






Turkish Journal of Geriatrics
DOI: 10.31086/tjgeri.2020.161
2020; 23(2): 260-269

- Ayla AÇIKGÖZ¹ 
- Hülya TUNA² 
- Meriç YILDIRIM² 
- Serap ACAR² 

CORRESPONDANCE

Ayla Açıkğöz
Dokuz Eylül University, Vocational School of
Healthcare, Izmir, TURKEY.

Phone: +905553459495
e-mail: ayla.acikgoz@deu.edu.tr

Received: October 31, 2019
Accepted: April 19, 2020

¹ Dokuz Eylül University , Vocational School
of Healthcare, Izmir, TURKEY.

² Dokuz Eylül University, School of Physical
Therapy and Rehabilitation, Izmir, TURKEY.

RESEARCH

PHYSIOTHERAPY STUDENTS' ATTITUDES TOWARD AGEISM AND RELATED FACTORS

ABSTRACT

Introduction: Recently, ageism has been recognised as an important factor affecting the quality of rehabilitation services provided to older adults. This study aimed to identify the ageism attitudes of physiotherapy students and investigate the factors associated with these attitudes.

Materials and Methods: This descriptive study was conducted on 417 students enrolled in the School of Physical Therapy and Rehabilitation of a state university in Izmir, Turkey. The authors evaluated the sociodemographic and family characteristics, experiences and opinions about living with older adults, and ageism attitudes of participating students. The Ageism Attitude Scale (AAS) is employed to assess the ageism attitudes.

Results: The mean of total AAS score of the 417 students is 81.0 ± 9.5 , whereas the mean scores of 'restricting the life of the elderly', the 'positive ageism' and the 'negative ageism' dimensions are 34.3 ± 4.0 , 28.7 ± 5.2 , and 18.0 ± 3.4 , respectively. Higher positive ageism attitude scores are reported in the female students along with those students who reported higher economic status (family), higher quality of relationships with older people, desire to cohabitate with a parent in the future, and desire to work in institutions serving older adults.

Conclusion: These findings suggest that interactions with older adults can increase positive ageism attitudes. To improve the ageism attitudes of physiotherapy students, they should be allowed to practice in elderly care units. Considering that the elderly population will increase gradually, physiotherapy students' having a positive attitude towards the elderly might increase the quality of the health services they will provide.

Key words: Ageism; Attitude; Aged.



INTRODUCTION

Factors such as decreased fertility, scientific and technological advances in healthcare, implementation of early diagnosis and treatment methods, increased measures to protect and improve health, and the promotion and adoption of healthy lifestyles have contributed to the growth of the older population (1,2). The proportion of older adults in the general population is increasing worldwide, also including Turkey (1,3). This rapid growth of the elderly population may cause major problems in the family and social life in the coming years; however, the scale of these problems may vary by country (1,4).

Ageism is a multidimensional concept that encompasses myriad assumptions, prejudices, attitudes, behaviours and actions subjected to a person because of their age (1,2). Ageism is also described as the interpretation of deficiencies, limitations and unfavourable changes that come with age (1). Thus, both positive and negative attitudes must be addressed together in the evaluation of the data on ageism. A positive societal attitude towards the older adults enables the members of that society to regard ageing as a natural process (2,4). In particular, positive attitude towards older adults among health workers is an important factor in increasing the older adults' quality of life and providing high-quality healthcare services (1,4).

In recent years, Turkey has experienced a phase of social transformations, such as population growth, developments in economic and social structure, changes in family structure due to urbanisation, and a shift from the traditional extended family structure to the nuclear family (5). Determining the impact of this transformation period on young peoples' attitudes towards older adults is a critical issue. While some studies in the literature indicate that university students from various fields of study have negative attitudes towards older adults (6-10), other studies have

reported that students have positive attitudes (5,11-20).

Ageism leads to poor health care for older adults. Identifying the possible determinants of healthcare workers' and students' attitudes toward older adults is necessary to prevent ageism. In the literature, sociodemographic and family characteristics, perceived economic status of the family, experience in living with older adults, desire to live with parents in the future, desire to work in institutions that provide services to older adults after graduation, and attitudes towards older adults have been reported as possible determinants of ageism (8,9,14,15,18,19).

