

Ageism Attitudes Of Nursing School Students Regarding Older Adults In Sharkia Governorate

Shymaa El-sayed Abd-Alla Attia ⁽¹⁾, Eman Shokry Abd-Allah ⁽²⁾, Samia Farouk Mahmoud. ⁽³⁾

⁽¹⁾B.Sc. in Nursing Science- Specialist in Nursing School -Zagazig University, ⁽²⁾ Professor of Community Health and Gerontological Nursing of Nursing-Zagazig University, ⁽³⁾ Assistant professor of Community Health Nursing of Nursing Zagazig University.

Corresponding author: Shymaa El-sayed Abd-Alla Attia,

E-mail: shimaaabdalla645@gmail.com

DOI: 10.47750/pnr.2023.14.S01.206

Abstract

Background: Ageism and positive self-perceptions of aging are associated with higher levels of well-being, and better health. **The aim** of the study was to assess ageism attitudes of nursing school students regarding older adults in Sharkia Governorate. **Study Design:** A descriptive, cross-sectional design was used to conduct this study and to achieve the aim of this study. **Setting:** The study was conducted at four nursing schools (Tulrak, Fakous, Awlad Saker and Kafer Saker) in Sharkia Governorate from seventeen nursing schools. **Subjects:** Two hundred nursing school students were selected by using random sample from selected settings. **Tools of data collection:** Two tools were used to collect data they were: Self-administered questionnaire, socio-demographic characteristic of the nursing school students and Ageism Attitudes Scale (AAS). **Results:** 36.5% of the nursing school students' fathers and mothers had secondary education. As well, 77.5% of the students had negative ageism attitudes regarding older adults. **Conclusion:** More than three quarters of the nursing school students had negative ageism attitude regarding older adults. **Recommendations:** Increase in clinical settings for Gerontological practice in order to give a chance for nursing school students to be more contact with care for an older adults, and Further studies especially qualitative ones should be conducted to explore factors that influence ageism attitude of nursing school students towards the older adults.

Keywords: Ageism Attitudes, Nursing schools students, Older Adults.

INTRODUCTION

The older adults with good health, freedom from disability, life satisfaction, personal relationships, staying active and involved, maintaining independence, meeting needs, adapting to aging-related changes, self-acceptance, and mastery, they are supporting the successful aging. (Teater and Chonody, 2020). The complex blending between physiological, behavioral, social, and environmental changes that occur in the process of ageing is well described by the 'ecological model of aging' which describes the dynamic interplay between the competence of an individual and the environmental press over their life course. Adaptive behavior comes from the balance between competence and environmental press: This means that challenges posed by the environment that do not match personal capacities, negatively impact on behavior and wellbeing. (Luciano et al., 2022).

In the past few decades, researchers, gerontologists, and public health officials have raised concerns about ageism toward older adults including rising rates of abuse (economic, physical, and psychological), ageism (in employment and healthcare) and negative depictions of older adults (Lytle & Levy 2022).

Ageism has serious and far-reaching consequences for people's health, well-being and human rights. For older adults, ageism is associated with a shorter lifespan, poorer physical and mental health, slower recovery from disability and cognitive decline. Ageism reduces older adults' quality of life as physical health, due to effects on the immune system, the cardiovascular system, impact behavior and

ways of managing the care of older adults populations and personal experiences of aging, restricts their ability to express their sexuality and may increase the risk of violence against older adults (**WHO, 2021**).

Effort should be made in the media to present a balanced view of ageing, moving away from the conceptualization of older adults as a burden and away from unrealistic assumptions as, that older adults today can in some way avoid health challenges on their own without support. As well, gender inequalities exacerbate vulnerabilities experienced by older women. So, this issue demands profound cultural and legal changes in many countries (**Rudnicka et al.,2020**).

As the number of older adults increased, the number of nurses needed to care for them is increasing. Ageism towards older adults among healthcare professionals still exists, negatively impacting the health of older adults. Nurses should be aware of their own ageism towards older adults and they can seek out opportunities to improve their positive attitudes and increase their knowledge of the older adults associated health considerations, and empathic communication skills. Identification of factors impacting attitude and willingness to care for older adults is needed to develop educational interventions to decrease ageism, knowledge of the aging process and common chronic health conditions associated with aging important to improves the quality of care older adults receive in the acute care setting (**Fox, 2021**).

