undergraduate students in semester 5 and higher (environmental health, public health, nursing, and midwifery) in Khalkhal Medical School. Based on the information of the deputy of the faculty of education, the number of students in semester 5 and higher was determined to be 200. Sampling was conducted by census method, and data collection was carried out using a questionnaire. In this questionnaire, instrument validity was tested using Content Validity.

To determine the reliability of this research, the test-retest method was used. In this test, the questionnaire was first given to 10 students, and then the test was repeated for the same students in 10 days and Pearson correlation coefficient was used to evaluate reliability of the questionnaire. Cronbach's alpha coefficient was 0.8 for the Knowledge Questionnaire and 0.7 for the Attitude Questionnaire. The questionnaire was arranged in three sections: 1. Demographic information, 2. Contained 10

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Table 1. The population size of the students in semester 5 and higher in Khalkhal Medical School separated by field of study and the age group in the 2014-2013 school year

Field of Study	N (Persons)	Age Group	N (Persons)
Environmental health	32	<21	123
Public health	36	21-24	42
Nursing	90	>24	35
Midwifery	42	-	-

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knowledge questions, and 3. Included 10 attitude questions. About questions, the level of knowledge to each correct answer obtained score 1 and the incorrect answer and "I do not know" obtained zero score.

For questions of attitude, scoring for each phrase was done using a Likert scale and the grading criterion of 5, 4, 3, 2, and 1. This scale had 5 items as "I totally agree", "I agree", "No idea", "I disagree", and "I totally disagree." The maximum score of attitude questions was 50. Moreover, to classify aggregate knowledge scores, four grades (Less than 2: Poor; 3-5: Moderate; 6-8: Good; and more than 8: Excellent) and for attitude scores, four grades (Less than 25: Poor; 26-30: Moderate; 31-35: Good; and more than 35: Excellent). Trained experts distributed the questionnaire among the students. One-way ANOVA, Chi-square, and Independent T-test were used to compare mean scores in different groups.

3. Results

In this study, 200 students of Khalkhal Medical School were examined for age and field of study (Table 1). Students' response to questions about health measures in emergencies is shown in Table 1. According to the results, among the questions of knowledge, question 7 (The simplest way to disinfect water by the people themselves in an emergency) had the highest number of

Table 2. Student response to knowledge questions regarding emergency health measures

Questions	Right Frequency (%)	False Frequency (%)	Total Frequency (%)
1. In emergency situations, which prevention is possible in any of the following times?	78(39)	122(61)	200(100)
2. Which of the following illnesses is likely to be epidemic After the disaster?	38(19)	161(81)	200(100)
3. Which of the places may be suitable for emergency food supply and distribution?	68(34)	132(66)	200(100)
4. What should be the characteristics of distributed foods in emergencies during the first hours?	149(74.5)	51(25.5)	200(100)
5. What is the best way to waste dispose of in emergency situations in camps?	50(25)	150(75)	200(100)
6. What is the best way to ensure safe drinking water in emergency situations among the population at first hours?	33(16.5)	167(83.5)	200(100)
7. Which of the following methods can be the simplest way for people to disinfect their water in an emergency?	184(82)	36(18)	200(100)
8. Which of the following methods is the most appropriate way to fight mosquitoes in emergency situations in camps for a long time?	65(32.5)	135(67.5)	200(100)
9. Where is the best point that a health observer in a state of emergency can affect the health of the food with the lowest human resources?	17(8.5)	183(91.5)	200(100)
10. What is the easiest and most convenient way to construct a waste disposal system in emergency situations?	45(22.5)	155(77.5)	200(100)

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Table 3. Attitudes of students towards health measures in emergencies

Questions	Totally Agree Frequency (%)	Agree Frequency (%)	No Idea Frequency (%)	Disagree Frequency (%)	Totally Disagree Frequency (%)
1. In emergency situations, does water and electricity interruptions make it difficult to supply healthy and sanitary food?	69(34.5)	83(41.5)	22(11)	2(1)	24(12)
2. Is natural ventilation the best way to ventilate air inside the tent?	45(22.5)	110(55)	9(4.5)	7(3.5)	30(12)
3. In emergency situations, open channel ducts are sufficient to guide the sewage from the toilets?	10(5)	63(31.5)	56(28)	19(9.5)	52(26)
4. Being clear spring water in emergency situations can be considered as safe drinking water?	9(4.5)	74(37)	70(35)	30(15)	17(8.5)
5. In emergency situations, The problem is laboratory control of food and water?	34(17)	109(54.5)	33(16.5)	8(4)	16(8)
6. Is there a significant camp for facilitating epidemic service and control of contagious diseases?	39(16.5)	96(48)	26(13)	11(5.5)	28(14)
7. In the method of disposal of waste within the trench system, after each use should be used to cover soil?	33(16.5)	82(41)	21(10.5)	10(5)	54(29)
8. Is it better to use small tents in an emergency to replace a lower number in each tent?	44(22)	90(45)	25(12.5)	7(3.5)	34(17)
9. In emergency situations, in most cases, filling the land with waste is the best way to get the final disposal?	14(7)	22(11)	54(27)	96(48)	14(7)
10. Using boiling method to provide safe drinking water for residents in the camp is the easiest way for health authorities?	57(28.5)	81(40.5)	32(16)	7(3.5)	23(11.5)

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respondents with 82%, and question 9 (The best point of influence of health observer in emergencies with the lowest human resources in food hygiene) had the lowest number of respondents with 8.5% (Table 2). More than 70% of students had sufficient knowledge about health measures in an emergency.

