Original Article

Investigation of Health Literacy Levels Among University Students Regarding Risk Awareness and Protection in Infectious Diseases

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Abstract

Background: The health literacy level of university students plays a critical role in their awareness of infectious diseases and their prevention

Objective: Th is study aimed to investigate the level of risk awareness of university students about infectious diseases and their health literacy status on the subject of protection.

Methods: This cross-sectional study involved 750 students from a state university in Turkey, surveyed via Google Forms. Statistical analyses included Mann Whitney U test for non-normally distributed variables, Kruskal Wallis H test for group comparisons, and Dunn test for post-hoc analyses ($p<0.05$ considered significant).

Results: 750 university students participated in this study. 79.2% of the participants in the research are women, 95.9% are in the 18-30 age group. Of the whole sample, 77.5% were studying in a department related to healthcare. When comparing CDRAPS scores by gender, it was determined that female students' common life risk awareness, self-protection awareness, and personal infection awareness subscale scores were significantly higher than male students ($p=0.001$, $p<0.001$, $p<0.001$, respectively). In the comparison of CDRAPS scores according to place of residence, the average CDRAPS scale score of students living in the village, protection behaviors, and hand washing behaviors were found to be significantly lower than those living in the district and city center ($p=0.017$, $p=0.013$). When CPRADS scores are compared according to departments, the average score of the CPRADS scale in the dimension of protection behaviors of students studying in the field of health is higher than that of education faculty students. In the social protection awareness dimension, it is higher than students studying in other departments ($p=0.042$, $p=0.026$, respectively).

Conclusion: Students in health-related fields demonstrated higher CDRAPS average scores. Introducing health courses in non-health departments could benefit both individuals and society. [*Ethiop. J. Health Dev.* 2025; 39(1)]

Keywords: Health literacy, infectious disease, university students, Türkiye

Introduction

Infectious diseases, which can spread to healthy individuals through various routes, are a significant global health problem (1). They also threaten the social and economic well-being of communities worldwide (2).

Health literacy is a term that emerged in the 1970s and is increasingly important in public health and health services (3). While until recently interest in health literacy was concentrated in the USA and Canada, it has become more international in the last decade (4) Health literacy involves accessing and using information to make informed health decisions (5).

Universities, where young people gather, are hotspots for infectious disease outbreaks, especially respiratory infections. University students are more likely to spread infectious diseases due to the high population flow from academic activities, sports clubs, and part-time work. These outbreaks can disrupt students' education and negatively impact their physical and mental health. Health knowledge and behavior, crucial components of health literacy, are vital in controlling and preventing infectious diseases (6).

University students, generally healthy and educated, are a key group for promoting healthy behaviors (7). They can influence their homes, social spaces, and social media, playing a significant role in disease prevention (8). An individual with sufficient health literacy takes responsibility for their health and the health of their family and community (3, 9).

Students' awareness of infection risks and protective measures is crucial for preventing disease spread to the broader population. This study aimed to investigate the level of risk awareness of university students about infectious diseases and their health literacy status on the subject of protection.

Methods

Study design and population

This cross-sectional study was planned to evaluate the risk awareness levels of Kahramanmaraş Sütçü İmam University (KSU) students regarding infectious diseases and their health literacy status regarding protection from infectious diseases. The study was conducted between 16 July 2023 and 16 November 2023. Students who met the study inclusion criteria and agreed to participate in the research were included in

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the study. The implementation of the research was carried out online. Power analysis was performed to determine the sample size. With reference to the study by Bhutto and Shar (10) about HIV, and alpha type error level =0.05, beta type error level =0.20, and test power =0.80, taking the level of knowledge about HIV as 0.59 into consideration, it was calculated with d= 0.05 sample error (deviation level) that a sample of at least 735 individuals was recruited.

Inclusion and exclusion criteria

The study inclusion criteria were defined as being a student at KSU and willing to participate in the study. The exclusion criterion from the study was incomplete surveys.

Data collection tools

The study data were collected through an online link (Google Forms software, Google LLC, Mountain View, CA, USA) using an online questionnaire prepared by the researchers and the Communicable Diseases Risk Awareness and Protection Scale (CDRAPS), developed by Ener and Çetinkaya (11). Students were informed about the online questionnaire with a link to the social media groups used most by KSU students. The aim of the study was explained on the first page of the questionnaire and by ticking the box stating 'I agree to participate', the questions could be accessed. The students completed the questionnaire once only.

