Investigation of Scabies Awareness of Nursing and Elderly Care Students

Hemşirelik ve Yaşlı Bakımı Öğrencilerinin Uyuz Farkındalıklarının İncelenmesi

Araştırma
Research

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Abstract

Objectives: The aim of this study is to determine the awareness levels of Nursing and Elderly Care students about scabies.

Methods: A cross-sectional study was conducted through an anonymous questionnaire consisting of closed-ended questions. The anonymous questionnaire consisting of closed-ended questions was administered to Nursing and Elderly Care students. Data wa collected using an online self-report questionnaire.

Results: All 202 nursing (n=95) and older people care (n=107) students, 44 males and 158 females, completed the questionnaire. The average age of the students participating in the study was 19.9±1.7 years. The lowest knowledge score of the students was the one relating to the location of the scabies lesions. Students reported that they benefited most from the internet (n=78) and the least from books and articles (n=9) as a source of information. This study also underlines that students obtain information mostly from the internet.

Conclusions: This study revealed that the academic knowledge level of Nursing and Elderly Care students about scabies was low. Our findings show that Nursing and Elderly Care students need academic knowledge to prevent scabies outbreaks and to prevent spreading. This deficiency in students needs to be addressed within the scope of formal education.

Keywords: nursing; elderly care; student; scabies; health education

Özet

Amaç: Bu çalışmanın amacı hemşirelik ve yaşlı bakımı öğrencilerinin uyuz ile ilgili farkındalık düzeylerini belirlemektir.

Yöntem: Kesitsel bir çalışma, kapalı uçlu sorulardan oluşan anonim bir anket aracılığıyla yürütüldü. Hemşirelik ve yaşlı bakımı öğrencilerine kapalı uçlu sorulardan oluşan bir anket uygulandı. Veriler, çevrimiçi öz-bildirim anketi kullanılarak toplandı.

Bulgular: Kırk dördü erkek ve 158'i kadın olmak üzere 202 Hemşirelik (n=95) ve Yaşlı Bakımı (n=107) öğrencisinin tamamı anketi doldurmuştur. Araştırmaya katılan öğrencilerin yaş ortalaması 19,9±1,7'dir. Öğrencilerin en düşük bilgi puanı uyuz lezyonlarının yerleşim yeri ile ilgili olan bilgidir. Öğrenciler bilgi kaynağı olarak en çok internetten (n=78) ve en az kitap ve makalelerden (n=9) yararlandıklarını belirtmişlerdir. Bu çalışma aynı zamanda öğrencilerin bilgiyi en çok internetten edindiklerinin altını çizmektedir.

Sonuç: Bu çalışma Hemşirelik ve Yaşlı Bakımı öğrencilerinin uyuz ile ilgili akademik bilgi düzeylerinin düşük olduğunu ortaya koymaktadır. Bulgularımız, hemşirelik ve yaşlı bakımı öğrencilerinin uyuz salgınlarını ve yayılmasını önlemek için akademik bilgiye ihtiyaçları olduğunu göstermektedir. Öğrencilerdeki bu eksikliğin örgün eğitim kapsamında giderilmesi gerekmektedir.

Anahtar Sözcükler: hemşirelik; yaşlı bakımı; öğrenci; uyuz; sağlık eğitimi

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Introduction

Scabies, caused by the parasite Sarcoptes scabiei var. hominis is a neglected skin disease and an important public health problem in the world (1-3). Its worldwide prevalence is unknown, but it is estimated to be much higher than reported (2,4-6). Delayed diagnosis contributes to protracted and difficult-to-control epidemics (3).

The disease is usually transmitted through skin contact or from objects (7-8). Mites are sometimes spread by direct contact and sometimes by contaminated clothing and quilts. The disease generally affects areas with typical skin involvement such as between the fingers, wrists and elbows, shoulders, male scrotum, and female breasts (1,9). It is rarely seen on the face, head and neck. Scabies usually manifests itself in the form of severe itching and erythematous papules. Several prominent itchy papules are common on the external genitalia (9). The incubation period is two to six weeks in a previously unexposed individuals. Re-infestation occurs within 24 to 48 hours after exposure in susceptible individuals (10).

