Original Article

Worry and hope levels of nursing students about climate change: A cross-sectional study

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Abstract

Objectives: Mitigating the health effects of climate change and ensuring social adaptation are considered among the new professional roles of nurses. It would be possible for nurses to manage the psychological reactions experienced in society toward the consequences of climate change only if they can direct their emotions to the right resources. This study aimed to determine nursing students' worry and hope levels about climate change.

Methods: This cross-sectional design study was conducted with 260 nursing students in Istanbul. Personal Information Form, Climate Change Hope Scale and Climate Change Worry Scale were applied to the participants.

Results: About 46.5% of the students participating in the study know global climate change, 58.5% know the effects of climate change on health, 70% follow the effects of climate change on health on the internet, and 68.1% of the students have no information about the institutions working on the effects of climate change on health. It was found that the participants had a mean of the hope scale score of 42.67±6.09 and a mean score of the worry scale of 33.72±7.83. Those who know climate change and its health effects, those who follow its effects on health, and those who know the institution working in this field have higher scores. A slightly significant correlation was found between the scale scores.

Conclusion: The findings indicate that the students who know climate change and its effects on health have higher worry and hope scores. The data can guide nursing students in coping with negative emotions and will contribute to the empowerment of future nurses by helping universities develop nursing curricula in this area.

Keywords: Nursing education; nursing student; climate change; hope; worry.

Many scientific studies and reports have identified climate change (CC) as a major threat to human and environmental health.[1,2] The issue of CC and its effects on health has become a high priority topic in many disciplines such as sociology, political science, communication, and anthropology, especially health and psychology. It is known that academics all over the world are conducting studies on the subject as well as policymakers are preparing action plans. However, industrial society and dependence on fossil resources prevent societal steps to stop global CC before it causes an ecological disaster.[3,4]

This hard-to-accept reality about CC creates anxiety and hopelessness. Forecasts for CC are often perceived as a disaster scenario. However, it causes social-emotional reactions that are difficult to cope with.[5] The health sector is predicted to face more respiratory and cardiac problems soon due to air pollution and intense greenhouse gasses. It is predicted that it will be challenging to cope with hunger, poverty, migrations, and infectious diseases.[6-8] The health sector is predicted to face more respiratory and cardiac problems soon due to air pollution and intense greenhouse gasses. It is predicted that coping with hunger, poverty, migrations, and infectious diseases will be difficult. It is accepted that all of these have the potential to bring climate anxiety to higher dimensions in the near future and elicit reactions such as hopelessness, powerlessness, guilt, and anxiety.[9]

Adverse effects such as drought, temperature changes, increase in water levels, forest fires, and natural disasters due to global CC can directly indirectly or acutely affect the mental health of individuals. Increasing environmental awareness, uncertainty, and difficulties in accessing livelihoods and health services can cause hopelessness, anxiety, stress, loneliness, anxiety, depression, and post-traumatic stress disorders in individuals. Therefore, social harmony deteriorates, and social commitment decreases. Social life will inevitably be negatively affected by this situation, and the continuity of society will be disrupted.[10-13] The literature has recently named this anxiety, which has developed against CC and environmental negativities, as ecological anxiety (eco-anxiety).[14]

Nurses constitute the most populous group in the health workforce. During the undergraduate period, raising awareness of CC is an essential step to take.[15] Nursing students aim to become individuals sensitive to environmental and public health, can control their emotional states, and develop new technical skills.[16] It is expected that nurses will be able to manage the psychological reactions experienced in society by directing their own emotions to the right sources. Creating a sustainable future is only possible by equipping nursing students with knowledge and skills on CC. One of the obstacles in front of these students to gain knowledge and skills is hopelessness and anxiety. Gaining the proper knowledge to students and enabling them to use it daily is directly related to their level of hope and belief. For nurses to successfully protect and improve their health, one of their professional roles, it is necessary to employ nurses trained in CC. It is essential to train a nurse workforce that is knowledgeable about CC, aware of its risks and possibilities, and has the emotional competence to participate in this field. In light of the data obtained, it is expected that the issues related to CC will be added to the undergraduate and graduate curricula. It will guide the development of a program that covers economic, political, and sociocultural norms in this field.[17-19]

The study aims to shed light on the perceptions of future health professionals about CC by revealing nursing students' worry and hope levels about CC.