Anti-ageism interventions to effectively reduce ageism are the crux for the society to think about them (**Burnes et al.,2019**). Suggested education and intergenerational contact were effective, feasible and at low-cost. They promoted the right attitude towards ageing, knowledge, and comfort between older adults and nursing school students, through biographical-narrative and reminiscence therapy, which targeted to reduce ageism and promote cross-generational interaction (**Kranz et al., 2021**).

SIGNIFICANCE OF THE STUDY:

There is a lack of educational training focusing on Gerontological nursing for all nursing school students who will work with older adults and the given healthcare for older adults has been severely threatened by the negative ageism attitudes and misconceptions of nursing school students, with 63% of older adults expressing an unmet health need .(**Mohammed and Omar, 2021**).

Several complaints also surfaced about difficulties in communicating with the older adults as a result of the cognitive changes of nursing school students and their lack of respect for the decisions and privacy of older adults patients; Moreover, this had an impact on the care that the nursing school students provide to the older adults, and their ageism attitudes towards older adults (**Meriç et al., 2019**). Thus, so the present study aimed to assess ageism attitude of nursing schools students regarding older adults in Sharkia Governorate.

AIM OF THE STUDY:

The aim of this study is to:-

was to assess ageism attitudes of nursing school students regarding older adults in Sharkia Governorate.

This aim will be fulfilled through the following objectives: -

1. Determine the ageism attitudes of nursing schools students regarding older adults.
2. Identify the relation between nursing school students' ageism attitudes and their socio-demographic characteristics

Research questions:

1. What are the ageism attitudes of nursing schools students regarding older adults?
2. Is there a relation between nursing school students' ageism attitudes and their socio-demographic characteristics?

SUBJECTS AND METHODS

The aim of the current study was to assess ageism attitudes of nursing schools students regarding older adults in Sharkia Governorate. To fulfill the aim of the study and answer the research questions, the methodology was presented under the following four designs: technical, administrative, operational and statistical design.

I. Technical design:

The technical design of this study includes description of research design, study setting, subjects and tools of data collection.

Study design:

A descriptive, cross-sectional design was used to conduct this study.

Study setting:

The study was conducted at four settings. These were namely: Tulrak, Fakous, Awlad Saker and Kafer Saker nursing school which were randomly selected from 17 nursing schools in Sharkia Governorate.

Sample size calculation:

The sample size was calculated by software Epi-info package, assuming a prevalence of ageism toward older adults is 82.2% among 450 students in secondary nursing schools. Four secondary nursing schools were selected from 17 schools at Sharkia Governorate, level of confidence 95%, margin of error 5% and power of test were 80%. The sample included 200 students.

Sampling technique:

A Random sampling technique was the most appropriate method for the selection of the nursing school students.

Tools for data collection:

The investigator used two different tools for data collection, namely: Self-administered questionnaire of socio-demographic characteristic of the nursing school students, and Ageism Attitude Scale.

Tool I: Self-administered questionnaire. it was consisted of Socio-demographic characteristics of the nursing school students: This involved 15 questions concerning socio-demographic characteristics data of the nursing school students which entailed of age, sex, residence, parents` educational level, parents` job, home environment, family properties and social class ...etc. A adapted from **El-Gilany et al. (2012)**.

Socio-demographic scoring system :

For socio-economic level of nursing school students in the study sample. The total score is 48 and the social class is classified to high $\geq 70\%$ [33.6 – 48], medium 40- < 70% [19.2 - < 33.6] – low < 40% [< 19.2] .

Tool II: Ageism Attitude Scale :This tool was used to determine nursing school students` ageism attitudes. It adopted by **Vefikulucay and Terzioglu (2011)**, it includes of 23 questions covering three domains : Restricting Life of the Older adults, Positive Ageism and Negative Ageism.

Ageism Attitude Scoring System:

For ageism Attitude, the responses “agree”, “to some extent”, and “disagree” were respectively scored 3, 2 and one. The scoring was reversed for negative statements, the items including negative

attitude sentences (1, 3, 5, 10, 11, 12, 14, 15, 16, 17, 18, 19, 21, 22) were reversely coded. The scores of the items were summed-up and the total divided by the number of the items, giving a mean score. These scores were converted into a percent score, and means and standard deviations were computed. The total score was 69, and the attitude was considered positive if the percent score was 60% (≥ 41.4) or more and negative if less than 60% (< 41.4).

Content validity:

Validity was done by A panel of 3 experts from nursing and medical staff in Gerontological and Community Department. They reviewed the tools for face and content validations through ascertaining, clarity, relevance, comprehensiveness, and understandability. The tools were modified according to their comments and suggestions.

