

# Attitudes Towards the Elderly Among Medical Students and Related Factors

Özgür Özerdoğan, Esen Eker, Buse Yüksel, Sibel Oymak, Coşkun Bakar

Department of Public Health, Çanakkale Onsekiz Mart University Faculty of Medicine, Çanakkale, Turkey

## Abstract

**BACKGROUND/AIMS:** this study aimed to determine the attitudes towards elderly people and related factors among medical students.

**MATERIALS AND METHODS:** The population of this cross-sectional study consisted of 385 students in the fourth, fifth and sixth classes studying at a medical school. The questionnaire consisted of sociodemographic characteristics, the Kogan's Attitude Toward Old People Scale and the Beck Hopelessness Scale. For the analysis of the data, difference between two means, variance test, Mann-Whitney U test and Spearman Correlation Analysis was used. For statistical significance,  $p < 0.05$  was accepted.

**RESULTS:** The study was conducted with 324 people, the mean age was  $23.3 \pm 1.4$  years, 34.6% was in fourth, 32.7% was in fifth, 32.7% was in the sixth year and 55.7% was female. The mean attitude score toward the elderly was  $100.7 \pm 14.4$ . The median value of KOGAN was higher in women than in men ( $p = 0.004$ ). There was a negative correlation ( $r = -0.251$ ,  $p < 0.001$ ) between KOGAN and the hopelessness scores. KOGAN score of those who had a history of living with an elderly individual in a period of their life was  $102.4 \pm 13.4$ , while it was  $99.9 \pm 14.8$  for others. It was  $102.1 \pm 13.0$  for those with a history of caring for a bed-dependent elderly person, and  $100.7 \pm 14.4$  for others ( $p > 0.05$ ).

**CONCLUSION:** Applications to be made to integrate medical students and elderly people and intensification of elderly care education will be effective in developing positive attitude among young people.

**Keywords:** Elderly, medical student, attitude, hopelessness

## INTRODUCTION

Aging means a person becoming dependent on others in physical, psychological, social and economic senses.<sup>1</sup> The elderly population is increasing both in countries around the world and in our country. It is predicted that in 2060 the elderly population will comprise 22.6% of the total population in Turkey, while it will reach 25.6% in 2080.<sup>2</sup> With the extension in life expectancies and increasing elderly population, elder health is encountered as a significant public health problem.

Diseases requiring attendance at health services and monitoring are observed more commonly in elderly individuals.<sup>3</sup> In the Turkish Incidence of Chronic Disease and Risk Factor Study, 74.1% of the population over the age of 65 in our country and 85.2% of the population over the age of 75 years were identified to have a health problem of any sort.<sup>4</sup> With the increase in the elderly population, the contact between elderly individuals and health workers has increased. Elderly individuals may be seen as a load by health workers due to lengthened hospital stays and difficult patient follow-up.<sup>5</sup> World Health Organization

**To cite this article:** Özerdoğan Ö, Eker E, Yüksel B, Oymak S, Bakar C. Attitudes Towards the Elderly Among Medical Students and Related Factors. Cyprus J Med Sci 2022;7(1):53-60

**ORCID iDs of the authors:** Ö.Ö. 0000-0003-2176-9073; E.E. 0000-0001-7288-4085; B.Y. 0000-0002-7959-618X; S.O. 0000-0002-1119-6446; C.B. 0000-0002-5497-2759.