Physiotherapists are among the health workers who interact with older adults on a frequent basis while maintaining and improving older adults' health during the rehabilitation process. Having a negative attitude towards older adults may affect the quality of the healthcare services rendered to the older adults. Thus, it is essential to determine the ageism attitudes of physiotherapy students, who represent the next generation of healthcare providers. To the best of our knowledge, there has been no study investigating the physiotherapy students' attitudes against ageism.

The objective of this study is to identify the ageism attitudes of physiotherapy students and investigate the factors associated with these attitudes.

MATERIALS AND METHOD

Study Sample

This descriptive study included 605 students who were attending at Dokuz Eylul University School of Physical Therapy and Rehabilitation (SPTR), which is located in Izmir, Western Turkey. All students (98 first-year, 111 second-year, 257 third-year and, 139 fourth-year students) were invited in the study, with no sampling. Hundred and forty-six students refused to participate in the study. Forty-two

students did not participate in the study because they did not attend school. As a result, a total of 417 students participated in the study. This study was conducted between October 2018 and March 2019.

Data Collection and Variables

Data were collected by using a questionnaire that was developed based on the literature (6,7,12-17,21-25) and the Ageism Attitude Scale (AAS). The questionnaires were distributed to the students in the classroom and collected in the sealed envelopes. The students have completed theirs under the supervision of the authors.

The AAS was used to identify the attitudes of students towards older adults. Developed by Vefikuluçay in 2008 (11), the AAS includes 25 items scored on a 5-point Likert-type scale. The scale includes both positive and negative attitude statements. Positive attitude statements are scored as follows: 5=Strongly agree, 4=Agree, 3=Undecided, 2=Disagree and 1=Strongly disagree. Negative attitude statements are reverse scored. The total score of the AAS ranges between 23 and 115, with higher scores corresponding to more positive ageism attitudes (11). The scale has three subdimensions:

- 1) Restricting the life of the elderly: this subdimension reflects the beliefs and perceptions related to the restriction of older adults' social lives. Scores are in between 9 and 45 points.
- 2) Positive ageism: this subdimension reflects the positive beliefs and perceptions towards older adults. Scores are in between 8 and 40 points.
- 3) Negative ageism: this subdimension reflects the negative beliefs and perceptions towards older adults. Scores are in between 6 and 30 points (11).

Variables considered in this study included sociodemographic characteristics (age, gender, place where participant resided the longest,

current place of residence), family characteristics (family structure, paternal and maternal education, parental relationship status, sibling status), perceived economic status of family, experience in living with older adults, desire to live with parents in the future, desire to work in institutions that provide services to older adults after graduation, and attitudes towards older adults.

Ethical issues

This study was approved by the Non-invasive Research Ethics Committee of Dokuz Eylül University, Izmir, Turkey (2018/11-08). All students were informed about the purpose and nature of the study. The students who volunteered to participate were included.

Statistical analysis

Continuous variables were presented in form of mean \pm standard deviation values. We analyzed the normality of the data with the Kolmogorov-Smirnov test. Whereas our data were normally distributed ($p > 0.05$), we used parametric tests to compare the groups. Associations between sociodemographic characteristics and the students' ageist attitudes and behaviours were analysed by t-test. One-way analysis of variance (ANOVA) was employed for the variables of more than two groups. When there was a significant difference between the groups in ANOVA, Tukey test was used as a post hoc analysis. Statistical analyses were performed by using SPSS version 20.0. P-values less than 0.05 were accepted as statistically significant.

RESULTS

A total of 417 students were included in this study (response rate, 68.9%), in which 243 (58.3%) participants were female, and the mean age of the participants was 22.0 ± 2.1 (18–38) years. Table 1 has shown the sociodemographic characteristics of the students.