Reliability:

Reliability of proposed tools was done by Cronbach's Alpha test, it was 0.782 for tool (II).

Field work:

Upon securing all official permission, the process of data collection was started in August 2022 and continued through October 2022. The investigator was visiting the study setting at 9.00 a.m – 2.00p.m, met with the students individually, explained to them study aim and procedures, and invited them to participate. Those who give their oral consent were interviewed using three data collection tools. The time needed to file-in three formes ranged between 35 and 40 minutes for each nursing school students and the investigator performed the field work two days weekly (Sundays & Wednesdays).

Pilot study:

The pilot study was conducted on 20 students those represent 10% of the study sample, to test the applicability of the constructed tools and the clarity of the included questions related to students' ageism attitudes regarding older adults. Necessary modifications were done according to the pilot results, and the tools were finalized accordingly the nursing school students who shared in the pilot study were excluded in the main study sample

Administrative design:

An official request to conduct the study was issued directed from Faculty of Nursing Zagazig university to the directors of the selected nursing schools, explaining the aim of the study in order to obtain their permissions and cooperation.

Ethical considerations:

The research protocol was approved by The Ethics Committee at the Faculty of Nursing Zagazig University. All necessary official permissions to conduct the study were secured. The investigator provided a sample explanation of the aim of the study to each student to obtain his/her oral consent to participate in the study. The investigator emphasized that the nursing school students was voluntary, and the student could withdraw at any time without any need to justify his/her decision, and that any raised question would be answered. They were also informed that any collected data would be treated confidentially and used only in the research without harmful effects expected from nursing school students.

Statistical design:

Data entry and statistical analysis were done using The Statistical Package for the Social Sciences (SPSS 22.0) statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for

quantitative variables. The Cronbach alpha coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Quantitative continuous data were compared using ANOVA tests. Qualitative categorical variables were compared using a chi-square test (X^2). Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used. The Spearman rank correlation was used for assessment of the interrelationships among quantitative variables and ranked ones. In order to identify the independent predictors of ageism attitude scores multiple linear regression analysis was used after testing for normality, and homoscedasticity, and analysis of variance for the full regression models was done. Statistical significance was considered at p-value <0.05 and high statistical significance p-value <0.001 .

RESULTS:

Table (1) describes that the study sample involved 200 of nursing schools students, their age ranged between 18 and 19 years, with mean 18.33 ± 0.47 . Furthermore, 71.0% and 81.0% of them were female and resided in rural areas respectively.

Table(2) reveals that 36.5% of the nursing school students` fathers and mothers had secondary education, and the highest percentages of their fathers and mothers` job were 47.0% and 76.0% (employee and housewife respectively). Moreover, 79.0% of them had family size ranged between five and six members with sufficient and saving income 48.0%.

Table (3) indicates that 74.0% of the nursing schools students lived in their ownership home which consisted of four rooms. Regarding home environment and family properties, 100% of them had clear water, electricity, refrigerator, television, washing machine and phone in their homes. Additionally, 98.0% and 89.0% of students went to private clinics, and governmental hospital for health care respectively.

Figure (1) illustrated that, 86.0% of the nursing school students were in the moderate class of socio-economic level.

Table (4) Concerning ageism attitudes among students regarding older adults in study sample, Table 4 reveals that 78.0% of students agreed that the older adults should live in homes for the elderly and the older adults` life should be limited to their homes. As well, 18.0% of them agreed that the older adults people can't carry bags and packages without help with total mean 15.02 ± 2.71 .

Table (5) reveals 33.5% of nursing school students agreed to that the older adults are more compassionate. while, 16.0% of them agreed that the older adults are more tolerant than young people. Furthermore, the total mean positive ageism attitude among students was 16.79 ± 3.03 .

As displayed in **Table 6**, the highest agreement of the nursing school students (77.0%) about that the preference should be given to young people over the older adults for hiring for jobs, while, 69.5% of them agreed that the older adults should not go outside on their own. In addition, their total mean ageism attitude was 39.99 ± 6.43 .

Figure (2) illustrates that 22.5% of the nursing school students had positive ageism attitude to work with older adults.

Table (7) demonstrates that, the only statistically significant relation was between nursing school students` ageism attitude level and their residence in rural areas.

Table (8) reveals that, there were statistically significant high positive correlations between nursing school students` ageism attitude level ($r=0,227$) and their residence.