**Address for Correspondence:** Özgür Özerdoğan

**E-mail:** drozgurozerdogan@gmail.com

**ORCID ID:** orcid.org/Ö.Ö. 0000-0003-2176-9073

**Received:** 06.02.2020

**Accepted:** 13.06.2020



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data show widespread negative attitudes toward the elderly.<sup>6</sup> Additionally, people may develop prejudices against aging with thoughts that it will limit freedom and the difficulties that will be experienced.<sup>7,8</sup> Due to all these reasons negative attitudes may be displayed toward elderly people within the health system. However, elderly individuals expect health workers to display different and positive attitudes.<sup>9</sup> There are many studies evaluating the attitudes of health workers and medical faculty students toward the elderly. These studies identified many factors like class, gender, living with elderly individuals and receiving geriatric training affected attitudes toward the elderly.<sup>7,10-12</sup>

Medical faculty studies will undertake significant duties within the health services for society in the future. Within an aging society, most groups served will comprise elderly people. With the increase in healthcare quality offered to the elderly; it is necessary to identify current attitudes toward the elderly. This study was completed with the aim of identifying attitudes toward the elderly and factors affecting this situation among students in different classes attending Çanakkale Onsekiz Mart University Faculty of Medicine. In the long term, as stated in the Pre-Graduation Medical Training National Core Education Program, in line with biopsychosocial and cultural perspectives,<sup>13</sup> the target is to organize new training strategies ensuring the possibility of training doctors with the development of positive attitudes toward the elderly.

## MATERIALS AND METHODS

### Type and Population of the Research

This study is cross-sectional type epidemiologic research. The population of the study comprised the fourth-, fifth- and sixth-year students receiving education in Çanakkale Onsekiz Mart University Faculty of Medicine in the 2018–2019 spring semester education-teaching period. In the 2018–2019 spring semester, there were 135 fourth year, 127 fifth year and 123 sixth year students attending Çanakkale Onsekiz Mart University Faculty of Medicine (on 05.03.2019). The aim was to reach the whole population in this study without any sample selection. During the study, 112 fourth year, 106 fifth year and 106 sixth year students, for 324 students (84.2% of the whole population), were reached. A total of 55 students could not be reached during the study period and six students did not agree to complete the questionnaire.

### Study Design

This research was completed from 1–15 April 2019 in Çanakkale Onsekiz Mart University Faculty of Medicine. With this aim, permission was granted by Çanakkale Onsekiz Mart University Clinical Research Ethics Committee (decision no: 2019–07, date: 27.03.2019). The research data were obtained using a questionnaire. The questionnaire included 14 questions related

to sociodemographic characteristics, 26 Likert-type questions for the Kogan's Attitude Toward Old People Scale (KOPS) and 20 questions for the Beck Hopelessness Scale (BHS). The fourth-, fifth- and sixth-year students from Çanakkale Onsekiz Mart University Faculty of Medicine completed the questionnaire in 15–20 minutes under observation without stating their name-surname, seated in a manner to prevent communication with each other. Fourth- and fifth-year students completed the questionnaire in classrooms in the faculty of medicine, while sixth-year students completed the questionnaire in the clinic-working area where they were employed. Participants accepting voluntary participation in the study were given information about the aim and method of the study by the researcher and provided verbal and written consent.

### Scales Used in the Research

**Kogan's Attitude Toward Old People Scale:** This was developed by Nathan Kogan in 1961. It is a 6-point Likert scale created with the aim of measuring attitudes of individuals toward the elderly. The scale contains 17 positive and 17 negative statements. Odd number questions are negative, while even number questions are positive. Negative statements are given points as 'definitely disagree 6, disagree 5, somewhat disagree 4, somewhat agree 3, agree 2, definitely agree: 1'. Positive statements are given points as 'definitely disagree 1, disagree 2, somewhat disagree 3, somewhat agree 4, agree 5, definitely agree: 6'. The scale has a point range from 34 to 204, with high points indicating positive attitude and low points indicating negative attitude.<sup>14</sup> Validity-reliability studies by Kılıç and Adibelli<sup>15</sup> in 2011 removed six items from the scale due to low correlation content and reduced the scale to 13 positive and 13 negative statements in 26 items. The point interval for the scale is 26–156. Increased total points show the individual has positive attitude toward the elderly.<sup>15</sup> In this study, the 26-item scale obtained after validity-reliability studies were used.