The mean of total AAS score was 81.0 ± 9.5 , whereas the mean scores of 'restricting the life of

**Table 1.** The sociodemographic characteristics of the students.

Variables		N	%
Year of study	First	78	18.7
	Second	93	22.3
	Third	197	47.2
	Fourth	49	11.8
Age group (years)	≤20	97	23.3
	≥21	320	76.7
Gender	Female	243	58.3
	Male	174	41.7
Family structure	Nuclear family	365	87.5
	Extended family	52	12.5
Place where participant resided the longest	Urban area	365	87.5
	Rural area	52	12.5
Paternal education	≤Middle	162	38.8
	≥High school	255	61.2
Maternal education	≤Middle	260	61.4
	≥High school	157	37.6
Parental relationship status	Together	381	91.4
	Divorced / deceased	36	8.6
Current place of residence	Dormitory	190	45.6
	With family	94	22.5
	With friends / alone	133	31.9
Perceived family economic status	High	144	34.5
	Middle	255	61.2
	Low	18	4.3

the elderly', the 'positive ageism' and the 'negative ageism' dimensions were 34.3 ± 4.0 , 28.7 ± 5.2 and 18.0 ± 3.4 , respectively.

Female students had significantly higher total AAS score and restricting the life of the elderly subscale score as compared to the male students ($p < 0.01$). Students who perceived their family's economic status as high scored higher on the positive ageism subscale than those who rated the economic status of their families as middle or low ($p < 0.05$, Table 2). No significant difference was observed in the mean values of total and subsdimension scores in terms of the

other characteristics (age, place where participant resided the longest, current place of residence, family structure, paternal and maternal education, parental relationship status, sibling status). Also, there was no significant difference in the mean values of total and subsdimension scores based on the year of study, marital status, parental occupations ($p > 0.05$) (data not shown in tables).

Students who had high-quality relationships with older adults had a higher total AAS score, along with higher scores of restricting the life of the elderly and positive ageism subsdimensions as compared to the students who did not had

Table 2. Comparison of the AAS and subscale mean scores of the students according to sociodemographic characteristics.

Variables		n	Restricting life		Positive ageism		Negative ageism		Total AAS score	
			Mean ± SD	p*	Mean ± SD	p*	Mean ± SD	p*	Mean ± SD	p*
Age group (years)	≤20	97	33.6 ± 4.9	0.098	28.4 ± 6.4	0.539	17.7 ± 3.8	0.342	79.6 ± 12.5	0.199
	≥21	320	34.5 ± 3.6		28.8 ± 4.7		18.1 ± 3.2		81.4 ± 8.3	
Gender	Female	243	34.4 ± 3.1	0.003	29.0 ± 4.5	0.175	18.3 ± 3.1	0.082	82.1 ± 7.8	0.010
	Male	174	33.6 ± 4.8		28.3 ± 6.0		17.7 ± 3.6		79.5 ± 11.2	
Family structure	Nuclear family	365	34.3 ± 3.9	0.783	28.6 ± 5.1	0.312	18.1 ± 3.3	0.922	80.9 ± 9.5	0.526
	Extended family	52	34.4 ± 4.3		29.4 ± 5.1		18.1 ± 3.6		81.8 ± 9.3	
Place where participant resided the longest	Urban area	365	34.3 ± 3.9	0.726	28.5 ± 5.2	0.095	18.1 ± 3.8	0.592	80.9 ± 9.5	0.385
	Rural area	52	34.5 ± 3.9		29.8 ± 5.2		17.8 ± 3.4		82.1 ± 9.1	
Paternal education	≤Middle	162	34.2 ± 3.7	0.632	29.0 ± 4.9	0.352	18.0 ± 3.6	0.955	81.2 ± 9.1	0.769
	≥High school	255	34.8 ± 4.1		28.5 ± 5.3		18.0 ± 3.2		80.9 ± 9.7	
Maternal education	≤Middle school	260	34.3 ± 4.1	0.880	29.1 ± 5.3	0.154	18.1 ± 3.5	0.748	81.3 ± 9.7	0.405
	≥High school	157	34.3 ± 3.8		28.2 ± 5.0		17.9 ± 3.2		80.5 ± 9.1	
Parental relationship status	Together	381	34.3 ± 4.1	0.506	28.6 ± 5.3	0.218	18.1 ± 3.3	0.924	80.9 ± 9.6	0.357
	Divorced/deceased	36	34.7 ± 3.5		29.7 ± 4.4		18.1 ± 3.9		82.4 ± 8.5	
Sibling status	Yes	390	34.6 ± 3.9	0.248	28.8 ± 5.1	0.168	18.0 ± 3.4	0.696	81.2 ± 9.3	0.168
	No	27	33.4 ± 4.7		27.4 ± 6.1		17.8 ± 3.3		78.6 ± 11.9	
Current place of residence	Dormitory	190	34.4 ± 3.6	0.838#	29.0 ± 4.8	0.434#	18.1 ± 3.5	0.956#	81.4 ± 9.1	0.715#
	With family	94	34.1 ± 4.1		28.6 ± 5.3		18.1 ± 3.3		80.8 ± 9.0	
	With friends/alone	133	34.3 ± 4.4		28.3 ± 5.6		18.0 ± 3.2		78.8 ± 10.4	
Perceived family economic status	High	144	34.5 ± 3.9	0.827#	29.5 ± 4.7	0.037#	17.9 ± 3.5	0.807#	81.9 ± 9.3	0.385#
	Middle	255	34.2 ± 3.9		28.3 ± 5.4		18.1 ± 3.3		80.6 ± 9.5	
	Low	18	34.4 ± 4.5		27.3 ± 5.2		18.1 ± 3.7		79.8 ± 10.5	