Research Questions

What is the worry of nursing students about CC?
What is the hope of nursing students about CC?

Materials and Method

Type and Design

This is a descriptive and cross-sectional study.

Place and Date

Data were collected between March and April in the Spring semester of the 2021–2022 Academic Year in a foundation university in Türkiye.

What is presently known on this subject?
- Global climate change is a significant threat to the environment and human health. It is predicted that the need for health services will increase in the future. This situation creates anxiety and hopelessness in health workers and society. These emotions are difficult to deal with.

What does this article add to the existing knowledge?
- It has been revealed that nursing students have high levels of hope accompanying moderate anxiety. Among the results obtained, fear and helplessness come to the fore.

What are the implications for practice?
- It is essential to increase nurses' awareness so they can control their own emotions. In this way, it can be ensured that nurses' health advocacy and leadership roles are reinforced and that they participate in studies on nursing curricula and health policies.

Population and Sample

The subject of CC was not included in any part of the curriculum, so all nursing students were included in the sample, and no sample selection method was used (N: 260). Valid data were obtained from 260 students during the research process.

Data Collection Tools

The data collection tools were the Personal Information Form which was developed by the researchers after reviewing the literature, the Climate Change Hope Scale (CCHS), and Climate Change Worry Scale (CCWS).

Personal Information Form

It includes nine questions about students' sociodemographic characteristics and their knowledge about CC.

CCHS

The Scale was developed by Lİ and Monruo (2018)[20] and was adapted into Turkish by Gezer and İlhan (2020).[21] Based on the context, individuals need to know their hopes, awareness, and knowledge about the issue to put forward an effective struggle against CC. The scale is a five-point Likert type, ranging from I agree (5) to I totally disagree. The scale score is calculated by taking the averages. The scale consists of 11 questions and three sub-dimensions: individual domain, social domain, and hopelessness domain. The scale score is calculated by taking the averages. Gezer and İlhan (2020)[21] found Cronbach's alpha coefficient as 0.74 for the overall scale, 0.56 for the individual domain, 0.65 for the social domain, and 0.62 for the despair domain. Scale usage permission was obtained through e-mail on October 16, 2021. For this study, Cronbach's alpha coefficient was found to be 0.70 for the overall scale, 0.78 for the individual domain, 0.77 for the social domain, and 0.72 for the hopelessness domain.

CC Worry Scale

The scale developed by Stewart (2021)[22] was adapted into Turkish by Gezer and İlhan (2021).[23] The scale consists of 10 items that measure individuals' CC anxiety levels. In the 5-point Likert-

type scale, participants were asked "always" (5), "often" for each question. A score of 1–5, including (4), "sometimes" (3), "rarely" (2), and "never" (1) options is presented. The scale consists of two sub-dimensions: Anxiety and feeling of helplessness. The scale score is calculated by taking the averages. Gezer and İlhan (2021)[23] found Cronbach's alpha coefficient to be 0.91 for the overall scale, 0.87 for worry, and 0.83 for feelings of helplessness in its sub-dimensions. Scale usage permission was obtained via e-mail on October 17, 2021. For this study, Cronbach's alpha coefficient was found to be 0.90 for the overall scale, 0.85 for anxiety, and 0.76 for feelings of helplessness.

Data Collection Process

During the data collection, the participants' volunteers were taken as the basis. The data were collected through an online questionnaire after obtaining the necessary permissions. Surveys: It was sent to the participants through the survey link. The participants could access the survey questions after marking the informed consent form on the first page of the form as "I accept". The same person was able to fill out the same form only once.