The questionnaire consisted of questions to elicit the sociodemographic data of age, gender, place of residence, the department and class of university study, marital status, family income status, social security status, how they defined their own personal health status and status of having experienced an infectious disease, and 18 items to determine from which sources they obtained basic knowledge about health and diseases, the level of fear of infectious diseases, and levels of knowledge about the infectious routes and spread of diseases.

The CDRAPS, which is evaluated with a 5-point Likert-type scoring system, consists of 36 items in 6 subscales of common life risk awareness (9 items), personal protection awareness (8 items), protective behaviors (8 items), hand-washing behaviors (3 items), social protection awareness (4 items), and personal infection awareness (4 items). The Cronbach alpha value for the scale in general was 0.925. The reliability and validity of the CDRAPS has been previously evaluated in a city and towns in Türkiye in individuals aged >18 years (overall Cronbach alpha: 0.91) (11).

Statistical analysis

Data obtained in the study were analyzed statistically using IBM SPSS vn. 22 software (IBM SPSS for Windows version 22, IBM Corporation, Armonk, NY, USA). The conformity of quantitative data to normal distribution was assessed with the Kolmogorov-Smirnov test. Two groups of variables not showing normal distribution were compared using the Mann Whitney U-test, and in the comparisons of more than two groups, the Kruskal Wallis H-test was applied. For post-hoc analyses (paired comparisons), the Dunn test was used. The reliability of the factors and the scale was examined with the Cronbach alpha coefficient. Results were stated as median and interquartile range (IQR) (1st quartile (Q1)-3rd quartile (Q3)) values for continuous variables and as number (n) and percentage (%) for categorical values. A value of $p<0.05$ was accepted as statistically significant.

Ethical Consideration

Ethics committee approval and informed consent were obtained from KSU Medical Research Ethics Committee with the decision numbered 03 dated 11.07.2023. The study was carried out in accordance with the Declaration of Helsinki.

Results

Table 1. **Sociodemographic data of the students (n=750)**

Variables	n	(%)
Age group		
18-30	717	(95.9)
31-40	23	(3.1)
41-50	6	(0.8)
51 years and above	2	(0.3)
Gender		
Female	594	(79.2)
Male	156	(20.8)
Living place		
City center	472	(62.9)
Town	160	(21.3)
Village	118	(15.7)
Department studied		
Faculty of education	65	(8.7)
Faculty of economics and administrative sciences	14	(1.9)
Faculty of engineering and architecture	12	(1.6)
Faculty of health sciences	92	(12.3)
Faculty of medicine	12	(1.6)
Faculty of agriculture	23	(3.1)
Healthcare higher education	104	(13.9)
Vocational school of health services	372	(49.7)

Vocational school	35	(4.7)
Others (Faculty of forestry, Faculty of science, Faculty of theology etc.)	20	(2.7)
What grade are you in?		
First class	364	(48.5)
Second class	304	(40.5)
Third class	33	(4.4)
Fourth class and above	49	(6.5)
Marital status		
Married	50	(6.7)
Single	700	(93.3)
Income level of your family		
5500 TL and below	157	(21.1)
Between 5501-8500 TL	223	(30.0)
Between 8501-10000 TL	152	(20.5)
Between 10001-15000 TL	118	(15.9)
15001 TL and above	93	(12.5)
Do you have social security?		
Yes	457	(60.9)
No	293	(39.1)
What infectious diseases have you had?		
I did not have any infectious diseases	94	(12.5)
Flu	363	(48.4)
Covid-19	215	(28.7)
Measles	44	(5.9)
Other (chickenpox, scabies, tetanus, hepatitis, etc.)	34	(4.5)

A survey was conducted with a total of 750 university students to evaluate their health literacy status regarding infectious disease risk awareness and protection. The 750 study participants comprised 79.2% females and 20.8% males, with 95.9% in the 18-30 years age range. More than half of the students (62.9%) were living in the city center, 21.3% in towns, and 15.7% in villages. Of the whole sample, 77.5% were studying in a department related to healthcare, 48.5% were in the first year of study, and 40.5% were in the second year. The vast majority of the students (93.3%) were single, and 39.1% did not have healthcare insurance. A history of infectious disease was reported by 87.5% of the students, of which almost half (48.4%) had had influenza (Table 1).