*t-test; #One-way ANOVA; SD: Standard deviation



Table 3. Comparison of the AAS and subscale mean scores of the students according to ageism attitudes and behaviours

Variables		n	Restricting life		Positive ageism		Negative ageism		Total AAS score	
			mean ± SD	p*	mean ± SD	p*	mean ± SD	p*	mean ± SD	p*
Have you ever lived with older adults?	Yes	158	34.4 ± 3.7	0.768	29.0 ± 5.6	0.351	18.4 ± 3.5	0.055	81.8 ± 9.4	0.167
	No	259	34.3 ± 4.1		28.5 ± 5.0		17.7 ± 3.2		80.5 ± 9.4	
Are you satisfied with your relationships with older adults?	Yes	371	34.6 ± 3.5	0.006	29.3 ± 4.6	0.001	18.1 ± 3.3	0.286	82.0 ± 8.4	0.001
	No	46	31.9 ± 6.3		24.1 ± 6.8		17.5 ± 4.0		73.4 ± 13.7	
Do you want to live with your mother/father in the future after marriage?	Yes	148	34.5 ± 4.3	0.561	29.7 ± 4.9	0.002	18.2 ± 3.3	0.478	82.4 ± 9.5	0.030
	No	269	34.2 ± 3.8		28.1 ± 5.2		17.9 ± 3.4		80.3 ± 9.4	
Do you want to work in institutions that provide services to older adults after you graduate?	Yes	268	34.6 ± 3.8	0.038	29.6 ± 4.8	0.001	18.2 ± 3.4	0.076	82.5 ± 9.0	0.001
	No	149	33.7 ± 4.2		27.1 ± 5.4		17.6 ± 3.3		78.5 ± 9.7	

*t-test; SD: Standard deviation

high-quality relationships with older people ($p < 0.01$). Those who wanted to live with their mother/father in the future after marriage had higher positive ageism and total scores ($p < 0.01$). Desire to work in institutions serving older adults after graduation was associated with higher scores of restricting the life of the elderly and positive ageism subdimensions along with higher total AAS score ($p < 0.05$) There were no correlation between having lived in the same household with older adults and positive ageism (Table 3).

DISCUSSION

The determination of the ageism attitudes of students in the field of physiotherapy and rehabilitation is essential in ensuring the quality of rehabilitation services rendered to the older adults. The results of this study may help guide the

education and training regarding elderly health and rehabilitation for these students.

We observed a statistically significant difference in the mean values of total and subscale scores of AAS between the genders and between students with different perceived economic levels of families. Students in our study who reported high-quality relationships with older adults scored higher in restricting the life of the elderly and positive ageism subscales and had higher total scores. Desire to live with a parent after marriage and desire to work in institutions that serve older adults were associated with more positive ageism attitudes.