Norwegian scabies infestation or crusted scabies, is a rare, atypical, and highly infectious variant of Sarcoptes scabiei (11) and has a mortality rate of up to 50% over five years (12). Patients with crusted scabies may not show the usual signs, symptom, or lesion distribution seen in classic scabies. Clinically, this condition presents visually as a dermatitis and causes widespread hyperkeratotic lesions, nail thickening, and dystrophy (11). Patients characteristically complain of widespread pruritus, erythematous papules, and signs of scabies burrows. Newly infected patients may not experience symptoms of infection for up to three weeks due to a delayed type IV hypersensitivity reaction to the mite and its saliva, eggs, and feces (11,12). Treatment for this condition includes both topical and systemic therapy, the most common being oral ivermectin and topical permethrin (13). Norwegian crusted scabies is a highly contagious disorder transmitted by direct contact with an infected person and has been associated with outbreaks in healthcare facilities such as nursing homes (12,13).

Norwegian scabies infestation is often associated with suppression of the immune system (8).

Scabies can cause secondary bacterial infections due to its parasitic inhibition (14). These secondary complications are renal dysfunction, rheumatic heart disease, soft tissue infections, joint infections and lower respiratory tract infections (group A streptococcus, GAS). In addition, due to intense itching at night, the patient's sleep and quality of life is low (1,14,15).

Scabies infestation occurs in people of all ages, ethnicities, and socioeconomic statuses. The disease occurs most often in conditions of overcrowding, poverty, lack of hygiene and difficulty in accessing healthcare facilities (6,8,16). Studies conducted in various countries show that there is a relationship between scabies and its spread in sleeping areas (17,18).

Scabies epidemics occur in residential areas such as nursing homes, nurseries, barracks (military facilities), prisons and student dormitories (6,9). High rates of illness are reported among staff working in such facilities (6).

Nurses need to be informed about both topical and systemic treatment options for scabies and their side effects. In the treatment of the disease, a physician must be consulted for medical drug treatment. Also, all personal items such as clothing, towels and beddings that have been in contact with scabies patients in the three days before treatment should be machine washed (at least 10 minutes at 60 degrees) or dry cleaned. Ironable items must be ironed. Non-washable items should be disinfected by sealing them in a sealed plastic bag for 3-7 days. If possible, public toilets should not be used until the 24-hour treatment is completed. Rapid intervention is important in institutional outbreaks. Medical instruments that have come into contact with patients with scabies in hospitals or nursing homes should be sterilized. The environment should be cleaned with a vacuum cleaner (19-21).

Scabies has become an important health problem and a burden on health systems around the world. Nursing and aged care students should also have professional training and understand basic information, diagnosis and treatment for scabies, both for themselves and for patients in healthcare facilities where they practice.

Healthcare professionals are expected to be aware of the emergence of scabies and to perform comprehensive examinations, especially if patients are asymptomatic. However, few studies to date have focused on scabies-related disease cognitions. In this study, we aimed to determine the awareness levels of nursing and elderly care students about scabies.

Method

Sample and Setting

The population of this study consisted of students studying in the departments of Nursing and Elderly Care at two universities in Izmir, Turkey between February 1 and March 15, 2023. The study sample consisted of 202 students, 158 females and 44 males, aged 18 and over. Inclusion criteria were being adults and participating voluntarily in the study.

Instruments

A cross-sectional study was conducted through a questionnaire consisting of closed-ended questions. Data was collected using an online self-report questionnaire. The questionnaire was designed as two parts. The first part was about information such as the students' age, gender, parents or friends working in the medical field, source of information about scabies, family members or friends with a history of scabies, and a history of scabies. In the second part of the questionnaire, the students were asked to mark the sentences as true or false to determine the basic information of scabies and its transmission route. The sentences in the second part of the survey were as follows:

1. Scabies is a contagious skin disease.
2. Scabies spreads after natural disasters such as earthquakes.
3. Scabies is transmitted by sharing clothes for more than 15 minutes.
4. Scabies is transmitted by handshaking.
5. Scabies is spread by touching the personal belongings of patients.
6. Scabies is spread from shared bedding.
7. Scabies is transmitted by sexual contact.
8. Scabies itching is mild during the day and severe at night.
9. Clinical features of scabies lesions are scaled erythema and/or papules and vesicles.
10. Scabies lesions are found on the male external genitalia.

Data Analysis

All data were analyzed using IBM-SPSS (Statistical Package for Social Science) version 26 (IBM Corp, Armonk, New York, USA). Descriptive statistics are given as frequencies, percentages, means and standard deviations. The chi-square test was used to analyze the significant difference between demographic data and questions about scabies. A p value of <0.05 was considered statistically significant.

Ethical statement

The study was approved by the Non-Interventional Ethical Committee of Izmir Katip Celebi University in Turkey (date 26 January 2023, approval number: 0002), and written permission was obtained from the universities.