Table 2. **Levels of knowledge of the students about infectious diseases**

Information about infectious diseases	n	(%)
Major source of information		
Internet	509	(31.3)
School	227	(13.9)
Healthcare Specialists	336	(20.7)
Television	140	(8.6)
Health books	162	(10.0)
Friends	87	(5.3)
Family/relative	119	(7.3)
Health magazines	46	(2.8)
Other (neighbor, brochure)	2	(0.1)
Do infectious diseases scare you?		
Yes	584	(77.9)
No	166	(22.1)
Are all infectious diseases transmitted through the air?		
Yes	46	(6.1)
No	658	(87.7)
No idea	46	(6.1)
Can an infectious disease spread to all countries of the world?		
Yes	715	(95.3)
No	19	(2.5)
No idea	16	(2.1)
Are communicable diseases an infectious disease?		
Yes	479	(63.9)
No	123	(16.4)
No idea	148	(19.7)

Infectious diseases are caused only by microorganisms		
True	568	(75.7)
Wrong	37	(4.9)
No idea	145	(19.3)
Factors other than microorganisms are not necessary/effective for the occurrence of infectious disease		
Yes	121	(16.1)
No	433	(57.7)
No idea	196	(26.1)
Are infectious diseases transmitted only from person to person?		
Yes	27	(3.6)
No	684	(91.2)
No idea	39	(5.2)
Are there any infectious diseases transmitted from animals to humans?		
Yes	698	(93.1)
No	10	(1.3)
No idea	42	(5.6)

The students reported that they obtained information about infectious diseases mostly from the Internet (31.3%) followed by healthcare specialists (20.7%). Infectious diseases were feared by 77.9% of the students. Most of the students (87.7%) knew that infectious diseases were not spread only by the airway, and 95.3% knew that an infectious disease could spread to all countries of the world. That infectious diseases are communicable diseases was known by 63.9% of the students, and 75.7% knew that micro-organisms are the only agent of infectious diseases. More than half (57.7%) of the students stated that factors other than micro-organisms are necessary for the development of an infectious disease. Of the total sample, 91.2% of the students knew that infectious diseases do not spread only from person to person, and 93.1% knew that there are infectious diseases that spread from animals to humans (Table 2).

The CDRAPS total points were mean 142.00 (130.00-153.00). The mean subscale points were determined to be 33.00 (28.00-36.00) for common life risk awareness, 33.00 (30.00-35.00) for personal protection awareness, 31.00 (27.00-34.00) for protective behaviours, 13.00 (12.00-15.00) for hand-washing behaviours, 16.00 (14.00-17.00) for social protection awareness, and 17.00 (16.00-19.00) for personal infection awareness.

Table 3. **CPRADS points according to age groups**

	Age groups				
	18-30	**31-40**	**41-50**	**51 years and above**	
Factors	**Median(Q1-Q3)**	**Median(Q1-Q3)**	**Median(Q1-Q3)**	**Median(Q1-Q3)**	**p**
Factor 1	33,00(28.00-36.00)	35.00(30.00-38.00)	36.00(30.00-36.00)	41.00(38.00-44.00)	0.079
Factor 2	33.00(30.00-35.00)	33.00(32.00-36.00)	33.00(27.00-34.00)	32.50(32.00-33.00)	0.407
Factor 3	31.00(27.00-34.00)	32.00(28.00-37.00)	30.00(25.00-33.00)	32.00(32.00-32.00)	0.514
Factor 4	13.00(12.00-15.00)	14.00(12.00-15.00)	12.50(12.00-13.00)	14.50(14.00-15.00)	0.439
Factor 5	16.00(14.00-17.00)	16.00(15.00-16.00)	14.00(13.00-16.00)	18.50(17.00-20.00)	0.215
Factor 6	17.00(16.00-19.00)	17.00(16.00-19.00)	15.00(14.00-16.00)[a]	19.00(18.00-20.00)	**0.017***
Scale General	142.00(130.00-152.00)	148.00(138.00-155.00)	139.50(118.00-145.00)	157.50(157.00-158.00)	0.107

