

Üniversite Öğrencilerinin Çevre Sorunlarına Yönelik Tutumları: Hemşirelik Örneği

University Students' Attitudes towards Environmental Problems: Nursing Sample

Ayşe Berivan BAKAN¹, Betül AKTAS², Hasret YALCINOZ BAYSAL³

¹Ağrı İbrahim Çeçen Üniversitesi, Sağlık Yüksekokulu, Hemşirelik Bölümü, Ağrı, Türkiye

²SANKO Üniversitesi, Sağlık Bilimleri Enstitüsü, Halk Sağlığı Hemşireliği, Gaziantep, Türkiye

³Atatürk Üniversitesi, Sağlık Bilimleri Enstitüsü, Halk Sağlığı Hemşireliği, Erzurum, Türkiye

ÖZ

Amaç: Bu çalışma hemşirelik bölümü öğrencilerinin çevre sorunlarına yönelik tutumlarını değerlendirmek amacıyla yapıldı.
Yöntem: Araştırma tanımlayıcı tipte bir araştırmadır. Bu araştırma Türkiye'nin doğusunda yer alan üç farklı üniversitede Aralık 2017-Mart 2018 tarihleri arasında 1047 üniversite öğrencisinin gönüllü katılımıyla yapıldı. Araştırmanın verileri, Tanıtıcı Bilgi Formu ve Çevre Sorunlarına Yönelik Tutum Ölçeği ile toplandı.
Bulgular: Araştırma kapsamındaki öğrencilerin Çevre Sorunlarına Yönelik Tutum Ölçeği puan ortalamasının 64.86 ± 10.22 olduğu, ölçekten en düşük 17 en yüksek 88 puan alındığı bulundu. Ölçek puanları kategorize edildiğinde ise öğrencilerin %67.3'ünün yüksek puan grubunda yer aldığı belirlendi. Kadınların ve çevreye yönelik davranışlarında "her zaman" duyarlılık gösteren öğrencilerin puan ortalaması istatistiksel açıdan anlamlı derecede yüksek bulundu ($p<0.05$).
Sonuç: Araştırmanın sonucunda hemşirelik eğitimi alan öğrencilerin çevre sorunlarına yönelik tutumlarının olumlu olduğu, çevreye yönelik davranışlarında duyarlılık gösterenlerin ve kadınların puan ortalamalarının daha yüksek olduğu bulundu.

Anahtar Kelimeler: Çevre, Hemşire, Tutum.

ABSTRACT

Objective: This study aims to assess nursing department students' attitudes towards environmental problems.
Methods: The present study is descriptive in nature. It was conducted with the volunteer participation of 1047 students in three different universities in the eastern part of Turkey between December 2017 and March 2018. Data were collected using the Socio-demographic Form and Attitudes towards Environmental Problems Scale.
Results: Results showed that students' Attitudes towards Environmental Problems Scale mean score was 64.86 ± 10.22 ; the scores obtained from the scale ranged between 17 and 88. Categorization of the scale scores showed that 67.3% of the students were in the high score group. Mean score of female students and students who were "always" sensitive to environment was found to be statistically higher ($p<0.05$).
Conclusion: In conclusion, nursing students had positive attitudes towards environmental problems, and mean scores were found to be higher in female students and students who were sensitive to behaviours about environment.

Key words: Attitude, Environment, Nurse.

1. INTRODUCTION

The World Health Organization reports that environment has a determinant role on human health and that the deteriorations/transformations/changes in the environment cause serious health problems. The most important problems that globally threaten human's health

Corresponding Author: Ayşe Berivan BAKAN

Ağrı İbrahim Çeçen University School of Health Department of Nursing, Ağrı, TURKEY
absavci77@gmail.com

Received Date: 08.03.2019 – Accepted Date: 19.05.2019

include the thinning of the ozone layer, global warming, energy crisis, air pollution, chemicals, medical waste, deforestation, decrease in water, soil loss, desertification, wide use of weapons, and population growth rate. In addition, climate changes caused by globalization and economic inequalities also cause an increase in environmental problems and negative effects on human health (1,2).