Ethics

The data were collected after obtaining ethics committee permission from University Social Sciences Ethics Committee (June 14, 2022). Ethical approval number is 235. The study was carried out in accordance with the Helsinki Declaration.

Data Analysis

The data obtained in the study were analyzed using SPSS (Statistical Package for the Social Sciences) for Windows 25.0 program. The significance value was accepted as $p < 0.05$. Number, percentage, mean, and standard deviation were used as descriptive statistical methods in the evaluation of the data. Normal distribution test was applied to determine whether the research variables were normally distributed. It was determined that the research variables did not show normal distribution ($p < 0.05$). Mann–Whitney U (for two group comparisons) and Kruskal–Wallis (for three or more group comparisons), which are nonparametric analysis methods, were used to analyze the variables for which the normality assumption was not met. Spearman correlation analysis was used to determine the relationship between the continuous variables of the study.

Results

It was determined that 63.5% of the students participating in the study were between the ages of 18 and 20, 26.2% were between the ages of 21 and 22, 6.9% were between the ages of 23 and 24 and 3.5% were 25 years and older. Table 1 presents that 76.2% of the students were female, 69.2% had an income equal to their expenses, 40.4% grew up in a big city/metropolis and 69.6% lived with their families.

Table 2 presents that 46.5% of the students who participated in the study had information about global CC, 58.5% knew

the effects of CC on health, 70% followed the effects of CC on health on the internet, and 68.1% had no information about the institutions in Türkiye that conduct studies on the effects of global CC on health.

Table 1. Findings on the participant descriptive characteristics (n=260)

Descriptive Characteristic	n	%
Age		
18–20	165	63.5
21–22	68	26.2
23–24	18	6.9
25 and above	9	3.5
Gender		
Female	198	76.2
Male	62	23.8
Socioeconomic level		
Low-income level	46	17.7
Middle-income level	180	69.2
High-income level	34	13.1
Growing region		
Village	12	4.6
Town	56	21.5
Small city	87	33.5
Big city/metropolis	105	40.4
Currently living person		
Family	181	69.6
Friend	14	5.4
Dormitory-hostel	53	20.4
Alone	12	4.6

Table 2. Findings related to the climate change thoughts of the participants (n=260)

	n	%
Are you information about global climate change?		
Yes	121	46.5
No	26	10.0
Partially	113	43.5
Are you know of the effects of climate change on health?		
Yes	152	58.5
No	22	8.5
Partially	86	33.1
Where do you follow the effects of climate change on health?		
Internet	182	70.0
Newspaper/Magazine	20	7.7
I don't follow	58	22.3
Are there any institutions in Türkiye that conduct studies on the effects of global climate change on health?		
Yes	31	11.9
No	52	20.0
I don't know	177	68.1

Table 3. The means of scores the CCHS and CCWC

	Mean±SD	Min-Max
CCHS total score	42.67±6.09	21-55
CCHS individual sub-dimension	11.47±2.51	3-15
CCHS social sub-dimension	19.93±3.68	5-25
CCHS hopelessness sub-dimension	11.27±3.11	3-15
CCWC total score	33.72±7.83	10-50
CCWC anxiety sub-dimension	23.49±5.35	7-35
CCWC helplessness sub-dimension	10.23±2.77	3-15

CCHS: Climate change hope scale; CCWC: Climate change worry scale.

Table 3 shows the mean total score of the CCHS was 42.67±6.09, and the students who participated in the study had high levels of hope for preventing CC. When the mean scores of the sub-dimension of the CCHS were examined; the mean score of the individual sub-dimension was 11.47±2.51, the mean score of the social sub-dimension was 19.93±3.68, and the mean score of the hopelessness sub-dimension was 11.27±3.11.