CDRAPS: Communicable Diseases Risk Awareness and Protection Scale
Kruskal Wallis H test;a:0.05:post-hoc:Dunn test; *the difference between the groups is significant; the difference between the 18-30 and 41-50 age groups is significant; Factor1: Common life risk awareness; Factor 2 : Self-protection awareness; Factor 3: Protection behaviors; Factor 4: Handwashing behaviors; Factor 5: Social protection awareness; Factor 6: Personal contagion awareness.

The personal infection awareness subscale points were determined to be higher for the students in the 18-30 years age range compared to those aged 41-50 years (Table 3)

Table 4. **CPRADS points according to gender**

	Gender		
	Female	**Male**	
Factors	**Median (Q1-Q3)**	**Median (Q1-Q3)**	**p**
Factor 1 (Common life risk awareness)	34.00(28.00-36.00)	30.00(25.00-36.00)	**0.001***
Factor 2 (Self-protection awareness)	33.00(31.00-36.00)	32.00(28.00-34.00)	**p<0.001***
Factor 3 (Protection behaviors)	31.00(28.00-34.00)	31.50(26.50-33.00)	0.353
Factor 4 (Handwashing behaviors)	13.00(12.00-15.00)	13.00(12.00-15.00)	0.669

Factor 5 (Social protection awareness)	16.00(14.00-17.00)	16.00(14.00-17.00)	0.891
Factor 6 (Personal contagion awareness)	17.50(16.00-19.00)	16.00(15.00-19.00)	**p<0.001***
Scale General	143.00(132.00-153.00)	139.00(121.50-150.50)	**0.001***

CDRAPS: Communicable Diseases Risk Awareness and Protection Scale
Mann Whitney U test; a:0.05;* the difference between the groups is statistically significant.

Comparisons of the CDRAPS points were made according to gender. The common life risk awareness, self-protection awareness, personal infectious awareness subscale points, and the mean total points of the scale were determined to be significantly higher for female students than for male students (p=0.001, p<0.001, p<0.001, p=0.001, respectively) (Table 4).

Table 5. **CPRADS points according to place of residence**

Factors	Living place			
	City Median(Q1-Q3)	Town Median(Q1-Q3)	Village Median(Q1-Q3)	p
Factor 1 (Common life risk awareness)	33.00(28.00-36.00)	34.00(29.00-36.50)	32.00(26.00-36.00)	0.113
Factor 2 (Self-protection awareness)	33.00(31.00-35.00)	33.00(31.00-35.50)	32.00(28.00-35.00)	0.116
Factor 3 (Protection behaviors)	31.00(27.00-34.00)	32.00(28.00-34.00)	**30.00(27.00-33.00)**[a,b]	**0.017***
Factor 4 (Handwashing behaviors)	14.00(12.00-15.00)	13.00(12.00-15.00)	**12.50(12.00-14.00)**[a,b]	**0.013***
Factor 5 (Social protection awareness)	16.00(14.00-17.00)	16.00(14.00-18.00)	16.00(14.00-16.00)	0.057
Factor 6 (Personal contagion awareness)	17.00(16.00-19.00)	17.00(16.00-20.00)	17.00(16.00-19.00)	0.242
Scale General	142.00(130.00-153.00)	145.00(134.00-153.00)	**139.00(127.00-148.00)**[b]	**0.011***

CDRAPS: Communicable Diseases Risk Awareness and Protection Scale
Kruskal Wallis H test;a:0.05:post-hoc:Dunn test; *The difference between groups is significant; [a]The difference between the village and the city center is significant; [b]The difference between village and town is significant.

Comparisons of the CDRAPS points were made according to the place of residence. The mean points of protective behaviors and hand-washing behaviors of the CDRAPS subscales were determined to be significantly lower for students who lived in a village compared to those who lived in towns and cities (p=0.017, p=0.013). The mean total points of the scale were determined to be significantly lower for students who lived in a village compared to those who lived in towns (p=0.011) (Table 5).