**Beck Hopelessness Scale:** This is a 20-item scale aiming to determine the expectations about the future and pessimism levels of an individual. The scale requests the person to mark 'correct' for statements that apply to them or 'incorrect' for statements that do not apply to them. The point interval for the scale is 0–20. The increase in total points shows increased hopelessness in the individual.<sup>16</sup> The validity-reliability studies for the scale were conducted by many researchers like Seber et al.<sup>17</sup> and Durak and Palabıyıkoglu<sup>18</sup>.

### Statistical Analysis

Data in the study were analyzed with the SPSS 20.0 statistical program software. Data are presented using number, percentage, mean, standard deviation, median, minimum and maximum values. According to the results of normal distribution tests, the parametric tests of significance of difference between two

means and variance analysis (ANOVA) tests were used and the nonparametric test of the Mann-Whitney U test was used. For the analysis of correlations of data, the Spearman correlation analysis was used in accordance with the results of the test of fit to the normal distribution. When correlation coefficients are evaluated,  $r=0-0.24$  was weak correlation,  $r=0.25-0.49$  was moderate,  $r=0.50-0.74$  was strong and  $r=0.75-1.0$  was compelling correlation. Situations with  $p<0.05$  were accepted as statistically significant.

## RESULTS

The study included 324 people. The mean age of the study group was  $23.3\pm 1.4$  years (median: 23, minimum-maximum: 21–29). Of participants, 34.6% were in fourth years, 32.7% were in fifth year and 32.7% were in sixth year. Among the participants, 55.7% were female, 99% were single, 64.1% had at least three people in their family, 62.7% had lived longest in provincial centers, 63.9% had a maternal education level of high school or above, and 76.8% had a paternal education level of high school or above. In terms of aging, 16.4% were unafraid of aging, 24.5% were undecided about aging and 59.1% were afraid of aging. Within the study group 10.8% had history of caring for an individual aged 65 years or older who was partly or fully bedridden. For participants, 92.6% had both parents living, and of 91.7% had parents who were living together. Of participants 33.3% had experience of living with an individual aged 65 years or older and of 43.5% lived with grandmother and grandfather, 43.5% lived with only grandmother and 12.1% lived with only grandfather. Of those with experience living with anyone aged 65 years or older, the mean duration living with the elderly person was  $8.5\pm 7$  years (median: 5, minimum-maximum: 1–25) (Table 1).

Within the study group the KOPS mean points were  $100.7\pm 14.4$  (median: 101, minimum-maximum: 38–156), with mean BHS points of  $5.2\pm 4.6$  (median: 4, minimum-maximum: 0–19). When the BHS subdimensions are examined, mean points for the subdimension of feelings related to the future were  $1.2\pm 1.5$  (median: 1, minimum-maximum: 0–5), with mean points for the loss of motivation  $1.6\pm 1.8$  (median: 1, minimum-maximum: 0–8) and mean points for expectations related to the future of  $1.8\pm 1.5$  (median: 2, Minimum-maximum: 0–5) (Table 2).

When sociodemographic characteristics are compared with the KOPS, there was a statistically significant difference identified for the gender variable with KOPS ( $p=0.004$ ). For females the KOPS median value was higher compared to males. There were no statistically significant differences identified between other sociodemographic variables and the KOPS ( $p>0.05$ ) (Table 3).

The KOPS was identified to have negative moderate correlation with the BHS total points ( $r=-0.251$ ,  $p<0.001$ ), negative moderate correlation with the BHS ‘feelings about the future’ subdimension ( $r=-0.295$ ,  $p<0.001$ ), negative weak correlation

with the ‘loss of motivation’ subdimension ( $r=-0.240$ ,  $p<0.001$ ) and negative weak correlation with the ‘expectations about the future’ subdimension ( $r=-0.173$ ,  $p=0.002$ ). There was no statistically significant correlation determined between the KOPS and age variables ( $r=0.874$ ,  $p=0.322$ ) (Table 4).