Discussion:

Although ageism is garnering increasing recognition as a danger to the enjoyment of human rights by older adults, little is being done by way of active measures to combat its insidious effects. Consequently, the promotion of ageism toward older adults as being incompetent, slow and/or an economic burden (amongst other negative imagery) can become a self-fulfilling prophecy, negatively affecting both the individual and society more generally. By perpetuating harmful perceptions of older adults, and denying full and equal respect and participation, ageism therefore operates as a driver of elder abuse. So, the society must seek to improve understandings of the multiple benefits which flow from the full participation of older adults in local communities and society more broadly (Lewis et al.,2020).

As regards age of the nursing school students, the present study showed that the mean age of the nursing students was 18.33 ± 0.47 . From the investigator point of view; this result might be due to the nursing school targeting the top students of third year preparatory schools. According to socio-demographic characteristic, this study reported the majority of nursing students was female. From investigator view point, this result may be due to female get the highest scores in third grade preparatory, and are having a greater desire than male to enroll in nursing schools.

These findings are approved with the study performed by Meriç et al. (2019) in Turkey which entitled "Relationship between Nursing Students' Attitudes toward Elderly Discrimination and Opinions About Home Care Services", which indicated that the percentage of female to male was 69.5% to 30.5%.

In relation to residence and type of home, the results of the current study indicated that the majority of the nursing school students resided in rural areas and around three quarters of them live in their own houses. These findings might attributed to the setting of data collection at Sharkia Governorate which is characterized by its agricultural nature and most of its cities are rural areas.

These results are supported with those of the study performed by Mohammed and Omar (2019) in Minia, Egypt, who carried out their study to assess Knowledge about Elderly Care and its Relation to Ageism Attitude among Undergraduate Nursing Students and mentioned that 68.85% of the studied sample residing in rural areas and more than three quarters of them live in their own houses.

Concerning on the main research question of this study was about determining the ageism attitudes of nursing school students among older adults, the result of current study found that the highest mean of the ageism attitude` domains were positive ageism attitude (16.79 ± 3.03), followed by restricting life of older adults (15.02 ± 2.71), and the lowest domain was negative ageism attitude toward older adults (8.18 ± 3.11). Overall, less than one quarter of the studied students had positive ageism attitude toward older adults, with mean was 39.99 ± 6.43 .

The investigator views, that these results might be due to the minority of nursing school students had positive low self- esteem to work with older adults whereas, low self-esteem means poor confidence and that also causes negative attitude toward older adults, according to Abo-Alazm et al. (2021) who carried out a study about, "Nursing Students' Attitude toward Nursing Profession: Its Relation to Their Self Esteem, in Egypt". As well, (Hsu et al., 2019), who reported that, with advanced age, the functional ability of older adults to perform daily living activities decreases, threatening their independence level and increasing caregiving burden. As well, Van Wicklin, (2020) who conducted study about "Ageism in Nursing" and demonstrated that nursing schools students do not promote gerontological nursing as a preferred career choice.

These previous results matched with those of Mohammed and Omar (2019) who conducted study about "Knowledge about Elderly Care and Its Relation to Ageism Attitude among Undergraduate Nursing Students in Minia, Egypt" reported that nursing students had negative ageism attitude toward older adults and found that the highest mean of the ageism attitude` domains were positive attitude (22.40 ± 6.27), followed by restricting life of older adults (20.31 ± 4.13) and the lowest mean was (11.34 ± 3.54). Overall, the total score of the students` positive ageism attitude was 17.2% toward older adults, with mean 54.04 ± 11.27 . In addition, Rababa et al. (2020) who carried out a study about "Association of nurses'

level of knowledge and attitudes to ageism toward older adults: Cross-sectional study Nurses in **Jordan**" reported that the students hold negative attitudes toward older adults.

On other hand, these previous results are in disagreement with those study by **Allué-Sierra et al. (2023)** who carried out a study about "Ageism and nursing students, past or reality" and revealed that generally nursing students had positive ageism attitudes towards older adults, In the same line the study done by **Aydemir and Esenkaya (2020)**, about "Evaluation of Ageism Attitudes of Healthcare Practitioners Working in a University Hospital in **Turky**" and revealed that the total mean score of healthcare practitioners was 82.16 ± 9.33 . the highest mean score of the restricting life of older adults was (35.51 ± 5.22), followed by positive ageism was (28.70 ± 5.35), and the lowest negative ageism domain was (18.93 ± 3.52) and reported that healthcare practitioners had a positive attitude towards ageism.