Table 3 presents the mean total score of the CC Worry Scale (CCWC) was 33.72±7.83, and the level of worry about CC was moderate. When the mean scores of the sub-dimensions of the CCWC were analyzed, the mean score of the anxiety sub-dimension was 23.49±5.35, and the mean score of the helplessness sub-dimension was 10.23±2.77.

When the total score of the CCHS was compared with the descriptive characteristics and CC thoughts of the students on Table 4, it was found that there was a statistically significant difference between the place where the students lived (p=0.006), having knowledge about global CC (p=0.005), being aware of the effects of global CC on health (p=0.037) and having knowledge of the institutions (p<0.001). Students living with their families, those who had information about global CC, those who knew about the effects of global CC on health, and those who had information about the institutions had higher total scores of CCHS.

When the individual sub-dimension of the CCHS and the descriptive characteristics and CC thoughts of the students who participated in the study were compared, it was found that there was a statistically significant difference between the place where the students lived (p=0.019), having knowledge about global CC (p<0.001), being aware of the effects of global CC on health (p<0.001), following the effects of global CC on health (p<0.001) and having knowledge about the institutions (p<0.001). It was found that students living with their families and in dormitories had higher individual sub-dimension scores of CCHS than students living alone, those who had information about global CC, those who knew the effects of global CC on health, those who followed the effects of global CC on health, and those who had information about the institutions. When the social sub-dimension of the CCHS and the descriptive characteristics and CC thoughts of the students who participated in the study were compared, it was found

that there was a statistically significant difference between the students' knowledge of the institutions (p<0.001) (Table 4). Those who had information about the institutions had higher scores in the social sub-dimension of the CCHS.

When the descriptive characteristics and CC thoughts of the students were compared with the hopelessness sub-dimension of the CCHS on Table 4, it was found that there was a statistically significant difference between the age (p=0.006) and gender (p=0.001) of the students (Table 4). The hopelessness sub-dimension scores of the students in the 18–20 age range were found to be higher than those in the 21–22 age range. Female students were found to have higher CCHS hopelessness sub-dimension scores than male students.

When the CCWS total score of the students participating in the study was compared with the descriptive characteristics and CC thoughts, it was found that there was a statistically significant difference between having knowledge about global CC (p<0.001), being aware of the effects of global CC on health (p<0.001), following the effects of global CC on health (p=0.040), and having knowledge of the institutions (p<0.001) (Table 4). Those who had information about global CC, those who knew the effects of global CC on health, those who followed the effects of global CC on health, and those who had information about the institutions had higher total scores on the CCWS.

When the anxiety sub-dimension of the CCWS was compared with the descriptive characteristics and CC thoughts of the students who participated in the study, it was found that there was a statistically significant difference between having knowledge about global CC (p<0.001), being aware of the effects of global CC on health (p<0.001), following the effects of global CC on health (p=0.025), and having knowledge about the institutions (p<0.001) (Table 4). Those who had information about global CC, those who knew the effects of global CC on health, those who followed the effects of global CC on health, and those who had information about the institutions had higher scores in the anxiety sub-dimension of the CCWS.

When the descriptive characteristics and CC thoughts of the students who participated in the study were compared with the helplessness sub-dimension of the CCWS, it was found that there was a statistically significant difference between having knowledge about global CC (p<0.001), being aware of the effects of global CC on health (p<0.001), and having knowledge about the institutions which presented in Table 4 (p=0.001). Those who had information about global CC, those who knew the effects of global CC on health, and those who had information about the institutions had higher scores in the helplessness sub-dimension of the CCWS.