Environmental health, one of the fundamental concepts of the nursing science, has existed since Nightingale. One of the main functions of public health nursing is to protect, sustain and improve individual, family and public health and eliminate the factors that affect health in a negative way. The source of the factors having negative effects on human health could be personal as well as, physical, biological, and social environment. It is impossible to protect and improve health unless the physical, biological and social components causing threat for environmental health are organized in a way not to harm human health (3,4).

Public health nurses should provide cooperation and collaboration between public institutions, local governments, and media and press institutions to enhance public participation in the issues such as national and regional environmental protection, regaining the deteriorated environmental values, use of natural resources in a rational way, and prevention of environmental pollution so that environmental consciousness could be improved and disseminated. They should participate in international organizations about environmental education, follow meetings and benefit from the environmental education and systems of other countries, and share knowledge (3,5).

While negative behaviours play a role in the emergence of environmental problems, formation of behaviours are affected by individuals' environmental attitudes (6). Therefore, individuals' environmental attitudes are of importance for the prevention of environmental problems.

People's attitudes towards environment and ethical understanding seem to have great importance in protecting the environment and thus preventing environmental problems (2).

People who have negative attitudes towards environment remain irresponsible to environmental problems and create problems about environment (7). According to Bodur and Taşocak (8), nursing students demonstrate a medium level of sensitivity to environment, and students' environmental sensitivity is affected by a number of socio-demographic features such as class level, awareness of environmental organizations, participation in environment-related organizations such as seminars, scientific studies, panels and volunteer organizations and receiving environmental education. Ünver et al. (7) reported that nurses' awareness about environment was quite high, but their behaviours about attitudes were inadequate.

As individuals and members of a team that provides health service, nurses have important roles and responsibilities. In this regard, this study aims to identify nursing students attitudes towards environmental problems while their professional education is still going on.

2. MATERIAL AND METHODS

This study is cross-sectional. It was conducted in three universities in the eastern part of Turkey between December 2017 and March 2018. Target population of the study was totally 1580 students who were enrolled in the nursing departments of the universities involved in the study. Non-probability sampling method was implemented to reach them the study was

conducted with 1047 students who accepted to participate in the study. Data were collected using the Socio-demographic Form and Attitudes towards Environmental Problems Scale.

Socio-demographic Form: The form, which was developed by the researchers in line with the related literature, consists of 20 questions; nine questions aim to identify the socio-demographic features (age, gender, parents' education level, income, etc.) and eleven questions aim to identify individual behaviours about the issues such as waste management and the use of natural resources (9).

Attitudes towards Environmental Problems Scale: The scale, which was developed by Güven (10) in order to measure individuals' attitudes towards environment, has a Cronbach's alpha value of .88. Three-point Likert type scale which consists of 45 items included the analysis of 2 points for the "I agree" option, 0 point for the "I disagree" option, and 1 point for the "I am not sure" option. Negative items are scored reversely, and the scores range from 0 and 90. The analysis indicates low level for the scores between 0 and 30; medium level for the scores between 31 and 60; and high level for the scores between 61 and 90 (10). Cronbach's alpha value of the scale in our study was found .83.

Data were collected in the classroom environment by asking the participants who accepted to participate in the study to fill in the forms. Filling in each scale took about 5 to 10 minutes.

Independent Variables: Independent variables of the study are socio-demographic features of the participants.

Dependent Variables: Attitudes towards Environmental Problems Scale mean score is the dependent variable.

Statistical analysis

Data were analysed in the SPSS package programming using Kolmogorov Smirnov, Mann Whitney U and Kruskal Wallis analyses. Statistical significance was taken as $p < 0.05$.

Ethical approval

Prior to the study, ethics committee approval was obtained from Scientific Research Ethics Committee (document dated 01.11.2017. issue no: E.24649), and written approval was obtained from the institutions where the study was conducted. Verbal consent was obtained from the students who accepted to participate in the study after they were informed about the studytanımlayıcı olarak yapılmıştır.

3. RESULTS

Of all the students participating in the study, 75.2% were female; 29.8% were enrolled in the third year; and 41% of the mothers and 33.7% of the fathers were primary school graduates. In addition, 61.2% of the students had equal income to expenses; for 48.2% longest place of residence was a city; 89.5% were not members of any environmental organizations; 36.5% thought the education they received about ecological balance, weather, water and soil pollution were partially sufficient (see Table 1).