The mean score findings of this present study were lower as compared with study done by **Toygar and Kardakovan (2020)**, who carried out a study about "Factors Affecting the Attitudes of Nursing Students toward Ageism in **Turkey**" and found that, the highest mean of the ageism attitude` domains was restricting life of the older adults (34.95 ± 3.44), followed by positive attitude 30.55 ± 4.20 and the lowest mean was 18.47 ± 3.28 . Overall, the mean score of the Ageism Attitude Scale was 83.97 ± 7.72 .

CONCLUSION

In light of the current study, it can be concluded that, the majority of the nursing school students had negative ageism attitude. Additionally, there was only statistically significant relation between nursing school students' ageism attitudes level and their residence in rural areas.

RECOMMENDATIONS:

On the basis of the most important findings of the study, the following recommendations are suggested:

- Effective health educational package should be implemented for nursing school students in order to raise awareness and to improve positive ageism attitudes regarding older adults.
- Increase in clinical settings for Gerontological practice in order to give a chance for nursing school students to be more in contact with care for an older adults.
- Early psychological interventions targeting this vulnerable nursing school students may be beneficial.
- Further studies especially qualitative ones should be conducted to explore factors that influence ageism attitude of nursing school students towards the older adults.

Table 1: Socio-demographic characteristics of nursing school students (n=200).

Socio-demographic characteristics	Frequency	Percent
Age:		
	18	67.0
> 18	66	33.0
Mean±SD		18.33 ± 0.47
Rang	(18 – 19)	
Sex :		

Male	58	29.0
Female	142	71.0
Residence:		
Rural	162	81.0
Urban	38	19.0

Table 2: Socio-demographic characteristics of the nursing school students' family (n=200).

Socio-demographic characteristics	Frequency	Percent
Father's Educational level:		
Can't read & write	15	7.5
Basic education	48	24.0
Secondary	73	36.5
Two years institute	17	8.5
University	43	21.5
Post graduate	4	2.0
Father's job:		
No work	6	3.0
Craftsman	62	31.0
Farmer	27	13.5
Businessman/ tradesman	4	2.0
Employee	94	47.0
Professional [teacher, doctor, lawyer....etc.]	7	3.5
Mother's Educational level:		
Can't read & write	25	12.5
Basic education	46	23.0
Secondary	73	36.5
Two years institute	18	9.0
University	36	18.0
Post graduate	2	1.0
Mother's job:		

No work [housewife]	152	76.0
Worker [craftsman- farmer]	2	1.0
Businesswomen/ tradeswomen	2	1.0
Employee	42	21.0
Professional [teacher, doctor, lawyer....etc.]	2	1.0
Family size :		
< 5	19	9.5
5-6	158	79.0
≥ 7	23	11.5
Crowding index:		
<2	200	100.0
Family income:		
insufficient & loan	13	6.5
Only sufficient daily needs	27	13.5
sufficient daily needs & emergency	64	32.0
sufficient & saving	96	48.0

Table 3: Home characteristics & social class of the nursing school students (n=200).

Home characteristics	Frequency	Percent
Home type:		
Ownership of 4 rooms	148	74.0
Ownership of less than 4 rooms	49	24.5
Rent of 4 rooms	1	0.5
Rent of less than 4 rooms	2	1.0
Home environment:		
Clear water	200	100.0
Electricity	200	100.0
Natural gas	41	20.5
Sanitation	173	86.5

Garbage collected locally	108	54.0
Air condition	32	16.0
Family property:		
Refrigerator	200	100.0
Radio	98	49.0
TV	200	100.0
Washing machine	200	100.0
Phone	200	100.0
Car	39	19.5
Lands	102	51.0
Shop	39	19.5
Another home	39	19.5
Animals	50	25.0
Computer	80	40.0
Presence of all above	7	3.5
Family Health Care Places:		
Private hospital	72	36.0
Health insurance	117	58.5
Governmental hospital	178	89.0
More than one source	46	23.0
Self-care	38	19.0
Private clinics	196	98.0
Governmental clinics	53	26.5

Figure 1: Socio-economic level of nursing school students in the study sample (n=200).