Table 5 presents that there was a moderately significant positive relationship between the total scale score of CCHS and the individual sub-dimension of CCHS (p<0.001), a highly significant relationship between the social sub-dimension (p<0.001), and a moderately significant positive relationship between the hopelessness sub-dimension (p<0.001). There was a

Table 4. Findings related to the comparison of the participants' descriptive characteristics and climate change thoughts with the CCHS and the CCWC

Descriptive characteristics and climate change thoughts	CCHS Total	CCHS individual	CCHS social	CCHS hopelessness	CCWS Total	CCWS anxiety	CCWS helplessness
Age							
18–20	137.17	128.53	131.70	142.88	130.51	131.04	130.22
21–22	119.69	135.50	129.26	108.69	128.82	129.07	128.01
23–24	130.44	145.69	137.75	112.53	126.53	130.50	117.64
25 and above	90.06	98.50	103.39	104.22	150.94	131.50	180.28
Test (X^2KW)/p	5.325/.149	2.832/.418	1.412/.703	12.492/.006*	0.751/.861	0.035/.998	4.603/.203
Gender							
Female	132.93	126.49	128.40	138.87	129.56	130.26	128.97
Male	122.73	143.30	137.19	103.77	133.49	131.27	135.40
Test (ZMWU)/p	-0.934/.350	-1.550/.121	-0.807/.419	-3.230/.001*	-0.359/.719	-0.093/.926	-0.591/.555
Socio-economic level							
Low-income level	120.10	129.46	117.71	129.00	143.64	143.04	143.05
Middle-income level	132.06	128.23	134.19	129.74	130.19	129.43	131.47
High-income level	136.31	143.94	128.25	136.53	114.35	119.18	108.37
Test (X^2KW)/p	1.165/.558	1.284/.526	1.815/.403	0.259/.879	2.982/.225	2.095/.351	4.310/.116
Growing region							
Village	128.00	153.50	107.63	108.46	158.46	160.75	151.04
Town	124.57	120.34	120.78	138.37	121.18	117.73	125.88
Small city	133.42	120.20	134.97	139.92	128.03	128.71	126.41
Big city/metropolis	131.53	141.82	134.60	121.02	134.32	135.33	134.00
Test (X^2KW)/p	0.514/.916	6.276/.099	2.694/.441	4.743/.192	2.890/.409	4.055/.256	1.612/.657
Currently living person							
Family	134.72	131.79	134.19	134.86	129.02	128.61	130.09
Friend	91.89	98.00	108.61	98.93	101.18	104.32	101.07
Dormitory-hostel	139.55	145.63	134.34	129.32	141.34	144.10	134.10
Alone	71.88	82.17	83.38	106.83	139.08	129.50	155.13
Test (X^2KW)/p	12.369/.006*	9.960/.019*	6.543/.088	4.336/.227	3.463/.326	3.562/.313	3.602/.308
Are you information about global climate change?							
Yes	143.02	154.24	135.36	128.66	155.64	155.30	152.94
No	91.77	96.88	112.96	107.67	112.65	106.04	124.98
Partially	126.00	112.81	129.34	137.73	107.69	109.57	107.74
Test (X^2KW)/p	10.696/.005*	23.965/.000*	1.967/.374	3.561/.169	25.435/.000*	24.762/.000*	21.530/.000*
Are you know of the effects of climate change on health?							
Yes	138.98	144.88	132.98	130.41	148.42	148.46	146.60
No	98.64	96.80	130.11	102.77	106.25	101.52	118.18
Partially	123.67	113.70	126.22	137.74	105.03	106.17	105.19
Test (X^2KW)/p	6.616/.037*	14.550/.001*	0.449/.799	3.842/.146	20.832/.000*	21.014/.000*	17.513/.000*
Where do you follow the effects of climate change on health?							
Internet	132.68	139.52	129.00	127.69	135.99	137.38	132.98
Newspaper/Magazine	130.48	146.63	138.05	119.73	143.50	136.33	152.38
I don't follow	123.68	96.63	132.61	143.04	108.79	106.89	115.18
Test (X^2KW)/p	0.632/.729	15.601/.000*	0.323/.851	2.311/.315	6.414/.040*	7.392/.025*	4.350/.114
Are there any institutions in Türkiye that conduct studies on the effects of global climate change on health?							
Yes	187.68	185.74	180.05	148.11	186.32	187.05	177.29
No	110.44	121.07	123.72	115.57	124.45	122.61	128.11
I don't know	126.38	123.60	123.81	131.80	122.50	122.92	123.01
Test (X^2KW)/p	22.238/.000*	19.406/.000*	15.444/.000*	3.857/.145	19.464/.000*	19.980/.000*	13.981/.001*

CCHS: Climate change hope scale; CCWC: Climate change worry scale.