Table 6. **CPRADS points according to departments**

Departments	Common life risk awareness Median(Q1-Q3)	Self-protection awareness Median(Q1-Q3)	Protection behaviors Median(Q1-Q3)	Handwashing behaviors Median(Q1-Q3)	Social protection awareness Median(Q1-Q3)	Personal contagion awareness Median(Q1-Q3)	Scale General Median(Q1-Q3)
Faculty of Education	32.00(26.00-37.00)	33.00(31.00-36.00)	30.00(26.00-32.00)	13.00(12.00-15.00)	16.00(13.00-16.00)	18.00(16.00-19.00)	138.00(126.00-150.00)
Faculty of economics and administrative sciences	35.00(22.00-38.00)	32.00(29.00-35.00)	29.50(24.00-33.00)	12.00(12.00-14.00)	15.00(14.00-16.00)	16.00(15.00-19.00)	137.00(119.00-148.00)
Faculty of engineering and architecture	33.50(26.00-36.00)	34.00(31.50-36.50)	28.50(26.00-34.50)	13.50(13.00-14.00)	15.00(13.00-17.00)	18.00(15.50-19.00)	140.00(124.00-158.00)
Faculty of Health Sciences	35.00(28.00-37.00)	33.00(31.00-36.00)	30.50(27.00-33.00)	13.00(12.00-15.00)	15.00(14.00-17.00)	17.00(16.00-19.00)	143.50(130.50-153.00)
Faculty of medicine	27.50(24.00-35.50)	34.00(32.00-35.00)	29.00(27.50-31.50)	13.00(12.00-14.00)	16.00(14.00-17.00)	17.00(16.50-19.00)	140.00(129.50-148.00)

Faculty of Agriculture	32.00(27.00-37.00)	32.00(28.00-35.00)	31.00(28.00-34.00)	12.00(12.00-14.00)	16.00(14.00-17.00)	17.00(16.00-20.00)	143.00(121.00-156.00)
Healthcare higher education	33.00(27.00-36.00)	32.00(30.00-34.00)	**32.00(28.00-34.00)**[a]	13.00(12.00-15.00)	**16.00(15.00-18.00)**[c]	17.00(16.00-19.00)	143.00(129.00-151.00)
Vocational school of health services	33.00(28.00-36.00)	33.00(30.00-36.00)	**31.00(28.00-35.00)**[b]	14.00(12.00-15.00)	**16.00(14.00-17.00)**[d]	18.00(16.00-19.00)	143.00(133.00-154.00)
Vocational school	34.00(26.00-38.00)	32.00(29.00-35.00)	30.00(25.00-33.00)	13.00(12.00-15.00)	15.00(13.00-16.00)	17.00(16.00-19.00)	141.00(125.00-155.00)
Others (Faculty of Science faculty of forestry etc.)	30.50(27.50-35.00)	32.50(28.00-34.00)	28.50(25.50-34.00)	12.00(11.50-14.00)	13.00(12.50-16.00)	17.00(14.50-17.00)	135.00(125.00-146.50)
p	0.517	0.552	**0.042***	0.153	**0.026***	0.188	0.326

CDRAPS: Communicable Diseases Risk Awareness and Protection Scale
Kruskal Wallis H test;a:0.05:post-hoc:Dunn test; * The difference between groups is significant; [a]The difference between the faculty of education and the Healthcare higher education is significant; [b]The difference between the faculty of education and the vocational school of health services is significant; [c]The difference between the healthcare higher education and the other is significant; [d]The difference between the vocational school of health services and the other is significant.
Factor1: Common life risk awareness; Factor 2 : Self-protection awareness; Factor 3: Protection behaviors; Factor 4: Handwashing behaviors; Factor 5: Social protection awareness; Factor 6: Personal contagion awareness.

Comparisons of the CDRAPS points were made according to the department of study of the students. The mean points of the CDRAPS protective behaviours subscale were determined to be significantly higher for students in healthcare higher education and vocational school of health services education than for the students in the education faculty, and the social protection awareness subscale points were significantly higher than for students in other departments (p=0.042, p=0.026) (Table 6).