## DISCUSSION

There are many studies about determining the status of attitudes toward the elderly among health workers. In validity-reliability studies by Kılıç and Adibelli<sup>15</sup> conducted with nurses, the KOPS mean points were identified as 97.8. In our study, the scale used in this validity-reliability study was used, and the results obtained appear to be similar. The occurrence of similar results may be explained by nurses and doctors sharing the same working environment and being in close contact with the elderly during their training. Another study of 137 nonmedical students in Konya determined mean KOPS points as 106.7.<sup>19</sup> In all societies the desire is that the attitude points toward the elderly be high. Additionally, considering the disease load, workers in the health sector will be in greater contact with the elderly. It is thought-provoking that health workers and students received lower points for attitudes toward the elderly than those in non-health sectors. The reason for this may be that stressful situations occurring during training and because of work difficulties affect attitudes toward the elderly or that training in the health sector about elder health is not sufficient.

Studies have identified different attitudes toward the elderly with the gender variable. Salman et al.<sup>20</sup> identified that male students displayed more positive attitudes toward the elderly than female students, while some studies have determined the female gender is associated with more positive attitudes toward the elderly.<sup>11</sup> Additionally, studies identified no correlation between the gender variable and attitudes toward the elderly.<sup>19,20</sup> Elbi et al.<sup>10</sup> in a study of 406 medical students in Manisa in 2015 identified more positive attitudes toward the elderly in females compared to males using the University of California Los Angeles (UCLA) attitude toward the elderly scale, while according to Kogan’s Attitude Toward Old People Scale there were no attitude differences determined between the genders. In our study group, female gender was identified to have more positive attitudes toward the elderly. In Turkish society, when there is an elderly person in the family, the individual who cares for them most is generally female. A study in Turkey in 2005 identified that 39.5% of people caring for the elderly were daughters-in law, while 26.9% were daughters.<sup>21</sup> In our study, the more positive attitude identified in females may be explained by women in our society having greater contact with the elderly.

In the literature, there are studies showing there are more positive attitudes toward the elderly as class level increases.<sup>22,23</sup> Additionally, some studies of nursing and medical faculty

<b>Table 1. General features of the study group</b>	
<b>Variables</b>	<b>n (%)</b>
<b>Gender (n=323)</b>	
Female	180 (55.7)
Male	143 (44.3)
<b>Marital status (n=324)</b>	
Single	321 (99.1)
Married	3 (0.9)
<b>Class (n=324)</b>	
Four	112 (34.6)
Five	106 (32.7)
Six	106 (32.7)
<b>Number of individuals in family (n=323)</b>	
≤3	116 (35.9)
>3	207 (64.1)
<b>Parents alive or not (n=324)</b>	
Both living	300 (92.6)
Both dead	0 (0.0)
Mother alive, father dead	21 (6.5)
Father alive, mother dead	3 (0.9)
<b>Parents living together (n=300)*</b>	
Living together	275 (91.7)
Living separately	25 (8.3)
<b>Maternal educational level (n=324)</b>	
Up to high school	117 (36.1)
High school and above	207 (63.9)
<b>Paternal educational level (n=323)</b>	
Up to high school	75 (23.2)
High school and above	248 (76.8)
<b>Location of longest habitation (n=324)</b>	
Province	203 (62.7)
County/village/town/burg	121 (37.3)
<b>Have lived in the same house as those over 65 years to date (n=324)</b>	
Yes	108 (33.3)
No	216 (66.7)
<b>Elderly people they have lived with to date (n=108)**</b>	
Grandmother-grandfather	47 (43.5)
Only grandmother	47 (43.5)
Only grandfather	13 (12.1)
Uncle	1 (0.9)
<b>Thoughts about aging (n=323)</b>	
Not scared	53 (16.4)
Undecided	79 (24.5)
A little afraid/afraid/very afraid	191 (59.1)