Results

Characteristics of the Participants

All 202 Nursing (n=95) and Elderly Care (n=107) students, 44 males and 158 females, completed the questionnaire. The average age of the students participating in the study was 19.9±1.7 years (minimum:18, maximum:32) (Table 1).

The knowledge level of the students about the scabies lesions was found to be 30.7% (Table 1), where above 75.0% is considered normal. The lowest knowledge score of the students was the one related to the location of the scabies lesions.

Level of Scabies Knowledge

84.7% of the students wrongly stated about scabies that "it passes with a handshake" (Table 2).

Female students had more statistically significant knowledge about the spread of scabies from natural disasters such as arthquakes (t=2.322, p=0.021) (Table 4).

Influence on Scabies Knowledge of History of Scabies in an Individual or Family Members or Friends

It was determined that those who had scabies in their family or friends had more information about scabies lesions (t=-3.133, p=0.003) (Table 4).

Sources of Scabies Knowledge

Students reported that they benefited most from the internet (Google etc.) (n=78) and the least from books and articles (n=9) as a source of information (Figure 1).

Table 1. Characteristics of the Participants				
		Total (N=202)	**Nursing students (n=95) (47.0)**	**Elderly Care students (n=107) (53.0)**
		N (%)	**N (%)**	**N (%)**
Age Mean: 19.9±1.7 years	18-20	151 (75.2)	71 (74.7)	80 (74.8)
	21-↑	51 (24.8)	24 (25.3)	27 (25.2)
Gender	Male	44 (21.8)	15 (15.8)	29 (27.1)
	Female	158 (78.2)	80 (84.2)	78 (72.9)
Parent(s)/friend(s) working in the medical field	Yes	44 (21.8)	25 (26.3)	19 (17.8)
	No	158 (78.2)	70 (74.7)	88 (82.2)
Confident about knowledge of scabies	Yes	146 (72.3)	70 (74.7)	76 (71.0)
	No	56 (27.7)	25 (26.3)	31 (29.0)
History of scabies	Yes	16 (7.9)	8 (8.4)	8 (7.5)
	No	186 (92.1)	87 (91.6)	99 (92.5)
History of scabies in family and/or friends	Yes	48 (23.8)	24 (25.3)	24 (22.4)
	No	154 (76.2)	71 (74.7)	83 (77.6)
Do you have any information about scabies lesions?	Yes	62 (30.7)	24 (25.3)	38 (35.5)
	No	140 (69.3)	71 (74.7)	69 (64.5)

Table 2. Analysis of Scabies Knowledge Scores				
		Total (N=202)	**Nursing students (n=95) (47.0)**	**Elderly Care students (n=107) (53.0)**
		N (%)	**n (%)**	**n (%)**
Scabies is a contagious skin disease.	True	197 (97.5)	92 (96.8)	105 (98.1)
	False	5 (2.5)	3 (3.2)	2 (1.9)
Scabies spreads after natural disasters such as earthquakes.	True	180 (89.1)	84 (88.4)	96 (79.7)
	False	22 (10.9)	11 (11.6)	11 (20.3)
Scabies is transmitted by sharing clothes for longer than 15 minutes.	True	198 (98.0)	93 (97.9)	105 (98.1)
	False	4 (2.0)	2 (2.1)	2 (1.9)
4. Scabies is transmitted by handshaking.	True	171(84.7)	79 (83.1)	92 (86.0)
	False	31 (15.3)	16 (16.8)	15 (14.0)
5. Scabies is transmitted through touching patients' personal items	True	191(94.6)	91 (95.8)	100 (93.5)
	False	11 (5.4)	4 (4.2)	7 (6.5)
6. Scabies is spread by shared bedding	True	199 (98.5)	94 (98.9)	105 (98.1)
	False	3 (1.5)	1 (1.1)	2 (1.9)
7. Scabies is spread by sexual contact	True	184 (91.1)	85 (89.5)	99 (92.5)
	False	18 (8.9)	10 (10.5)	8 (7.5)
8. Scabies itch is mild during the day and severe at night	True	169 (83.7)	79 (83.1)	90 (84.1)
	False	33 (16.3)	16 (16.8)	17 (15.9)
9. Clinical features of scabies lesions are scaly erythema and/ or papules and vesicles.	True	173 (85.6)	81 (85.3)	92 (86.0)
	False	29 (14.4)	14 (14.7)	15 (14.0)
10.Scabies lesions are found on the male external genitalia	True	131 (64.9)	63 (66.2)	68 (63.5)
	False	71 (35.1)	32 (33.8)	39 (36.4)

