



# Attitudes toward the elderly among the health care providers: Reliability and validity of Turkish version of the UCLA Geriatrics Attitudes (UCLA-GA) scale

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## ABSTRACT

The population of above 65 years of age is increasing fast in societies, as the life expectancy is increasing and it leads to high demands for health care service. Health care service for the elderly should be provided by trained team in this field. Success of health care service to be rendered is related to knowledge, skill and attitudes of team members in different profession group (doctor, nurse, social worker, psychologist, etc.) about health of elderly. The aim of this study is to establish the Turkish validity and reliability of 14-question UCLA-GA scale, validity and reliability of which was proven and used the most frequently among the scales that assess attitudes of health care providers toward elderly. A total 256 people, 150 of them were post-graduates, 106 of them were pre-graduates were involved in the study at Ege University, medical faculty between the dates of December 2010 and February 2011. Majority of the participants (63.67%) were women and in the age group of 18–29 (58.3%). The ratio of the ones undergoing geriatric education is 38.2%. It was found out that the Kaiser–Meyer–Olkin (KMO) sampling adequacy test presented high correlation among the items in both single adult households of 14 items of the scale was 0.72. Cronbach alpha value of the scale was found as 0.67 and satisfying. As a result of examination with Tukey's test of additivity, it was seen that items of the scale have additive quality ( $F = 85.25$ ,  $p < 0.0001$ ). When we calculated the correlation of each item with total score, it was found that correlation coefficient varied between 0.32 and 0.68. Test–retest reliability was defined by use of Pearson correlation analysis. It was determined that test–retest consistency of correlation scale between two measurements was  $r = 0.51$ . As a result of test–retest application, the correlation between the first and second application scores of each item was analyzed to determine the internal consistency of each item of the scale. Based on this analysis it was found as  $p < 0.01$  between  $r = 0.22$  and 0.65. As a conclusion, Turkish validity and reliability of UCLA-GA scale was demonstrated in this study. Since Turkish version of UCLA-GA scale is short and clear, it is recommended to use it for determining attitudes of health care providers toward elderly in geriatrics.

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## 1. Introduction

The population of above 65 years of age in societies is increasing fast as the life expectancy is increasing. Ratio of elderly population to the total population is about 20% in most of European states. Turkey is one of the countries where elderly population is increasing fast. According to official figures of TUIK (2011) in Turkey, population of above 65 years of age constitutes 7.2% of total population in 2010 (TUIK, 2011). Forward-looking projections show that total population of above 65 years of age in 2025 will constitute 9.8% of total population. In other words,

population of above 65 years of age in Turkey based on 2010 data will reach to 8,435,000 from 5,063,000, with the increase of 66.6%. This increase within 15-years period will occur more rapidly than many European countries experienced in the past (TUIK, 2011). Elderly population will present the demands of social, economic, cultural, and architectural and health. 40–50% of applications to the hospital in the USA comprise of elderly (Brooks, 1993). It is determined that half of the patients treated at hospitals in the United Kingdom are the elderly (McKinlay and Cowan, 2006).

Health care service to the elderly population should be provided by a trained team in this matter. Success of health care service to be rendered is related to knowledge, skill and attitudes of team members in different profession group (doctor, nurse, social worker, psychologist, etc.) about health of elderly.

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Today many countries cannot meet the requirement of the number of trained professionals in the field of geriatrics and gerontology. Reasons of insufficient professionals number include negative point of view about the elderly, the fact that no science that geriatrics and gerontology is preferred and moreover, lack of geriatrics curriculum in different profession educations and quantitative deficiency of institutions providing education. Although demographic and sociological change is very fast, developments in geriatrics do not occur in the same rate. Provision of health care service to the elderly in Turkey is performed by family physicians at the primary care and internist or fewer geriatricians (almost 45 geriatrician) usually only with a nurse or a psychologist at the government hospital or university hospital. For these reasons, geriatrics education in the education program of medical faculty and schools of nursing becomes crucial. Determination of attitude of health care providers contacting the elderly, especially nurse and doctor toward elderly is important for the assessment of existing education programs and for planning future education. Attitude of health care providers toward elderly report different results such as negative, neutral or positive in the studies about this matter (Perrotta et al., 1981; Haken et al., 1995; Reuben et al., 1995; Ehrlich et al., 2003; Fitzgerald et al., 2003; Cankurtaran et al., 2006; Sahin, 2007; Usta et al., 2011).