**Table 1. Continued**

Have cared for person aged 65 years and older who was partly or fully bedbound (n=323)	
Yes	35 (10.8)
No	288 (89.2)
n: number, %: column percentage, *: responses of participants with both parents surviving were included in calculations **: responses of participants with experience living with elderly people aged 65 years and older were included in calculations.	

students determined the first year students had more positive attitudes toward the elderly.<sup>10,24</sup> In our study, though the difference was not statistically significant, sixth-year students appeared to have higher mean KOPS points compared to fourth- and fifth-year students. In our country, clinical training comes to the fore in the fourth, fifth and sixth year of medical faculty education; however, especially in the sixth year students have more interaction with patients in terms of developing doctor information and skills and effective use of their learned knowledge and skills. The occurrence of this situation may be associated with sixth-year students having slightly more interaction with elderly individuals in clinics compared to the other classes.

Ayaz Alkaya and Birimoğlu Okuyan<sup>7</sup> in a study determined the mean KOPS points of students at the life history of elderly individuals, caring for elderly individuals and communicating with elderly individuals every day were higher. In the literature, there are studies, which did not identify any correlation between living with elderly individuals and attitudes toward the elderly.<sup>25,26</sup> In our study, though the difference was not statistically significant, those living with an elderly individual in any period and those caring for an elderly person who was partly or fully bedridden were identified to have higher mean KOPS points. Considering these data, it was concluded that students who had interacted with the elderly displayed a more positive attitude toward the elderly.

In our study, when parents being alive was compared with the KOPS, those with either a mother or father who had died were determined to have slightly higher mean points. We can interpret this situation as young individuals missing their mother or father from a period of their life attempting to reduce this by displaying more positive attitudes to elderly individuals. Similarly, the

group with parental education levels of high school or above were identified to have KOPS mean points that were a little higher. If we consider that the development of positive attitudes begins in the family, as family education level increases more positive attitudes may be transferred to the child.

When the literature is investigated, no research was encountered investigating the correlation between hopelessness levels of medical faculty students and attitudes toward the elderly. In our study, there was a negative moderate correlation between hopelessness and attitudes to the elderly and it was concluded that as hopelessness levels reduced, positive attitudes toward the elderly increased. Hopelessness may reduce empathy toward the elderly population. As a result, as the empathy toward the elderly reduces, positive attitudes toward the elderly may reduce.

#### Limitations of the Study

This study was completed with students of a medical faculty in the clinical period; it is difficult to generalize or make interpretations for all work areas within the health system in line with the results obtained from this study. As well as being a rare study investigating the correlation between hopelessness and attitudes toward the elderly, multicentric studies with broader scope encompassing students from more than one faculty will show this correlation more clearly. Additionally, qualitative studies to be conducted about this topic will allow the possibility to investigate this correlation in detail. The results obtained in our study will be a source of guidance for future studies.

#### CONCLUSION

In our study, students in the medical faculty in the clinical period were identified to have positive attitudes toward the elderly. Those living with elderly individuals in any period of their lives and those caring for partly or fully bedridden elderly individuals

**Table 2. Points for Kogan's Attitude Toward Old People and Beck Hopelessness Scale for the study group**

Variables	Mean ± SD	Median (min-max)
Kogan's Attitude Toward Old People Scale (n=324)	100.7±14.4	101.0 (38.0–156.0)
Beck Hopelessness Scale (n=322)	5.2±4.6	4.0 (0.0–19.0)
<b>Subdimensions of Beck Hopelessness Scale</b>		
Feelings about the future (n=322)	1.2±1.5	1.0 (0.0–5.0)
Loss of motivation (n=322)	1.6±1.8	1.0 (0.0–8.0)
Expectations about the future (n=322)	1.8±1.5	2.0 (0.0–5.0)
n: number, SD: standard deviation, Min: minimum, Max: maximum.		