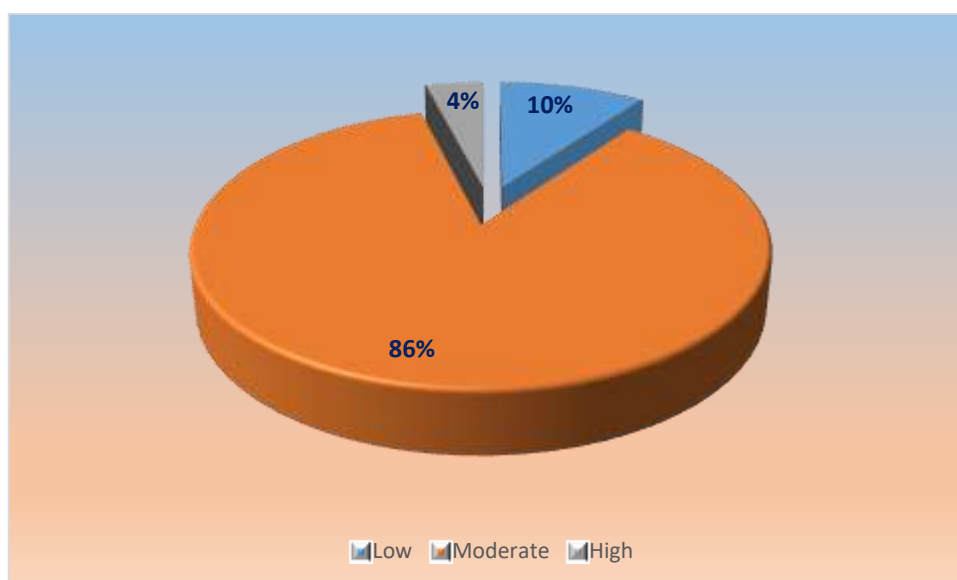


Table 4: Ageism attitudes [Restricting life of older adults] among students (n=200).

Items	Agree		To some extent		Disagree	
	No.	%	No.	%	No.	%
A1. The external appearance of the older adults is repulsive.	103	51.5	72	36.0	25	12.5
A2. Care of the older adults should not be considered to be an economic burden by family members.	78	39.0	72	36.0	50	25.0
A3. Older adults can't carry bags and packages without help.	36	18.0	39	19.5	125	62.5
A4. It is unnecessary for the older adults to buy homes, cars, possessions or clothes.	105	52.5	59	29.5	36	18.0
A5. The older adults should live in homes for the elderly.	156	78.0	35	17.5	9	4.5
A6. Life of the older adults should be limited to their homes.	156	78.0	25	12.5	19	9.5
A7. Older adults should be paid less than young people in their work lives.	112	56.0	44	22.0	44	22.0
A8. Preference should be given to care for young people over the older adults in the hospital.	144	72.0	29	14.5	27	13.5
A9. Older adults who lose their spouses should not remarry	125	62.5	46	23.0	29	14.5
Total mean score out of 27						
Mean ± SD						

Table 5: Ageism attitudes [Positive ageism] among nursing school students regarding older adults (n=200).

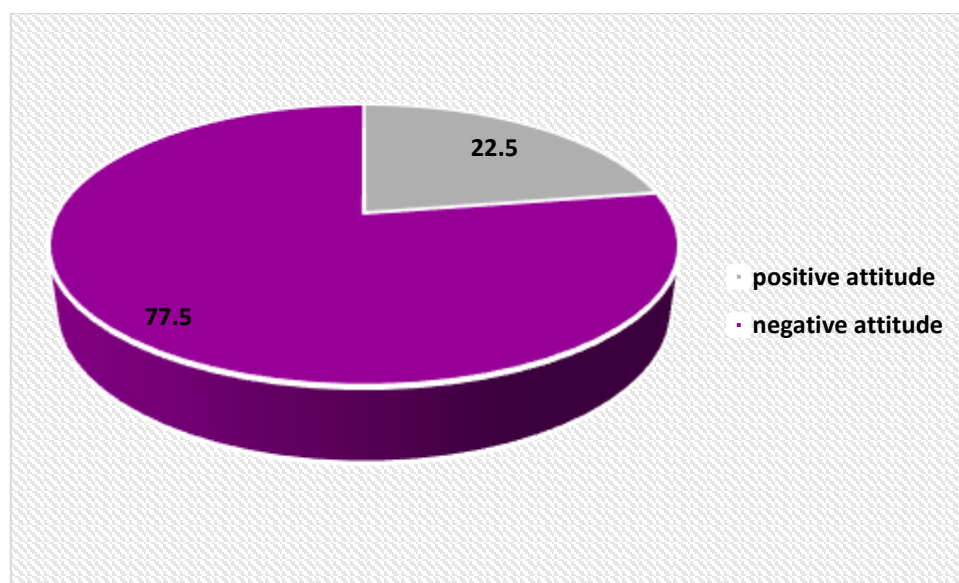
Items	Agree		To some extent		Disagree	
	No.	%	No.	%	No.	%
B1. Older adults are more tolerant than young people.	32	16.0	59	29.5	109	54.5
B2. Older adults are more compassionate.	67	33.5	115	57.5	18	9.0
B3. When decisions are made in the family the opinions of older adults should be considered.	60	30.0	127	63.5	13	6.5
B4. The older adults should be shown importance by the family members with whom they live.	64	32.0	121	60.5	15	7.5
B5. Older adults are more patient than young people.	47	23.5	121	60.5	32	16.0
B6. Young people should learn from the experiences of older adults.	53	26.5	129	64.5	18	9.0
B7. When the family budget is being developed the opinions of the older adults should be sought.	47	23.5	130	65.0	23	11.5
B8. Preference should be given to the older adults in places where waiting in line is required.	53	26.5	110	55.0	37	18.5
Total mean score out of 24						
Mean ± SD	16.79 ± 3.03					