Our findings show that the physiotherapy students in our study had an overall positive attitude towards the elderly people. The students' mean subscale scores for restricting the life of the elderly, positive ageism and negative ageism

subdimensions were 34.3, 28.7 and 18.0, respectively. We were unable to find any studies examining the ageism attitudes among physiotherapy students in our literature search. However, among nursing students, which represent another group of future healthcare professionals in Turkey, similar scores (range: 79.5–87.2) were reported in three studies (13,15,25), whereas a lower score (68.8) was found in only one study (12). Although several studies conducted with nursing students in different countries revealed positive attitudes towards the older adults (7,20,22,23), two different studies involving college students in the USA, however, showed that the students had a negative attitude towards older adults (8,9). As compared to other studies conducted among students in various different fields at universities across Turkey, the mean AAS total score obtained in our study was similar to those reported in some studies (5,11,16) and higher than in some others (6,14). The mean score obtained in a study of the general young adult population was 80.2 (19), whereas a mean score of 86.9 was reported in a study conducted among physicians (25). Researchers who obtained results similar to ours stated that these scores reflected positive ageism attitudes among the participants (5,13,15,16,18,19,25). In general, such an attitude among young people suggests the influence of various aspects of traditional Turkish culture, such as respect and obedience to one's elders and protection of older adults.

In the present study, we found that gender significantly affected the students' scores of restricting the life of the elderly and total AAS, with female students demonstrating more positive ageism attitudes than male students. Although some studies indicate that gender associated with positive attitudes toward ageism, several studies found inconsistent results. Gender was not associated with ageism attitudes in three different studies of nursing students (13,15,18) and a study by Ridgway et al. (20). However, a systematic review by Samra et al. (24) and studies conducted

in Greece (23) and the USA (9) showed that female students had more positive attitudes towards older adults, which is consistent with our findings. Of the research conducted in Turkey, two different studies indicated that male students had a more positive attitude (6,14), whereas other studies reported results similar to ours (5,12,16,19). The effect of sex may be attributable to women's role as a protector and caregiver in these societies (1). Although in the present study we found that female students demonstrated more positive attitudes toward ageism than male students, both groups have a higher total AAS score. The higher AAS scores of both groups can be interpreted as preserving traditional values for the elderly in Turkish society.

In our study, positive ageism was associated with a higher perceived economic level of family. A previous study reported that students with low income had a more positive attitude than students whose income was equal to or greater than their expenses (19). Two studies conducted among nursing students found no correlation between family economic status and the student's attitude towards older adults (13,18). Therefore, our results are not consistent with the literature. Individuals with high family income may believe that they can care for older adults more comfortably. The students in our study might have taken their parents' positive attitudes towards older adults as an example since families with high income voluntarily assume the responsibility of caring for elderly family members.

One of the factors which may influence students' ageism attitudes are having lived in the same household with an elderly individual at some point in their lives (24). However, we observed no correlation between cohabitation with older adults and positive ageism in our study. While some studies in the literature reported findings consistent with our study (6,13,18,23,25), others determined that students who had lived with the



elderly had a more positive attitude (9,14,24). Inconsistent results in the studies may result from the characteristics of the groups participating in the study. Intergenerational contact might have pros and cons. Some people may not be able to gain the pros of intergenerational contact.

In our study, we found that students who were satisfied with their relationships with older adults had more positive ageism attitudes than the students who did not have such relationships. In a randomised controlled study evaluating empathy and positive attitudes towards older adults among students, Lagana et al. detected no difference between the intervention groups (who were shown a documentary film entitled 'Understanding Pain in Older Age') and a control group in terms of empathy or positive attitudes (10). In the literature, it has been reported that students who enjoy interacting with older adults have a more positive attitude towards older adults (9,24). In the study by Guest et al., when the university students were asked to describe 'old person' with one word, the majority of the students used the word 'love/loving' (8). Another study of nursing students reported that students who stated that the first concept that came to mind when talking about the elderly was 'affection' had a more positive attitude towards older adults (12). Young people's positive feelings towards older adults and the favourable qualities they associate with the old age may also affect their positive attitudes (2). Encouraging students to participate regularly in activities such as spending time with older adults in nursing homes can help them have a positive attitude towards the elderly.

Students in our study who stated they wanted to live with their mother and/or father after marriage were found to have more positive ageism attitudes. Some studies in the literature have revealed no correlation between the desire to cohabit with a parent in the future and ageism attitudes (6,13), whereas other studies

have yielded results consistent with ours (19,21). Demir et al. determined that students who wanted to live with their parents to support them had more positive ageism attitudes (21).