<b>Table 3. Comparison of sociodemographic characteristics with Kogan’s Attitude Toward Old People Scale</b>			
<b>Sociodemographic characteristics</b>	<b>Kogan’s Attitude Toward Old People Scale</b>		<b>p-value</b>
	<b>Mean ± SD</b>	<b>Median (min-max)</b>	
<b>Gender</b>			
Female	102.7±14.2	103.0 (66.0–150.0)	<b>0.004</b>
Male	98.2±14.2	98.0 (38.0–156.0)	
<b>Class</b>			
Four	100.4±14.6	102.0 (38.0–150.0)	0.081 <sup>b</sup>
Five	98.8±14.6	98.0 (59.0–156.0)	
Six	103.1±13.8	101.0 (66.0–145.0)	
<b>Number of individuals in family</b>			
≤3	99.7±12.9	100.0 (66.0–145.0)	0.349 <sup>a</sup>
>3	101.3±15.2	101.0 (38.0–156.0)	
<b>Parents alive or not</b>			
Both alive	100.6±14.6	100.0 (38.0–156.0)	0.748 <sup>a</sup>
Mother or father dead	101.6±10.7	103.0 (80.0–117.0)	
<b>Parents living together*</b>			
Living together	100.6±15.0	101.0 (38.0–156.0)	0.999 <sup>a</sup>
Living separately	100.6±9.5	100.0 (85.0–119.0)	
<b>Maternal educational level (n=324)</b>			
Up to high school	99.0±12.4	98.0 (66.0–128.0)	0.103 <sup>a</sup>
High school and above	101.7±15.3	102.0 (38.0–156.0)	
<b>Paternal educational level (n=323)</b>			
Up to high school	98.8±13.6	98.0 (66.0–130.0)	0.186 <sup>a</sup>
High school and above	101.3±14.6	101.0 (38.0–156.0)	
<b>Location of longest habitation</b>			
Province	100.9±15.1	101.0 (38.0–156.0)	0.575
County/village/town/burg	100.4±13.1	100.0 (66.0–132.0)	
<b>Have lived in the same house as those over 65 years to date</b>			
Yes	102.4±13.4	102.0 (66.0–156.0)	0.132 <sup>a</sup>
No	99.9±14.8	99.5 (38.0–150.0)	
<b>Thoughts about aging</b>			
Not scared	98.3±15.1	98.0 (64.0–156.0)	0.123 <sup>b</sup>
Undecided	103.3±13.5	102.0 (75.0–150.0)	
A little afraid/afraid/very afraid	100.5±14.1	101.0 (38.0–145.0)	
<b>Have cared for person aged 65 years and older who was partly or fully bedbound</b>			
Yes	102.1±13.0	104.0 (73.0–126.0)	0.568 <sup>a</sup>
No	100.7±14.4	100.5 (38.0–156.0)	

Significant values are shown in bold.

SD: standard deviation, Min: minimum, Max: maximum, \*: responses of participants with both parents surviving were included in calculations, p: Mann-Whitney U test, <sup>a</sup>: Significance of difference between two means test, <sup>b</sup>: Variance analysis (ANOVA) test, marital status not included in statistical analysis due to distribution of the sociodemographic variable.

were determined to have higher points for attitude toward the elderly. In the medical school education in our university, elderly health problems are explained with theoretical and practical

applications with their social aspects in public health education. In clinical sciences, trainings are provided for diseases specific to old age. However, applications with the aim of integration



**Table 4. Correlation of Kogan's Attitude Toward Old People Scale with Beck Hopelessness Scale and age variable**

Variables	Kogan's Attitude Toward Old People Scale	
	r	p-value
Beck Hopelessness Scale	-0.251	<0.001
<b>Subdimensions of Beck Hopelessness Scale</b>		
Feelings about the future	-0.295	<0.001
Loss of motivation	-0.240	<0.001
Expectations about the future	-0.173	<b>0.002</b>
<b>Age</b>	0.874	0.322

Significant values are shown in bold.  
r: Spearman correlation coefficient, p: statistical significance level.

between elderly people and medical faculty students and increasing the intensity of training related to elder care during education in medical faculties may contribute to the support of trainings and developing positive attitudes.