Table 1. Distribution of the Socio-demographic Features of the Participants

		N	%
Gender	Female	787	75.2
	Male	260	24.8
Class level	1 st year	255	24.4
	2 nd year	248	23.7
	3 rd year	312	29.8
	4 th year	232	22.2
Education Level of the Mother	Illiterate	237	22.6
	Literate	153	14.6
	Primary school	429	41.0
	Secondary School	99	9.5
	High school	100	9.6
	University	29	2.8
Education Level of the Father	Illiterate	55	5.3
	Literate	105	10.0
	Primary school	353	33.7
	Secondary School	183	17.5
	High school	212	20.2
	University	139	13.3
Income Level	Income less than expenses	273	26.1
	Income equal to expenses	641	61.2
	Income more than expenses	133	12.7
Longest place of residence	Village	226	21.6
	Town	316	30.2
	City	505	48.2
Membership to environmental organizations	Yes	110	10.5
	No	937	89.5
Do you believe that you have received adequate training to become aware of the issues of ecological balance, weather, water and soil pollution?	Yes	312	29.8
	No	353	33.7
	Partially	382	36.5
		$\bar{X} \pm SD$	
Age	20.36±1.68 (min 17 max 32)		

Of all the students, 64.4% were sometimes careful about not using consumer goods harmful to the ozone layer; 58.7% were sometimes careful about harmful chemicals while buying cleaning materials; and 45.1% were sometimes careful about preventing the contamination of the chemicals in the canalization. As for the use of water, 45.1% were always and 50.1% were sometimes thrifty; 60.9% were always careful about using both sides of the paper while writing something; and 71,9% always threw their waste in the wastebasket. 54.6% sometimes, 39.3% always threw waste in appropriate recycling boxes; 60% sometimes classified the waste, and 45.3% thought that it is never appropriate to perform any kinds of experiments on people and animals. 67% sometimes participated in scientific organizations such as seminars, panels and conferences and sometimes (57.6%) or always (28.9%) threw the used batteries in waste batteries basket (see Table 2).

Table 2. Students' Behaviours about Environment

	Always	Sometimes	Never
Are you careful about not using consumer goods that are harmful to the ozone layer (deodorants and other sprays)?	%18.2	%64.4	%17.2
Do you check whether the cleaning agents contain harmful chemicals while buying them?	%21.7	%58.7	%19.6
Are you thrifty about the use of water under all conditions?	%45.1	%50.1	%4.8
Are you careful about preventing the contamination of chemicals such as engine oil and paint to canalization?	%39.9	%45.1	%15.0
Are you careful about using both sides of the paper while writing?	%60.9	%36.2	%2.9
Are you careful about throwing the waste to the wastebasket?	%71.9	%26.2	%1.9
Do you throw the waste in the appropriate recycling boxes so that they can be recycled?	%39.3	%54.6	%6.1
Do you categorize the waste?	%24.5	%60.0	%15.6
Do you think it is appropriate to perform any kinds of experiments on humans and animals for humanity?	%11.4	%43.4	%45.3
Do you participate in scientific organizations such as seminars, panels and conferences about environment?	%12.3	%67.0	%20.6
Are you careful about throwing the waste batteries in the waste batteries basket?	%28.9	%57.6	%13.5

Students' Attitudes towards Environmental Problems Scale mean score was 64.86 ± 10.22 with scores ranging between 17 and 88. Categorization of the scale scores showed that 67.3% of the students were in the high score group (see Table 3).

Table 3. Students' Attitudes towards Environmental Problems Scale Mean scores and Distribution according to the Score Categorizations

Scale Scores (Categorized)	N	%
Low (0 to 30 points)	3	0.3
Medium (31 to 60 points)	339	32.4
High (61 to 90 points)	705	67.3
Scale Score (Mean)	$\bar{X} \pm SD$	
	64.86 \pm 10.22 (min 17 max 88)	

An analysis of the students' Attitudes towards Environmental Problems Scale mean scores showed that female students' scores were statistically higher than those of males ($p < 0.001$). No differences were found between the groups in terms of the class levels enrolled, education level of the parents, income level, longest place of residence, and membership to environmental organizations (see Table 4).