A systematic review examining the attitudes of medical students and doctors towards older patients in recent years has revealed a connection between intrinsic motivation and attitude towards older patients (24). It was recommended that intrinsic motivation screening should be performed to identify the medical students with a greater tendency to work with older patients in healthcare services (24). In our study, we found that the students who want to work in institutions that serve the elderly after graduating from SPTR had more positive ageism attitudes. In two studies conducted among nursing students, no correlation was detected between the desire to serve elderly patients and positive ageism attitudes in the first study (13), whereas the other study yielded results consistent with ours (12). Another study involving students in various healthcare fields overserved more positive ageism attitudes among those who wanted to work with geriatric patients (6). Kose et al. reported that students who want to work with geriatric patients think that serving a large patient population will provide more benefits to their professional development (6). The results of our study and supporting studies suggest that the students who want to work in healthcare services for older adults have grasped the importance of serving without discrimination.

The present study has certain limitations, including the fact that it was limited to the physiotherapy students attending one public university in a specific region of Turkey. In addition, the findings have limited generalisability due to the small sample size. The overall response rate was moderate. Moderate participation may be due to the students' lack of interest. The collection of data within five months may be a limitation, as some students' education may change their view

of the subject. Students participating in the study may be interested in geriatric physiotherapy and rehabilitation and may already have a more positive attitude towards older adults. However, this study is crucial, as it is first study on physiotherapy students studying at a public university. Previous studies in Turkey and other countries have usually included medical or nursing students.

In conclusion, our study showed that physiotherapy students have generally positive ageism attitudes. More positive ageism attitude was associated with females, high economic status of families, quality of relationships with older people, desire to cohabit with a parent in the future and desire to work in institutions

serving older adults. These findings suggest that interactions with older adults can increase positive ageism attitudes. To improve the ageism attitudes of physiotherapy students, they should be allowed to practice in elderly care units. Considering that the elderly population will increase gradually, physiotherapy students' development of positive attitudes and behaviours towards ageism and ageing may be beneficial when providing services to older adults and improving the quality of healthcare in their future professional lives.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

REFERENCES

1. World Health Organization. World report on ageing and health. World Health Organization, Library Cataloguing-in-Publication Data 2015. [Internet] Available from: <https://www.who.int/ageing/events/world-report-2015-launch/en/> Accessed: 28.08.2019.
2. Hovey S, Dyck MJ, Reese C, Kim M. Nursing students' attitudes toward persons who are aged: An integrative review. *Nurse Educ Today* 2017;49:145-52. (PMID:27930921).
3. Turkish Statistical Institute. Older People in Statistics, 2018. News Bulletin Number: 30699, 18 March 2019. [Internet] Available from: <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=30699>. Accessed: 29.08.2019.
4. Koh LC. Student attitudes and educational support in caring for older people-A review of literature. *Nurse Educ Pract* 2012;12(1):16-20. (PMID:21601527).
5. Ceylan H, Oksuz M. Analyzing attitudes of undergraduate social work students towards ageism. *The Journal of International Social Research* 2015;39(8):459-66. [Internet] Available from: http://www.sosyalarastirmalar.com/cilt8/sayi39_pdf/4sosyoloji_psioloji_felsefe/ceylan_harun.pdf Accessed: 29.09.2019.
6. Kose G, Ayhan H, Tastan S, Iyigun E, Hatipoglu S, Acikel CH. Determination of the attitudes of students from different department in the field of health on the discrimination against the elders. *Gulhane Med J* 2015;57(2):145-51. doi:10.5455/gulhane.152591.
7. Shen J, Xiao LD. Factors affecting nursing students' intention to work with older people in China. *Nurse Educ Today* 2012;32(3):219-23. (PMID:21543142).
8. Guest MA, Nikzad-Terhune K, Kruger TM, Rowles GD. Exploring college students' attitudes toward older adults: A description of methods used by the gerontological literacy network. *Gerontol Geriatr Educ* 2019;3:1-11. (PMID:31269878).
9. Smith ML, Bergeron CD, Cowart C, et al. Factors associated with ageist attitudes among college students. *Geriatr Gerontol Int* 2017;17(10):1698-706. (PMID:27576764).
10. Lagana L, Gavrilova L, Carter DB, Ainsworth AT. A randomized controlled study on the effects of a documentary on students' empathy and attitudes towards older adults. *Psychol Cogn Sci* 2017;3(3):79-88. (PMID:29399638).
11. Vefikulucay Yilmaz D, Terzioglu F. Development and psychometric evaluation of ageism attitude scale among the university students. *Turkish Journal of Geriatrics* 2011;14(3):259-68. [Internet] Available from: http://geriatri.dergisi.org/uploads/pdf/pdf_TJG_594.pdf Accessed: 29.09.2019.
12. Altay B, Aydın T. Evaluation of the attitudes of nursing students towards ageism. *Journal of Education and*