Table 3. Analysis of Scabies Knowledge Scores of Nursing students and Elderly Care students				
	Nursing students	**Elderly Care students**	**Levene's test**	**t / p**
	Mean±SD	**Mean±SD**		
Scabies is a contagious skin disease.	1.03±0.17	1.02±0.13	0.241	t=0.586 p=0.559
Scabies spreads after natural disasters such as earthquakes.	1.12±0.32	1.10±0.30	0.557	t=0.294 p=0.769
Scabies is transmitted by sharing clothes for longer than 15 minutes	1.02±0.14	1.02±0.13	0.811	t=0.120 p=0.905
Scabies is transmitted by handshaking.	1.17±0.37	1.14±0.34	0.270	t=0.553 p=0.581
Scabies is transmitted through touching patients' personal items	1.04±0.20	1.07±0.24	0.145	t=-0.726 p=0.469
Scabies is spread by shared bedding	1.01±0.10	1.02±0.13	0.340	t=-0.477 p=0.634
Scabies is spread by sexual contact	1.11±0.30	1.07±0.26	0.131	t=0.757 p=0.450
Scabies itch is mild during the day and severe at night	1.17±0.37	1.16±0.36	0.716	t=0.182 p=0.856
Clinical features of scabies lesions are scaly erythema and/or papules and vesicles.	1.15±0.35	1.14±0.34	0.773	t=0.145 p=0.885
Scabies lesions are found on the male external genitalia	1.34±0.47	1.36±0.48	0.413	t=-0.409 p=0.676
T: Independent Samples Test, $p<0.05$				

Table 4. Analysis of students' demographic knowledge data and their knowledge about scabies					
				Mean±SD	**t / p**
Age	Do you have any information about the scabies lesions?	18-20	151(75.2)	1.75±0.43	t=2.237 **p=0.026**
		21 -↑	51(24.8)	1.51±0.50	
	Scabies is transmitted through touching patients' personal items	18-20	151(75.2)	1.03±0.16	t=2.020 **p=0.045**
		21 -↑	51 (24.8)	1.00±0.00	
Gender	Scabies spreads after natural disasters such as earthquakes.	Male	44 (21.8)	1.20±0.40	t=2.322 **p=0.021**
		Female	158 (78.2)	1.08±0.27	
History of scabies in family and/or friends	Do you have any information about the scabies lesions	Yes	48 (23.8)	1.50+0.50	t=-3.133 **p=0.003**
		No	154 (76.2)	1.75+0.43	
t: Independent Samples Test, KW: Kruskal-Wallis Test, $p<0.05$					