Table 4. Distribution of Attitudes towards the Environmental Problems Scale Scores according to Socio-demographic Features

		n	$\bar{X} \pm SD$		p
Gender	Female	787	65.79±9.96	U=80460.0	.000
	Male	260	62.06±10.51		
Year	1 st year	255	65.68±10.44	KW=3.991	.262
	2 nd year	248	65.07±9.65		
	3 rd year	312	64.37±10.18		
	4 th year	232	64.39±10.63		
Education Level of the Mother	Illiterate	237	65.07±10.44	KW=4.218	.519
	Literate	153	64.11±11.25		
	Primary school	429	65.07±9.97		
	Secondary School	99	65.41±9.88		
	High school	100	65.06±9.55		
Education Level of the Father	University	29	61.45±9.91	KW=8.437	.134
	Illiterate	55	65.55±8.08		
	Literate	105	65.06±10.52		
	Primary school	353	64.78±10.80		
	Secondary School	183	66.57±8.65		
Income Level	High school	212	64.36±10.58	KW=3.754	.153
	University	139	63.17±10.42		
	Income less than expenses	273	65.78±10.49		
Longest Place of Residence	Income equal to expenses	641	64.51±10.11	KW=.195	.659
	Income more than expenses	133	64.65±10.19		
	Village	226	65.46±10.86		
Membership to Environmental Organizations	Town	316	65.36±9.87	U=51168.5	.903
	City	505	64.28±10.13		
	Yes	110	64.93±11.79		
	No	937	64.85±10.03		

An analysis of students' Attitudes towards Environmental Problems Scale scores according to their behaviours about environment showed that mean scores of the students who were always careful about their behaviours about environment were significantly higher in comparison to others ($p < 0.01$, $p < 0.001$). Mean scores of those who sometimes participate in scientific organizations such as seminars, panels, and conferences were significantly higher in comparison to others ($p < 0.01$). No differences were found between the groups in terms of the adequacy of the trainings received (see Table 5).

4. DISCUSSION

This study, which aims to investigate nursing students' attitudes towards environmental problems, found that students' attitudes were affected by a number of variables.

Attitudes towards Environmental Problems Scale mean score of the participating students was found 64.86 ± 10.22 out of 90, which indicates that students' attitudes towards

Table 5. Distribution of Attitudes towards Environmental Problems Scale Mean Scores according to Behaviours about Environment

		n	$\bar{X} \pm SD$		p
Are you careful about not using consumer goods that are harmful to the ozone layer (deodorants and other sprays)?	Always	191	65.60±10.90	KW=20.94 1	.000
	Sometimes	676	65.56±9.74		
	Never	180	61.46±10.62		
Do you check whether the cleaning agents contain harmful chemicals while buying them?	Always	227	65.66±10.42	KW=9.908	.007
	Sometimes	615	65.22±10.20		
	Never	205	62.91±9.86		
Are you thrifty about the use of water under all conditions?	Always	472	66.01±9.71	KW=13.23 1	.001
	Sometimes	525	64.22±10.44		
	Never	50	60.68±11.12		
Are you careful about throwing the contamination of chemicals such as engine oil and paint to canalization?	Always	418	67.13±10.13	KW=36.19 7	.000
	Sometimes	472	63.66±10.13		
	Never	157	62.42±9.63		
Are you careful about using both sides of the paper while writing?	Always	638	66.41±10.02	KW=45.39 5	.000
	Sometimes	379	62.93±9.73		
	Never	30	56.23±12.22		
Are you careful about taking the waste to the wastebasket?	Always	753	66.09±9.87	KW=39.43 8	.000
	Sometimes	274	62.12±10.08		
	Never	20	56.10±13.71		
Do you throw the waste in the appropriate recycling boxes so that they can be recycled?	Always	411	66.51±9.82	KW=18.78 9	.000
	Sometimes	572	64.15±9.95		
	Never	64	60.64±12.98		
Do you categorize the waste?	Always	256	65.29±10.73	KW=11.38 5	.003
	Sometimes	628	65.34±9.92		
	Never	163	62.34±10.25		
Do you think it is appropriate to perform any kinds of experiments on humans and animals for humanity?	Always	119	61.23±11.34	KW=.24.6 32	.000
	Sometimes	454	64.37±10.03		
	Never	474	66.24±9.86		
Do you participate in scientific organizations such as seminars, panels and conferences about environment?	Always	129	62.73±10.36	KW=14.74 7	.001
	Sometimes	702	65.77±9.84		
	Never	216	63.17±10.97		
Are you careful about throwing the waste batteries in the waste batteries basket?	Always	303	66.25±9.98	KW=11.20 7	.004
	Sometimes	603	64.84±9.78		
	Never	141	61.95±11.90		
Do you believe that you have received adequate training about the ecological balance, weather, water and soil pollution issues?	Always	312	64.95±10.47	KW=4.939	.085
	Sometimes	353	64.02±10.23		
	Never	382	65.57±9.98		