Table 4. Student knowledge and attitude score in the field of emergency health measures (in terms of age group and field of study)

Frequency			Mean±SD (Attitude Score)	Mean±SD (Knowledge Score)
Age group	<21	123	33.01±7.12	3.57±1.6
	21-24	42	35.73±4.9	3.66±1.63
	>24	35	33.66±6.87	3.31±1.81
Field	Public health	36	36.3±3.81	3.52±1.5
	Environmental health	32	33.96±7.11	3.15±1.58
	Nursing	90	31.83±7.76	3.72±1.67
	Midwifery	42	35.19±4.77	3.42±1.54

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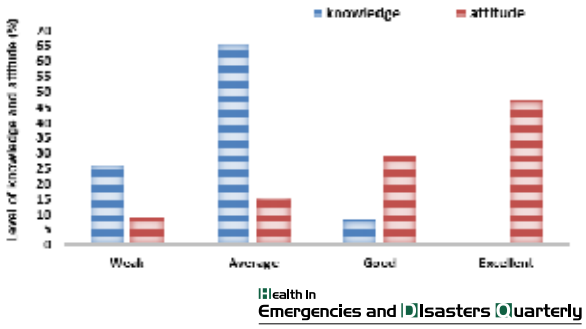

Figure 1. Levels of knowledge and attitude of students towards health measures in emergencies

The highest degree of student knowledge obtained in nursing, public health, midwifery, and environmental health disciplines, respectively. The highest score of knowledge was obtained in the age group of 21-24 years old. Students' response to questions about attitudes toward health measures in emergencies is shown in Table 3. According to the results, among the questions of attitude, question 2 (Air conditioning inside the tent, the best natural ventilation method) had the highest frequency of respondents regarding "I totally agree" (Table 3).

There was a significant difference in student's attitude among different disciplines ($P<0.05$) in a way that the highest score of attitude was obtained in public health, midwifery, environmental health and nursing disciplines, respectively. Total scores of attitude regarding age group had a statistically significant difference ($P<0.05$). The highest Attitude score was obtained in the age group of 21-24 years old (Table 4). Moreover, the ratings of knowledge and attitudes about health measures in emergencies are presented in Figure 1. As the results showed, the highest level of grading was in the relevant knowledge section with a moderate level (65.5%) and in the attitude section, it was related to the "excellent" level of scoring at a rate of 47%.

4. Discussion

The purpose of this study was to investigate the knowledge and attitude of Khalkhal Medical School students towards the field of health measures in emergencies. The results showed that in some of the above factors, students had high knowledge and in some others had a low level of knowledge of health measures in emergencies. For example, more than 80% of students had knowledge about the simplest ways to disinfect water themselves in an emergency. Low level of knowledge about the most appropriate way to fight mosquitoes in emergencies for a long time in the camps was in 67% students. On the other hand, 8% of students also had a low attitude concerning the difficulty of laboratory control on food and water in an emergency.

A study was conducted by Vosughi et al., showed that 11.2% of students had a high level of knowledge, 66.7% had average knowledge, and 22.1% had poor knowledge [14]. These results are consistent with the results of the present study. In this study also, 8% of students had a good level of knowledge, 65.5% had moderate level knowledge, and 26% had a poor level of knowledge. In addition, the results of study by Vosoughi et al., showed that 43% of staffs had good level of knowledge, 46% had moderate and 11% had poor level of knowledge towards health measures in emergencies [15].

In a study by Biglari et al., the results showed that 39% of participants had a good level of knowledge, 35.5% had an average, and 25.5% had a low level of knowledge [16]. Also a study by Rezaei et al, concluded that 47.3% of the subjects studied had very little information about the natural disasters and only 4.3% of the people had useful information in this regard [17].

The results of investigating students' Knowledge towards health measures in emergencies from different disciplines' point of view showed that the highest and lowest level of knowledge was in the field of nursing and environmental health, respectively. In a study by Khosh Nazar [18], 93.9% of nursing graduate students and the study by Imani [19] in Bandar Abbas, more than 80% of nurses had a low or moderate level of knowledge on crisis management and preparedness for accidents and disasters. These results are not consistent with the results of the current study.

5. Conclusion

The results of the study showed that there is no significant difference in levels of knowledge and attitude towards health measures in emergencies among students. Also, the results showed that some fields of study had a relatively low level of knowledge about health measures in emergencies. Therefore, given the importance of this issue, it is essential that extraordinary measures be taken to raise awareness and attitudes of students concerning emergency measures.

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Conflict of Interest

The authors declared no conflicts of interest.

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