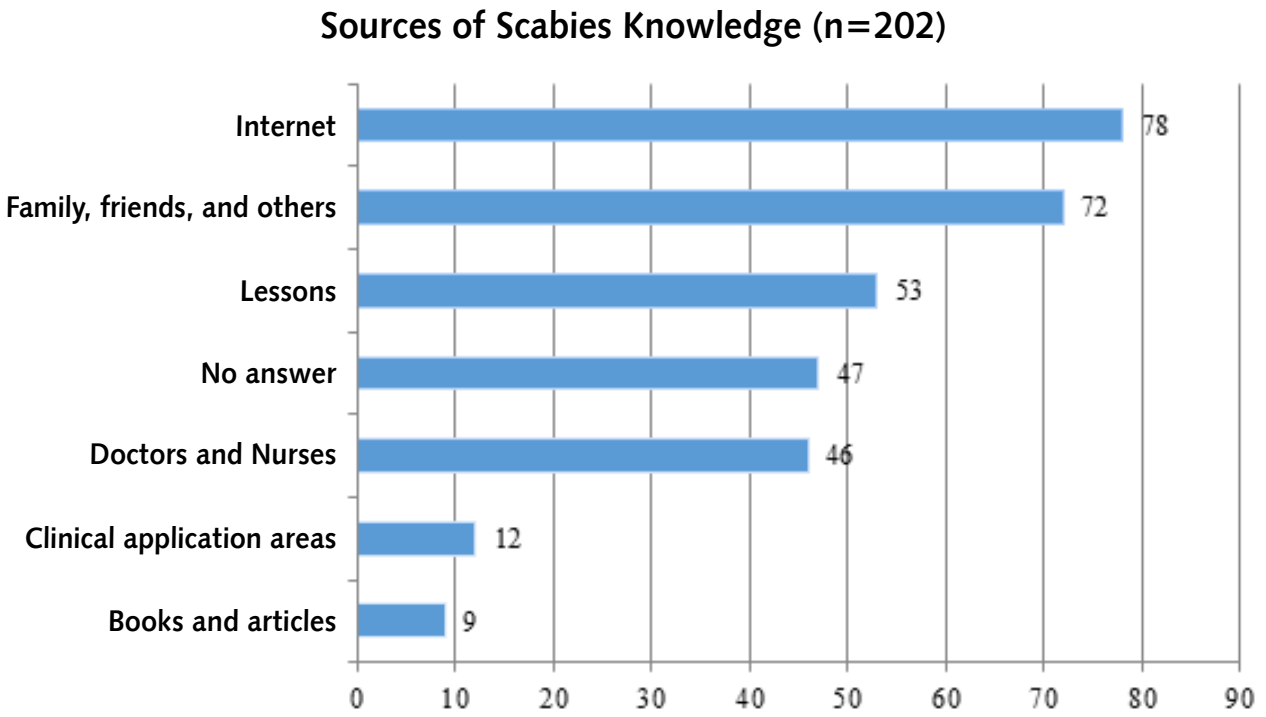
Analysis of lesion locations

Students stated the lesion sites of scabies most as between the fingers (n=154) and least as the cubital fossa (Figure 2).

Discussion

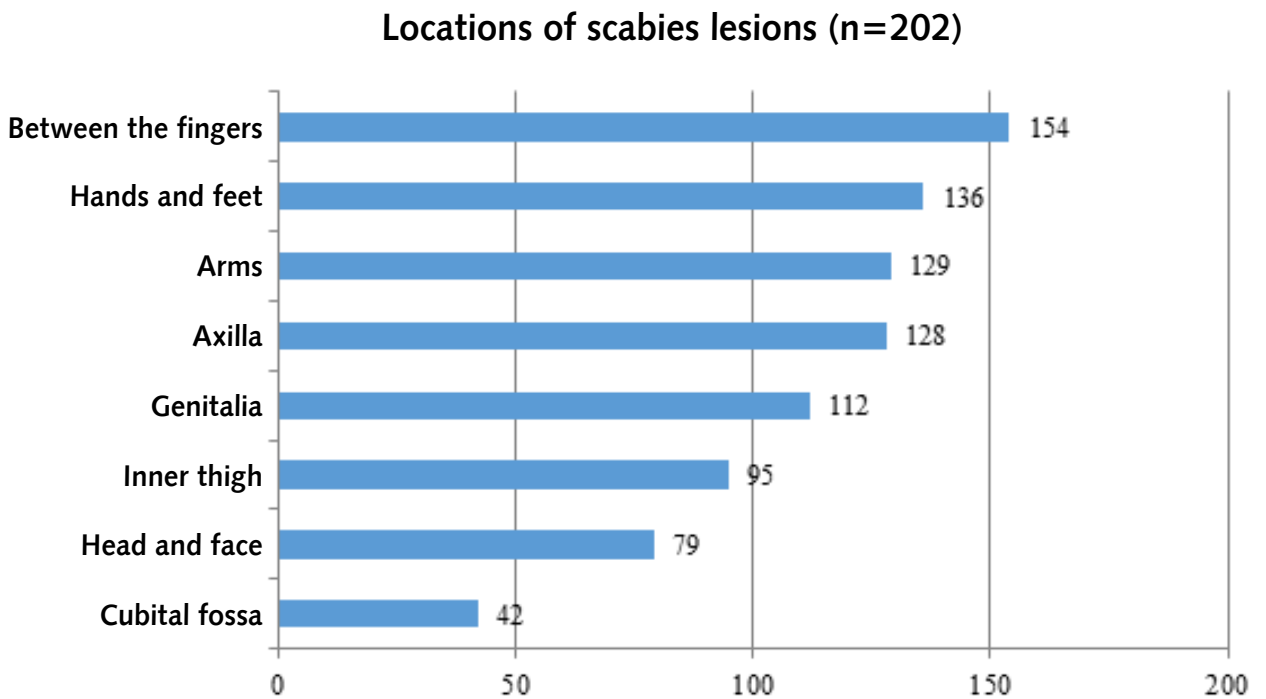
The International Alliance for Scabies Control (IACS) has developed a global control plan to improve the health of communities affected by scabies around the world. In this plan, staff training against scabies is one of the highest-level measures to treat, control and prevent the spread of the disease (1).