In the studies assessing the attitudes of health care providers toward the elderly, it was determined that variances such as age, sex, profession, whether geriatrics education was received or not, years of profession are influential. According to the study on doctors working at the hospital, it was determined that attitudes of above 30 years of age, female doctors having experiences for more than 10 years and the ones serving for elderly services before and having good relations with the elderly in social life have more positive attitudes toward elderly (Leung et al., 2011). It is stated that health care providers working at Oncology clinic in the United Kingdom have negative attitude in general and no difference is in question between medical staff and nursing staff (Kearney et al., 2000).

It was determined that psychologists with high self-confidence and considering self-getting older positive have more positive attitude toward the elderly (Koder and Helmes, 2008). Positive affect of geriatrics education on the attitude was demonstrated (Lewis et al., 2007; Lambrinou et al., 2009).

The most frequent used scales that assessing attitude toward elderly is the 14-question UCLA-GA (University of California at Los Angeles geriatrics attitude) scale reliability and validity was proven by Reuben et al. (1998). UCLA-GA scale was used in a study carried out by involving the students of grades 1, 4, and 6 assessing the attitudes of students of medical faculty toward the elderly and the fact that the scale had no Turkish validity and reliability was reported as the restriction of the study by authorities (Cankurtaran et al., 2006).

The scale was designed to assess general impressions about the elderly, perceived value of the elderly, distributive justice of societal resources toward them. The aim of our study was to demonstrate the validity and reliability of the Turkish-language version of UCLA-GA scale.

## 2. Subjects and methods

This cross-sectional study was carried out in Izmir between the dates of December 2010 and February 2011. The consent of ethical council was obtained from Ege University before the study. Permit of authorities was obtained for the transfer of UCLA-GA scale in our language.

### 2.1. Sample group

A total of 256 persons, 150 of them were post-graduates and 106 of them were pre-graduates, were included in the study. The

post-graduated group comprised of geriatricians, internal medicine and family doctors, psychiatrists, physical therapy specialists, practitioners, nurses, pre-graduated group comprised of students of last grade of medical faculty and school of nursing.

### 2.2. Data collection tools

Health care providers completed all questionnaires with the method of self-statement method. 6-Question form was used to determine socio demographic characteristics. Two scales were employed to assess the attitude of health care providers toward the elderly. One of them was chosen as "The UCLA-GA scale" adapted to Turkish. This scale was developed by Reuben et al. (1998). The number of items was short, the scale was multi-dimensional and English validity reliability study was performed by the data collected from students of medical faculty and health care providers. Items of the scale were assessed with a scale of 5 Likert type with the options of "I don't agree absolutely", "I don't agree", "I am indecisive", "I agree", and "I absolutely agree". Participants gave "5" points if they absolutely agreed with the sentences of positive attitude toward the elderly, they gave "4" points if they agreed, they gave "3" points if they were indecisive, they gave "2" points if they didn't agree, they gave "1" point if they didn't agree absolutely. Sentences of negative attitude were scored as "1" point if they absolutely agreed, "2" points if they agreed, "3" points if they were indecisive, "4" points if they didn't agree, "5" points if they didn't agree absolutely in the reverse order of the above-mentioned. Total four aspects are seen as being "social values, medical care, compassion, resources distribution". Total attitude score comprises of composition of these four aspects. The highest score is 70 and it is understood that as the score increases, more positive attitude they have. Another scale "Scale of elderly discrimination attitude" (SEDA) was developed by Vefikuluca (2008) and it was a scale of 5 Likert type with the options of "I don't agree absolutely", "I don't agree", "I am indecisive", "I agree", and "I absolutely agree" with 23 items validity and reliability of which was proven. Cronbach Alpha reliability coefficient of the scale was found as 0.80. Positive and negative attitude expressions are present in the scale. Positive attitude expressions are scored as 5 = I absolutely agree, 4 = I agree, 3 = I am indecisive, 2 = I don't agree, 1 = I don't agree absolutely. Negative attitude expressions of the elderly discrimination are scored in the reverse order of the above-mentioned scoring.