### MAIN POINTS

- When the literature is examined, this study is the only study that examines the relationship between attitudes toward the elderly and hopelessness. In the study, a negative correlation was found between hopelessness and attitudes toward the elderly.
- The median value of attitude toward the elderly is higher in women than in men. This situation is statistically significant.
- The average of attitude score toward the elderly is higher in those who live with the elderly in one period of their life compared to the others. However, there was no statistically significant difference.
- The average of attitude score toward the elderly is higher in those who have a history of caring for the elderly dependent on the bed. However, no statistically significant difference was found.

### ETHICS

**Ethics Committee Approval:** This study was approved by Çanakkale Onsekiz Mart University Clinical Research Ethics Committee (decision no: 2019-07, date: 27.03.2019)

**Informed Consent:** Participants accepting voluntary participation in the study were given information about the aim and method of the study by the researcher and provided verbal and written consent.

**Peer-review:** Externally peer-reviewed

### Authorship Contributions

Concept: Ö.Ö., E.E., B.Y., Design: Ö.Ö., E.E., B.Y., Data Collection and/or Processing: Ö.Ö., E.E., B.Y., Analysis and/or Interpretation:

Ö.Ö., E.E., B.Y., Literature Search: Ö.Ö., E.E., B.Y., Writing: Ö.Ö., E.E., B.Y., S.O., C.B., Critical Review: S.O., C.B.

### DISCLOSURES

**Conflict of Interest:** The authors declare no conflict of interest.

**Financial Disclosure:** The authors declare that this study received no financial support.

### REFERENCES

1. Kalıncara V, Kalaycı I. Life satisfaction, care burden and burnout of the individuals who have a caregiver service to the elderly at home. *EIRJ*. 2017;10:19-39.
2. TÜİK. Nüfus Projeksiyonları, 2018-2080. Available at: <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=30567>
3. İlman T, Tekeli R. The Relationship among ageing and health expenditures: a literature research. *Adnan Menderes Univ J Institut Soc Sci*. 2017;4:277-291.
4. Ünal B, Ergör G, Dinç Horasan G, Kalaça S, Sözmen K. Türkiye kronik hastalıklar ve risk faktörleri sıklığı çalışması Int: 2013. Report no: 909. Available at: <https://sbu.saglik.gov.tr/ekutuphane/kitaplar/khrfat.pdf>
5. Gething L, Fethney J, Mckee MA, et al. Validation of the reactions to ageing questionnaire: Assessing similarities across several countries. *J Gerontol Nurs*. 2004;30:47-54.
6. World Health Organization (WHO). Discrimination and negative attitudes about ageing are bad for your health. Available from: <https://www.who.int/news-room/detail/29-09-2016-discrimination-and-negative-attitudes-about-ageing-are-bad-for-your-health>
7. Ayaz Alkaya S, Birimoğlu Okuyan C. Nursing students' attitudes towards the elderly. *J Hacettepe Univ Fac Nurs*. 2017;4:43-52.
8. Duyan V, Gelbal S. The adaptation of attitudes towards the elderly scale to Turkish with a group of university students. *Tur J Geriatr*. 2013;16:202-209.
9. Nowossadeck E. Population aging and hospitalization for chronic disease in Germany. *Dtsch Arztebl Int*. 2012;109:151-157.
10. Elbi H, Altan S, Rahman S, Cengiz Özyurt B, Şahin S, Çam FS. The attitudes of medical students toward the elderly. *Tur J Geriatr*. 2015;18:299-304.
11. Mandıracıoğlu A, Lülecı NE. Attitudes towards the elderly among Turkish pharmacy students. *Tur J Geriatr*. 2015;18:305-309.
12. Hughes NJ, Soiza RL, Chua M, et al. Medical student attitudes toward older people and willingness to consider a career in geriatric medicine. *J Am Geriatr Soc*. 2008;56:334-338.