- Research in Nursing 2015;12(1):11-8. doi:10.5222/HEAD.2015.011.
13. Cilingir D, Bulut E, Hintistan S. Attitudes of Nursing Students Towards Ageism. *Dokuz Eylül University Faculty of Nursing Electronic Journal* 2017;10(3):137-43. [Internet] Available from: <http://www.deuhyoedergi.org/index.php/DEUHYOED/article/view/378/242> Accessed: 20.09.2019.
 14. Cinar D, Karadakovan A, Karaca Sivrikaya S. Investigation of the attitudes of university students to discrimination of the elderly. *North Clin Istanbul* 2018;5(1):25-30. (PMID:29607428).
 15. Demiray T, Dal Yılmaz U. Opinions of the Nursing Students on Ageism. *Istanbul Med J* 2017;18(1):7-12. doi:10.5152/imj.2017.02997.
 16. Dincer Y, Usta E, Bulduk S. How do university students view elderliness? *EIRJ* 2016;9(1):26-38. [Internet] Available from: <https://dergipark.org.tr/tr/download/article-file/221072> Accessed: 20.09.2019.
 17. Rathnayake S, Athukorala Y, Siop S. Attitudes toward and willingness to work with older people among undergraduate nursing in a public university in Sri Lanka: A cross sectional study. *Nurse Educ Today* 2016;36(1):439-44. (PMID:26507448).
 18. Bahadır-Yılmaz E. The relationship between nursing students' professional values and their attitudes towards the elderly people: A cross-sectional study. *Nurse Educ Today* 2018;70(1):8-12. (PMID:30125868).
 19. Yılmaz M, Altiok M, Polat B, Darici M, Sungur MA. Attitudes of young adults towards ageism. *Turkish Journal of Geriatrics* 2012;15(4):416-23. [Internet] Available from: http://geriatri.dergisi.org/uploads/pdf/pdf_TJG_685.pdf Accessed: 20.09.2019.
 20. Ridgway V, Mason-Whitehead E, McIntosh-Scott A. Visual perceptions of ageing; A longitudinal mixed methods study of UK undergraduate student nurses' attitudes and perceptions towards older people. *Nurse Educ Pract* 2018;33(1):63-9. (PMID:30245188).
 21. Demir G, Bicer S, Bulucu-Boyuksoy GD, Ozen B. Attitudes of nursing students about ageism and the related factors. *IJCS* 2016;9(3):900-8. [Internet] Available from: http://www.internationaljournalofcaringsciences.org/docs/18_demir_original_9_3.pdf Accessed: 25.10.2019.
 22. Gholamzadeh S, Khastavaneh M, Khademian Z, Ghadakpour S. The effects of empathy skills training on nursing students' empathy and attitudes toward elderly people. *BMC Med Educ* 2018;18(1):198. (PMID:30111312).
 23. Lambrinou E, Sourtzi P, Kalokerinou A, Lemonidou C. Attitudes and knowledge of the Greek nursing students towards older people. *Nurse Educ Today* 2009;29(6):617-22. (PMID:19243864).
 24. Samra R, Cox T, Gordon AL, Conroy SP, Lucassen MFG, Griffiths A. Factors related to medical students' and doctors' attitudes towards older patients: a systematic review. *Age Aging* 2017;46(6):911-9. (PMID:28472444).
 25. Simsek H, Bahadır H, Bilgin AC. Physicians' attitudes towards the elderly: ageism in a university hospital in Turkey. *Turkish Journal of Geriatrics* 2019;22(1):101-11. doi: 10.31086/tjgeri.2019150579.