Maximum score of the scale is "115", minimum score is "23". As the score increases, positive attitude relating to the elderly discrimination increases. Scale of attitude of elderly discrimination consists of 3 aspects. These are as follows:

1. Limiting the life of elderly: beliefs and perception of the society for limiting the social life of the elder.
2. Positive discrimination for the elderly: positive beliefs and perceptions of the society for the elder.
3. Negative discrimination for the elderly: negative beliefs and perception of the society for the elder.

### 2.3. Psychometric assessment

Psychometric assessment of the scale was carried out in compliance with the literature (Reuben et al., 1998; Lee et al., 2005). These stages were followed in the beginning: obtaining permit for the use of questionnaire, five advanced translations from English into Turkish being independent from each other, combining English translations by a doctor being influential in English and making it single tool comprised, combining by a bilingual translator (knowing Turkish and English at the level of mother language) and re-translating advanced translation scale into English being the original language, comparing the scale re-translated to the original and discussion on Turkish version by a

study group. All items were assessed one by one to ensure cultural and semantic harmony of questions for the advanced Turkish translation of the scale by the study group. “Social security institution” was used instead of “medicare” specified in questions 2 and 5 of the scale as health coverage and “organizing the life” was used to increase the intelligibility instead of “organized” in question 6 and “perception” was used instead of “sympathy” in question 9. Opinions of the experts of the subject were received about the scope of items constituting the scale to assess the contextual validity from English into Turkish. Pre-test was carried out with 5 health care staff. It was understood that questionnaire was completed for average 10–15 min.

Test–retest method was employed to assess the reliability of the scale. The scale was applied again 2 weeks after the first application on 120 individuals. Cronbach alpha coefficient was calculated for internal consistency. Feasibility assessment was performed on unanswered questions. Tukey’s test of additivity was used to determine whether the items of the scale had the quality of additive scale or not.

Factor analysis was applied for construct validity and varimax rotation method and principal component analysis were employed. Factors based on relation levels of the items were determined in accordance with their factor loads. Accordingly, items self-value of which was 1 and factor load of which was higher than 0.4 were included in the final version of the scale.

Average scores of the persons having geriatrics education and not having geriatrics education were compared with *t*-test for the assessment of known group validity. Ratio of persons getting the full score and the percentage of the ones getting the lowest score and ceiling and base effect were assessed to evaluate the internal consistency.

Analysis of data was performed in SPSS 13.0 program. In the beginning, compliance test for normal distribution was applied to all variables and consistency with parametric test criteria was assessed.  $p < 0.05$  value was accepted as statistically significant for the assessment of data. Results were expressed as mean  $\pm$  S.D. The relation of the scores of scale and socio demographic characteristics of the participant was assessed with *t*-test and ANOVA.

### 3. Results

Socio demographic characteristics of the participants are shown in Table 1. Most of the participants are women and in the age group of 18–29. The percent of the ones having geriatrics education is 58.3%.

Results of analysis of validity reliability of UCLA-GA scale adapted to Turkish are as follows: overall answering quality of the scale is good. No systematic rejection was seen for any items. The ratio of propositions unanswered ranged between 0.4% (item 9) and 0.8% (item 6) for the questions. No participant answering positive (ceiling) or negative (base) completely to all items was not determined.

Internal consistency coefficient (Cronbach alpha) of the scale was found as 0.67 and sufficient. As a result of Tukey’s test of additivity, it was seen that items of the scale had the additive quality ( $F = 85.25$ ,  $p < 0.0001$ ).

Item-total correlation coefficient reliability: when correlation of each item with the total score was calculated, it was found out that coefficient of correlation varied between 0.32 and 0.68.