Discussion

Becoming knowledgeable on the subject of protecting one's health is one of the most important factors laying the ground for an individual to be healthy. It is vital at this stage to access accurate and reliable health information. The intensification of Internet use in recent years has led to problems in accessing correct information within the information pollution experienced. The complexity and density of health-related information on the Internet can cause patients to be misinformed. However, as the Internet allows users to access the desired information very quickly, it has become one of the most attractive tools when the subject is health (12). According to the 2023 Household Use of Information Technology Survey by the Turkish Statistics Institute, the rate of Internet use by individuals aged 16-74 years was 87.1% in 2023, 90.9% in males and 83.3% in females, and 66.3% of Internet users in the last 3 months were using it to search for health-related information (13). In the current study, the Internet was the leading source used to obtain basic health and disease information (information about infectious diseases) at the rate of 31.3%, while the leading reliable source was healthcare professionals at the rate of 47.2%, followed by the Internet at 16.2%, and television was ranked sixth at 2.3% (Table 2).

In a study by Genç (14) of individuals aged 21-30 years, television was found to be more reliable by those who preferred traditional media as a source of information, and it was stated by those who preferred social media that Internet news and healthcare websites were more reliable. Çerçi et al. (15) determined that the information source used most by social media users was television, followed by the Internet. The information source found to be the most reliable by far was the Ministry of Health announcements followed by the Ministry of Health website. In another study, the majority of participants were determined to have obtained information about COVID-19 from social media and the Internet (16).

Although most infectious diseases, which are of critical importance in medicine, have been eradicated or brought under control by modern medicine, many continue to be a problem (17). Infectious diseases have caused outbreaks throughout the world, with fear, anxiety, and panic experienced in the affected communities, and an increase has been seen in morbidity, disability, and mortality rates, together with workforce losses (18,19,20). In addition to the fear that they or a loved one would be lost, the COVID-19 pandemic led to the fear of not being able to reach healthcare facilities, the fear that food availability problems would be experienced, and the fear of becoming infected at any moment (21).

In the current study students that participated in the current study comprised 79.2% females, 20.8% males, 95.9% were aged 18-30 years, and 93.3% were single (Table 1). Of the total participants, 77.9% stated that

they feared infectious diseases (Table 2). In a study by Gencer (22) about the fear of the coronavirus, those who experienced the greatest fear were in the 15-20 years age range, and it was concluded that as age increased, so the level of fear of the coronavirus decreased, and the level of fear of single participants was higher than that of those who were married or widowed. In another study related to COVID-19 by Öztürk et al. (23), it was seen that most of the participants feared a diagnosis of COVID-19 and this fear was at a higher level in female students. During the MERS outbreak, more than 80% of the population stated that they were afraid of MERS infection (24). Older individuals have experienced more negative events throughout their lifetimes than younger individuals, and this experience undoubtedly provides older people with an advantage. Younger individuals who are deprived of this advantage are more affected by situations such as an outbreak of infectious disease and may experience greater fear.

In the current study, the personal infection awareness subscale points were determined to be higher for the students in the 18-30 years age range compared to those aged 41-50 years (p=0.017) (Table 3). In a study of university students with a similar mean age about sexually transmitted diseases, Yaşar et al. (25) reported that personal infection awareness was high as the students stated that condom use and monogamy would be protective against sexually transmitted diseases. Ünsar et al. (26) conducted a study of university students with a mean age of 19.85±1.63 years and determined that a statistically significant majority of nursing students knew that the risk of infectious diseases such as HIV/AIDS, Hepatitis B, and Hepatitis C increased with an increasing number of sexual partners, that there was no protective vaccine against HIV/AIDS and Hepatitis C infection, that these diseases can be spread through razors, hairdressing, manicure, and pedicure equipment, and unprotected sexual intercourse, and that the spread of diseases can be prevented with the use of condoms during intercourse. Thus, nursing students were determined to have a high level of personal infection awareness. These findings could be attributed to a higher level of fear in young people as they do not have the experience of older people of negative events such as disease epidemics and therefore, they behave more carefully in respect of protection.

The results of the current study showed that female students had significantly higher CDRAPS total points (p=0.001) and common life risk awareness (p=0.001), personal protection awareness (p<0.001), and personal infection awareness (p<0.001) subscale points than male students (Table 4). These findings of infectious disease risk awareness and protection in the current study are consistent with the results of previous studies as generally females have been seen to have higher scores than males (16,27).