environmental problems are highly positive. In the study conducted with preservice teachers, the same scale was used by Güven (10), and the mean score was found 46.22±5.73, which indicated medium level. Güven and Aydoğdu (11) found preservice teachers' behaviours about environment and environmental problems as medium level. Majority of the studies utilised the same or different scales in Turkey found that nursing students were moderately sensitive about

environment (8, 12, 13, 14). In comparison to other studies, this study indicated higher level of attitudes towards environmental problems, which is a pleasing finding.

No differences were found between Attitudes towards Environmental Problems Scale mean scores and socio-demographic features such as class level, education level of the parents, income level, longest place of residence, and membership to environmental organizations; only gender indicated significant differences. Female students' knowledge, attitudes and behaviours mean scores about environmental behaviours were reported to be higher (14, 15, 16, 17). In line with the literature, female students' scale mean scores were found to be significantly higher ($p < 0.001$). This finding could be associated with higher expectation of society from women, namely with gender roles.

Studies showed that students' Attitudes towards Environmental Problems mean scores were not affected by parents' education level. Similar studies also indicated no differences between students' environmental sensitivity mean scores and parents' education level (12, 14, 15). On the other hand, children who were raised in the families with high education level were reported to have higher environmental consciousness (13, 18). It is somewhat expected that parents with high education level become more conscious about environmental problems and demonstrate positive attitudes.

While this study found that parents' income level did not have effects on Attitudes towards Environmental Problems Scale scores, some other studies had opposite findings (19, 20, 21). Similarly, it was found that membership to environmental organizations did not affect Attitudes towards Environmental Problems scores. On the other hand, Beşer et al. and Bodur and Taşocak, in the study conducted with nursing students, found that attitudes towards environmental problems were significantly higher in students who had membership to environmental organizations (8, 16).

An analysis of students' Attitudes towards Environmental Problems according to their behaviours about the environment showed that mean scores of the students who responded to majority of the questions as always and who thought it is never appropriate to conduct experiments on people and animals were significantly higher in comparison to other students ($p < 0.01$). Mean scores of the students who reported that they "sometimes" participated in scientific organizations such as seminars, panels and conferences were significantly higher in comparison to others ($p < 0.01$). There were no significant differences between the groups in terms of the adequacy of the education about ecological balance, weather, water and soil pollution (see Table 5).

5. CONCLUSION

In conclusion, nursing students' attitudes towards environmental problems were found to be highly positive; scale mean scores were found to be high in female students and in students who reported to have demonstrated always positive behaviours about environment.

It is recommended that only political regulations are not sufficient to make people live in a healthier environment and that society should be made conscious about environment. In this regard, it is recommended that scientific meetings which deal with the issue in light of theoretical framework should be organized and awareness-raising activities should be conducted for nursing students, who have the potential to raise awareness in society due to their

roles. In addition, environment and social responsibility clubs could be formed by universities for students, which could turn positive attitudes into behaviours.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

Acknowledgments

The authors wish to thank all participants for engaging in this study. No financial support was received by any of the authors for the research of this article. The authors are grateful to Duygu Ispinar for proofreading the manuscript.

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