Figure 1. Sources from which participants obtained information about scabies



The y-axis shows the information sources used by students and the x-axis shows the number of students using these sources.

Figure 2. Participants' opinions regarding the location of scabies lesions



The y-axis shows the lesion locations reported by students for scabies, and the x-axis shows the number of students reporting these locations.

Handshakes related

Scabies is rarely transmitted through casual contact, such as handshaking and hugging. Scabies can be transmitted by contact for 15 minutes or longer in general (19,22). In a study by Maleki Birjandi et al., high school students reported that 66.5% of them were infected with scabies by shaking hands (23). In a study by Liu et al., the rate of students who stated that nursing students were infected by shaking hands was found to be 34.8% (1). In our study, 84.7% of the students stated that the disease was transmitted by shaking hands. This finding is higher than those in other studies. This misinformation should be corrected with academic knowledge, and training should be given to future health professionals.

Sources of Scabies Knowledge

Students reported that they benefited most from the internet and least from books and articles as a source of information (Figure 1). Students stated the lesion sites of scabies most as between the fingers and least as the cubital fossa (Figure 2). In the study by Liu et al. (2022), it was determined that the greatest amount of information is in medical books. In addition, this study emphasizes that nursing students have insufficient knowledge about scabies infection (1). In our study, information sources of Nursing and Elderly Care students are generally internet resources and family and friends who have had scabies (Figure 1). Although students know that scabies is contagious and can spread after natural disasters such as earthquakes, they do not have academic knowledge about scabies.

Level of Scabies Knowledge

Failure to take preventive measures causes the spread of scabies, an increase in the disease burden and the development of an epidemic (3). In our study, the students had sufficient knowledge about the spread of the disease. However, it was determined that the students' level of knowledge about scabies lesions was low. Students did not have sufficient academic knowledge about scabies lesions and pathologies.

Delayed recognition of the clinical features of scabies causes delay in the treatment of the disease. Thus, it causes an increase in the incidence and complications of the disease (1,7). Schools are the starting points of health education programs. Especially, Nursing and Elderly Care students should be more open to information. However, in our study, learning was mostly obtained from internet resources and from family and friends who had experienced scabies. The reason for this may be that students encounter scabies in themselves, their relatives and patients, or that the cases of scabies are gradually increasing.

Earthquake related

Scabies often occurs at critical times after adverse events such as wars, floods, earthquakes, or other natural disasters (10), when it is common due to overcrowding and lack of hygiene (1,24). Living in crowded environments and tents and lack of personal hygiene may be the most common predisposing factors for dermatoses (1). In a study by Bhattarai et al., scabies infestations such as urticaria and pruritus were reported as well as the most common diseases after the 2015 Nepal earthquake (25). In a study conducted in Pakistan, it was stated that scabies is endemic in the country, and an ideal environment for the formation of new epidemics was provided by the crowding lack of and hygienic conditions in the camps after the earthquake (7). Scabies cases were seen in the first 10 days after the earthquake in 2017 according to a study conducted by Peyravi et al. in Iran (26). Oztas et al. conducted a study in northwest Turkey after the great earthquake in 1999, and reported that the prevalence of parasitic infections was common (27). Two consecutive earthquakes in Kahramanmaraş on February 6, 2023, changed the lives of millions of people in Turkey and Syria, and also put many children at risk for infectious diseases (diarrhea, pneumonia, scabies, etc.) (28). Health professionals employed in this region must have information about scabies infestation, and students' lack of knowledge should be eliminated before they graduate. Scabies can affect both sexes. In a study in East Jakarta in 2014, Ratnasari reported that the prevalence of scabies in male students was 57.4% (29). In our study, women stated that it spread more after natural disasters such as earthquakes (Table 3). This may be due to the fact that women pay more attention to hygiene than men.

Conclusion

This study revealed that Nursing and Elderly Care students' knowledge levels about scabies were low.

Raising awareness about scabies, correct diagnosis and early treatment are very important for effective control of scabies and prevention of its complications. Therefore, it is necessary to remedy the lack of knowledge of students about infectious diseases in formal education.

The national government, local governments and non-governmental organizations should work together to prevent and eliminate scabies in regions where scabies cases are seen.

Oral and written media should increase awareness through mass media and inform the public with educational materials.

This study should be repeated with larger sample groups and different regions.

Acknowledgements

We would like to express our gratitude to all our students who shared their experiences.

Limitations of the study

The absence of questions on topical treatment and management of scabies and signs and symptoms of crusted scabies constitutes a limitation of this study.

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