Table 5. The relationship between the CCHS and the CCWC	CCHS Total		CCHS Individual		CCHS Social		CCHS Hopelessness		CCWS Total		CCWS Anxiety		CCWS Helplessness	
	r^a	p	r^a	p	r^a	p	r^a	p	r^a	p	r^a	p	r^a	p
CCHS Total	1	-												
CCHS Individual	0.671	0.001*	0.1	-										
CCHS Social	0.713	0.001*	0.480	0.001*	1	-								
CCHS Hopelessness	0.515	0.001*	0.008	0.901	−0.035	0.574	1	-						
CCWS Total	0.329	0.001*	0.423	0.001*	0.339	0.001*	−0.087	0.163	1	-				
İDEÖ Anxiety	0.350	0.001*	0.454	0.001*	0.335	0.001*	−0.081	0.193	0.975	0.001*	1	-		
İDEÖ Helplessness	0.247	0.001*	0.305	0.001*	0.303	0.001*	−0.091	0.145	0.917	0.001*	0.813	0.001*	1	-

aSpearman Correlation Coefficient *p<0,005 (statistically signifcant); CCHS: Climate change hope scale; CCWC: Climate change worry scale.

weakly significant relationship between the individual sub-dimension and the social sub-dimension of the CCHS (p<0.001).

It was found that there was a weakly significant relationship between the total scale score of CCHS and the total scale score of CCWS (p<0.001), a weakly significant relationship between the anxiety sub-dimension of CCWS (p<0.001), and a very weakly significant relationship between the helplessness sub-dimension of CCWS (p<0.001). A weakly significant relationship (p<0.001) was found between the individual and social sub-dimension of the CCHS and the anxiety sub-dimension and helplessness sub-dimension of the CCWS (Table 5).

A highly significant correlation was found between the total scale score of the CCWS and the anxiety sub-dimension and helplessness sub-dimension of the CCWS (p<0.001). A weakly significant relationship was found between the total scale score of the CCWS and the individual sub-dimension and social sub-dimension of the CCHS (p<0.001). A highly significant relationship was found between the anxiety sub-dimension and the helplessness sub-dimension of the CCWS (p<0.001) (Table 5).

Discussion

CC is a complex public health problem that affects the individual, family, society, and national health in all areas of nursing practice.[24,25] In this study, it can be stated that nursing students have knowledge about CC and the effects of CC on health. Still, they do not have information about the institutions working on the subject and do not follow the developments to a great extent. In the study conducted by Nzeobi et al.[26] (2020) in Nigeria, it was emphasized that a high majority of students (91.7%) had knowledge about CC, that diseases are caused by CC (61.1%), and that to a significant extent (78.7%) CC is human-induced. In addition, it is seen that most students think that the impact of CC is not very important and therefore have less personal worry about its impact. Still, they believe that CC is reversible (89.8%).[27]

According to the results of a qualitative study conducted by Kalogirou et al.[28] (2020) with nurses, it is stated that nurses are intensely worried about CC, but they do not have enough information about what to do or what they can do, and they do not understand the role of nurses regarding CC. In a study conducted with university students, Mugambiwa and Dzomonda (2018)[15] reported that North African University students did not have adequate knowledge about CC. In line with the results, it is seen that the level of knowledge and sensitivity toward CC is low in less developed countries. It can be said that the fact that CC shows its effect on many geographies every year can increase sensitivity to this issue.