Table 6: Ageism attitudes [negative ageism] among the nursing school students regarding older adults (n=200).

Items	Agree		To some extent		Disagree	
	No.	%	No.	%	No.	%
C1. Preference should be given to young people for promotions in work situations.	150	75.0	32	16.0	18	9.0
C2. Preference should be given to young people over the elderly for hiring for jobs.	154	77.0	23	11.5	23	11.5

C3. Older adults are not able to adapt to changes like young people.	152	76.0	24	12.0	24	12.0
C4. Older adults are always ill.	148	74.0	33	16.5	19	9.5
C5. Older adults should not go outside on their own.	139	69.5	39	19.5	22	11.0
C6. The basic responsibility for the older adults should be to help their children with tasks such as housework and kitchen chores	143	71.5	41	20.5	16	8.0
Total mean score out of 18 Mean ± SD	8.18 ± 3.11					
Total attitude mean score out of 69 Mean ± SD	39.99 ± 6.43					

Figure 2: Total percentage level of ageism attitude among the nursing school students regarding older adults (n=200).



Positive \geq 60% of total score Negative < 60% of total score

Table 7: Relation between nursing school students' ageism attitude level and their socio-demographic characteristics (n=200).

socio-demographic characteristics	Total attitude level				X ² test	p-value
	Positive (n=45)		Negative (n=155)			
	No.	%	No.	%		

Age:							
	18	33	24.6	101	75.4	1.05	.305
	> 18	12	18.2	54	81.8		
Sex:							
	Male	12	20.7	46	79.3	.154	.695
	Female	33	23.2	109	76.8		
Residence:							
	Rural	29	17.9	133	82.1	10.34	.001*
	Urban	16	42.1	22	57.9		
Social class :							
	Low	2	10.0	18	90.0	1.99	.368
	Medium	41	23.8	131	76.2		
	High	2	25.0	6	75.0		

(*) Statistically significant at $p < 0.05$ -- (**) highly significant at $p < 0.01$

Table 8: Correlations matrix of nursing school students' ageism attitude level and their socio-demographic characteristics.

socio-demographic characteristics	Spearman's rank correlation coefficient
	Ageism Attitude
Age	-.073
Gender	.028
Residence (urban)	.227**
Social class (High)	.089

(*) Statistically significant at $p < 0.05$

(**) statistically significant at $p < 0.01$

Reference

1. **Teater, B., & Chonody, J.M. (2020).** How do Older Adults Define Successful Aging? A scoping review. *The International Journal of Aging and Human Development*; 91(4): 599-625.
2. **Luciano, A., Pascale, F., Polverino, F., & Pooley, A. (2020).** Measuring Age-Friendly Housing: A framework. *Sustainability*; 12(3): 848.
3. **Lytle, A., & Levy, S.R. (2022).** Reducing Ageism toward Older Adults and Highlighting Older Adults as Contributors during the COVID-19 Pandemic. *Journal of Social Issues*; [online]. Cited 2022 October 22. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9537920/>
4. **World Health Organization. (2021).** Global report on ageism: executive summary. [online]. Cited 2022 October 3. Retrieved from: <https://www.who.int/publications-detail-redirect/9789240020504>
5. **Rudnicka, E., Napierała, P., Podfigurna, A., Męczekalski, B., Smolarczyk, R., & Grymowicz, M. (2020).** The World Health Organization (WHO) approach to healthy ageing. *Maturitas*, 139, 6-11. [online]. Cited 2022 November 10. Retrieved from: <https://pubmed.ncbi.nlm.nih.gov/32747042/>