13. Gülpınar MA, Gürpınar E, Songur A, Vitrinel A. Ulusal Çekirdek Eğitim Programı Çalışma Grubu. Mezuniyet Öncesi Tıp Eğitimi. Ulusal Çekirdek Eğitim Programı Int: 2014. Cited 2020 January 5. Available at: [http://www.ktu.edu.tr/dosyalar/medtip\\_752c6.pdf](http://www.ktu.edu.tr/dosyalar/medtip_752c6.pdf)
14. Kogan N. Attitudes toward old people: the development of a scale and an examination of correlates. *J Abnorm Soc Psychol.* 1961;62:44-54.
15. Kılıç D, Adibelli D. The validity and reliability of Kogan's attitude towards old people scale in the Turkish society. *Health.* 2011;3:602-608.
16. Beck AT, Weissman A, Lester D, Trexler L. The measurement of pessimism: The Hopelessness Scale. *J Consult Clin Psychol.* 1974;42:861-865.
17. Seber G, Dilbaz N, Kaptanoğlu C, Tekin D. Umutsuzluk ölçeği: Geçerlilik ve güvenilirliği. *Kriz Dergisi.* 1993;1:139-142.
18. Durak A, Palabıyıkoglu R. Beck Umutsuzluk Ölçeği Geçerlilik Çalışması. *Kriz Dergisi.* 1994;2:311-319.
19. Başer G, Cingil D. Üniversite öğrencilerinin yaşlılara karşı tutumlarının değerlendirilmesi. *Sağlık ve Toplum.* 2019;29:79-85.
20. Salman M, Gülçek E, Aylaz R, Polat F. Evaluation of the attitudes of nursing students towards elderly people. *EIRJ.* 2018;11:1-7.
21. Görgün Baran A, Kalinkara V, Aral N, Akın G, Baran G, Özkan Y. Yaşlı ve Aile İlişkileri Araştırması Ankara Örneği. T.C.Başbakanlık Aile ve Sosyal Araştırmalar Genel Müdürlüğü Yayınları Int: 2005. Report no: 127. Available at: [https://www.academia.edu/9463017/Ya%C5%9Fl%C4%B1\\_ve\\_aile\\_ili%C5%9Fkileri\\_ara%C5%9Fl%C4%B1\\_rnas%C4%B1\\_Ankara\\_%C3%B6rne%C4%9Fi](https://www.academia.edu/9463017/Ya%C5%9Fl%C4%B1_ve_aile_ili%C5%9Fkileri_ara%C5%9Fl%C4%B1_rnas%C4%B1_Ankara_%C3%B6rne%C4%9Fi)
22. Bleijenberg N, Jansen MJM, Schuurmans MJ. Dutch nursing students' knowledge and attitudes towards older people-A longitudinal cohort study. *J Nurs Educ Pract.* 2012;2:1-8.
23. Hweidi IM, Al-Obeisat SM. Jordanian nursing students' attitudes toward the elderly. *Nurse Educ Today.* 2006;26:23-30.
24. Şahin H, Erdem Y. Hemşirelik öğrencilerinin yaşlılara yönelik tutumlarının belirlenmesi. *Türkiye Sosyal Araştırmalar Dergisi.* 2017;21:219-232.
25. Duru Aşiret G, Türten Kaymaz T, Canbolat Ö, Kapucu S. Hemşirelerin yaşlıya ilişkin tutumları. *Hemşirelikte Araştırma Geliştirme Dergisi.* 2015;17:10-20.
26. Sarı D, Baysal E, Taşkiran N, Acar S, Çevik Akyl R. Attitudes of Nursing Students towards Elderly People and Empathic Approach Skills. *SDÜ Sağlık Bilimleri Enstitüsü Dergisi.* 2019;10:80-87.