Hope is a source of motivation to activate a behavior. Hope is also important in the context of C prevention, and its functionality should not be underestimated.[29] In this study, the students had high levels of hope for the prevention of CC. Students who lived with their families, those who had information about global CC, those who knew the effects of global

CC on health, and those who had information about the institutions on national health were found to have high levels of hope. The students between the ages of 18 and 20 years were found to have higher hopelessness sub-dimension scores than students between the ages of 21 and 22 years, and female students were found to have higher CCHS hopelessness sub-dimension scores than male students. Scriberras and Fernando (2022),[30] in their study evaluating the level of worry of adolescents towards CC (10–19 age range), emphasized that 13% of the participants had persistent worry, 24.9% had moderate worry, 24.3% had increasing worry, and the increasing worry levels of the 18–19 age group were higher than the other age groups. It is stated that the low level of knowledge about CC, the invisibility and abstractness of the consequences of CC have severe effects on mental, physical, and social health and lead to hopelessness.[31,32] In this study, it can be said that the high hope levels of the students who have information on the subject are due to their belief that studies in this direction will yield positive results by following the developments regarding the causes and consequences of CC.

Natural disasters such as drought, temperature differences, increases in water level, storms, and forest fires that occur with CC significantly affect individuals mentally; it is stated that it has important health effects such as hopelessness, stress, anxiety, loneliness, loss of sensation, introversion, and post-traumatic stress syndrome.[33] In this study, students' level of worry about CC was moderate. In addition, those who knew global CC, those who knew its effects on health, and those who followed national studies on global CC felt more worried, anxious, and helpless. Verplanken and Roy (2013)[34] emphasize that ecological anxiety about CC is psychopathological in many individuals, but this anxiety is not unwarranted. It was reported that most participants (91%) experienced intense anxiety about CC.[34] Another study emphasized that pessimistic and dissatisfied individuals who live in big cities are young, have a high level of education, have a high monthly income, and are pessimistic and dissatisfied are worried about CC (56%).[35] In the study, those who had information about global CC and the effects of global on health and those who had information about national institutions working on the effects of CC on health had higher scores in the anxiety and helplessness subscales of the CCWS. Gunasiri et al.[36] (2022) stated in their study that the negative effects of CC create worry, anxiety, stress, and hopelessness/powerlessness. It is emphasized that the vast majority of young people (93%) are worried about CC; the participants in the study feel powerless to stop CC and, therefore, hopeless.

CC is a major source of worry for young people, evoking negative emotions such as anxiety and helplessness. At the same time, negative emotions about CC can be a source of motivation for individuals to take action.[37] However, research on people's emotional experiences of CC shows that many people do not respond to CC not out of apathy but out of worry.[38,39]

In line with the results of this study, it can be thought that this is a result of the belief that governments will take the global steps to be taken. It can be stated that the attitude that the measures taken by individuals alone will be insufficient will bring along helplessness and anxiety.

Limitations

The study was conducted with students studying in the nursing department of one university only between the specified dates. The data are limited within the framework of the measurement tools used. The data cannot be generalized.

Conclusion

CC is a concern we share globally. However, it was revealed that nursing students had a high level of hope accompanying moderate anxiety. Within the scope of this result, the importance of including nursing students in initiatives to reduce CC and health risks through mitigation, adaptation, and resilience can be emphasized. Among the results obtained, feelings of anxiety and helplessness stand out. Developing coping skills by accepting negative emotions can be the first step. Properly managed anxiety and worry are key to developing solution-oriented actions. Educating nurses who will serve today and, in the future, can be supported with unique models developed to understand the effects of CC, adapt, and create emotional resistance. Nursing students' leadership skills can be guided academically and supported by personal development programs starting from the undergraduate period. Nursing students can be brought together with stakeholders from different disciplines working in the field of CC, and global sustainability research can be supported.

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