6. **Fox, M. (2021).** The Relationship Between New Graduate Registered Nurse Knowledge, Experiences, Attitudes, and Age Bias Toward the Older Adult (Doctoral dissertation, University of South Florida). [online]. Cited 2022 October 20. Retrieved from:<https://search.proquest.com/openview/6b0d06c4d59a029efa44ee45364dcaef/1?pq-origsite=gscholar&cb1=18750&diss=y>
7. **Burnes, D., Sheppard, C., Henderson, C.R., Wassel, M., Cope, R., Barber, C., & Pillemer, K. (2019).** Interventions to Reduce Ageism against Older Adults: A Systematic Review and Meta-Analysis. *American Journal of Public Health*; 109(8): e1-e9.
8. **Kranz, D., Thomas, N.M., & Hofer, J. (2021).** Changes in Age Stereotypes in Adolescent and Older Participants of an Intergenerational Encounter Program. *Frontiers in Psychology*, 12, 658–797. [online]. Cited 2022 October 19. Retrieved from: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.658797/full>
9. **Meriç, M., Ergün, G., Pola, G., Dölek, M., ToturDikmen, B., & Dal Yılmaz, Ü. (2019)** Relationship Between Nursing Students' Attitudes Toward Elderly Discrimination and Opinions About Home Care Services. *J of Home Health Care Management & Practice*; 31(4): 219-223.
10. **Mohammed, R.F., & Omar, A.A. (2019).** Knowledge about Elderly Care and its Relation to Ageism Attitude among Undergraduate Nursing Students. *American Journal of Nursing*; 7(1): 73-78.
11. **El-Gilany, A., El-Wehady, A., & El-Wasify, M. (2012).** Updating and validation of the socioeconomic status scale for health research in Egypt. *Eastern Mediterranean Journal*;18(9): 962-968.
12. **Vefikuluçay, D.Y., & Terzioğlu, F. (2011).** Development and psychometric evaluation of ageism attitude scale among the university students. *Turkish Journal of Geriatrics*; 14:259-268.
13. **Lewis, B., Purser, K., & Mackie, K. (2020).** The Existing Framework for Protecting the Human Rights of Older Persons. In *The Human Rights of Older Persons*. Springer, Singapore; (pp. 37-66).[online]. Cited 2022 November 18. Retrieved from: https://link.springer.com/chapter/10.1007/978-981-15-6735-3_2
14. **Abo-Alazm A, R., Mostafa S, M., & Mohammed E, S. (2021).** Nursing Students' Attitude toward Nursing Profession: Its Relation to Their Self Esteem. *Egyptian Journal of Health Care*; 12(4): 773-790.
15. **Hsu, M.H., Ling, M.H. and Lui, T.L. (2019)** Relationship Between Gerontological Nursing Education and Attitude toward Older People. *J of Nurse Education Today*;74(1): 85-90.
16. **Van Wicklin, S.A. (2020).** Ageism in Nursing. *Plastic and Aesthetic Nursing*; 40(1): 20-24.
17. **Rababa, M., Hammouri, A.M., Hweidi, I.M., & Ellis, J.L. (2020).** Association of Nurses' level of Knowledge and Attitudes to Ageism toward Older Adults: Cross-sectional study. *Nursing & Health Sciences*; 22(3): 593-601.
18. **Allué, Sierra, L., Antón, Solanas, L., Rodríguez, Roca, B., Anguas, Gracia, A., Echániz, Serrano, E., Fernández, Rodrigo, M.T., & Satústegui, Dordá, P.J. (2023).** Ageism and Nursing Students, Past or Reality?: A systematic review. *Nurse Education Today*; 105739.
19. **Aydemir, A.Z.İ.Z.E., & Esenkaya, D. (2020).** Evaluation of Ageism Attitudes of Healthcare Practitioners Working in a University Hospital. *Geriatrisk Bilimler Dergisi*; 3(1): 3-10.
20. **Toygar, I., & Kardakovan, A. (2020).** Factors Affecting The Attitudes of Nursing Students toward Ageism. *Nursing Practice Today*; [online]. Cited 2022 November 7. Retrieved from: <https://npt.tums.ac.ir/index.php/npt/article/view/665>