The population density in towns and cities causes the rapid spread of infectious diseases as people are in close contact with each other and the environment. The plague, cholera, and Spanish Flu in the past, and the 21st century, most diseases causing outbreaks such as SARS, Ebola, and COVID-19 have spread and maintained an effect in densely populated urban regions (28). In the current study students living in villages were found to have significantly lower mean points in the CDRAPS protection behaviors (p=0.017) and hand-washing behaviors (p=0.013) than the students living in towns and cities. The total scale score was also determined to be significantly low for students living in villages (p=0.011) (Table 5). Previous studies in the literature have shown that infectious diseases spread more rapidly in urban regions and these regions are more affected (17,28,29). In a study by Demir et al. (1) of students in a healthcare services further education college, the levels of knowledge about infectious diseases were determined to be statistically significantly higher in students living in towns than in those living in villages. In addition to not receiving sufficient education on subjects that are important in protection against infectious diseases, such as healthy nutrition and condom use to protect against sexually transmitted diseases, the problems experienced in obtaining healthy drinking and washing water, and inappropriate living conditions in a village could be the reasons for the low scores of protection behaviors and hand-washing behaviors of the current study students living in villages. As infectious diseases have a greater impact in urban regions, the participants living in the city center may have had experience and this could explain the higher scores obtained in the protection behaviors and hand-washing behaviors subscales.

In the current study, the mean points of the CDRAPS protective behaviors subscale were determined to be significantly higher for students in healthcare higher education and vocational school of health services education than for the students in the education faculty (p=0.042) (Table 6). In a previous study of healthcare students, Ateş et al. (30) showed that the majority of the students knew the importance of social isolation and personal hygiene as protection against infectious diseases, and they were aware that COVID-19 infection could be spread by touching one's face after having touched an infected surface. In contrast, Demir et al. (1) reported that students did not have sufficient knowledge of infectious diseases. Similar to the findings of the current study, Ünsar et al. (26) also determined that the protection behaviors of students in health-related departments were at a higher level compared to students in other departments. This can be attributed to lessons related to infectious diseases in the syllabus of students in health-related departments.

Conclusion

The results of this study demonstrated that students mostly preferred the Internet as a source of information on basic health and infectious diseases, that the majority of students feared infectious diseases, that the CDRAPS mean points were higher for females than males, that the CDRAPS points of students living in villages were lower than those of students living in towns and cities, and the CDRAPS points of students in health-related departments were higher than those of students in other departments.

To summarise, there can be said to be a need to develop the level of health literacy on the subject of CDRAP of students at KSU. Developing the health literacy of university students on this subject, and thereby developing personal care and social responsibility skills, will contribute to preventing the spread of infectious diseases to the general population. The health education of university students should be strengthened, and there should be evaluations of the proposal of adding lessons about infectious diseases to the syllabus of students in departments other than those related to healthcare. As the Internet is used most by students as the source of information about infectious diseases, there is a need for health-related information sources on the Internet that are not scientifically based to be audited and removed when necessary, to ensure that accurate and reliable information can be accessed.

Declaration

Abbreviations:

CDRAPS, Communicable Diseases Risk Awareness and Protection Scale
KSU, Kahramanmaraş Sutcu Imam University
HIV, Human Immunodeficiency Virus
AIDS, Acquired Immune Deficiency Syndrome
CA, California
USA, United States of America

Conflicts of interests:

The authors declare that there are no conflicts of interest.

Accessibility of data and materials:

The result of this research was extracted from the data gathered and analyzed based on the stated methods and materials. Original data and other supplementary data that support this research project can be made accessible if asked

Ethical Approval:

Ethics committee approval and informed consent were obtained from KSU Medical Research Ethics Committee with the decision numbered 03 dated 11.07.2023. The study was carried out in accordance with the Declaration of Helsinki. Students were informed about the purpose of the study.

Financial Support:

No funding was received for the preparation of this manuscript.

Authors' Contributions:

All authors contributed to data analysis, drafting or revising the article, gave final approval of the version to be published, and agreedto be accountable for all aspects of the work.

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