Test–retest reliability was identified by use of Pearson correlation analysis. It was determined that test–retest consistency of the scale for the correlations between two measurement was  $r = 0.51$ . As a result of test–retest, correlation between the first and second application scores of each item was examined to determine internal consistency. According to this analysis  $r$  was found as 0.22–0.65 and  $p < 0.01$ .

**Table 1**

Distribution of study group by sociodemographic characteristics.

Parameters	n (%)
Sex	
Women	163 (63.67)
Men	93 (36.33)
Profession	
Pre-graduation	106 (41.41)
Student of school of nursing	63 (24.6)
Student of medical faculty	43 (16.8)
Post-graduation	150 (58.59)
Assistant	41 (16.0)
Practitioner	28 (10.9)
Nurse/physiotherapist/dietician/psychologist	40 (15.6)
Specialist	41 (16.0)
Age (years)	
18–24	90 (38.0)
25–29	48 (20.3)
30–34	31 (13.1)
35–39	23 (9.7)
40–44	28 (11.9)
Presence of elderly relative	
Yes	232 (91.7)
No	21 (8.3)
Visiting old people’s home	
Yes	142 (56.3)
No	110 (43.7)

KMO value of 14 items of the scale was found as 0.72. Since the value obtained was higher than 0.60, it was understood that factor analysis could be applicable to data. With the sphericity test of Barlett Chi-square was found as 386.85 and  $p < 0.0001$ . Results of Barlett’s test show that data were derived from multivariant normal distribution. Varimax rotation and principal components analysis were applied to 14-item scale and 4 factors, self-value of which was higher than 1 were obtained. These four factors explain 48.1% of variance. Factors and their factor loads are presented in Table 2.

As a result of known group validity assessment, it was determined that elderly attitude score of the persons with geriatrics education at statistically significant level was more positive ( $t = 4.19$ ,  $p < 0.001$ ) (Table 3). The score of scale adapted to Turkish was calculated as average  $49.57 \pm 5.65$  (36–65).

As a conclusion, UCLA-GA Turkish scale was found as a reliable and valid scale based on the results of validity and reliability analysis.

Distribution of scores of both scales of participants based on sociodemographic characteristics is presented in Table 3. Considering the relation between characteristics of participants and point averages, a significant relation was found between only the professions. No relation was determined between points of scale and variables such as sex, age, the presence of elderly relative, visit of old people’s home, etc. It was determined that specialist doctors have more positive attitude toward the elderly than the students. Specialists scored significantly higher for both of UCLA-GA ( $F = 3.065$ ,  $p < 0.01$ ) and SEDA ( $F = 3.12$ ,  $p < 0.01$ ). Moreover, the individuals with geriatrics education scored significantly high for the scales of UCLA-GA ( $t = 4.19$ ,  $p < 0.001$ ) and SEDA ( $t = 2.256$ ,  $p < 0.01$ ).

### 4. Discussion

Psychometric characteristics of “attitude toward the elderly” adopted to Turkish were found at quite good level. It is seen that internal consistency, item total test correlation coefficients and correlation coefficients found by test–retest methods are at acceptable levels in reliability study of the scale. Reuben et al. (1998) developing the scale presented Cronbach  $\alpha = 0.76$ . Lee et al. (2005)

**Table 2**

Factors and their loads by the result of factor analysis.

Factors	Social values	Medical care	Compassion	Resources distribution
Old persons don't contribute their fair share toward paying for their health care.	0.63			
In general, old people act too slow for modern society.	0.47			
If I have the choice, I'd rather see younger than elderly ones.		0.676		
As people grow older, they become less organized and more confused.		0.489		
Taking a medical history from elderly patients is frequently an ordeal.		0.595		
Treatment of chronically ill old patients is hopeless.		0.710		
Most old people are pleasant to be with.			0.626	
Elderly patients tend to more appreciate of the medical care care I provide more than are younger patients.			0.467	
I tend to pay more attention and have more sympathy toward my elderly patients than my younger patients.			0.764	
It is interesting listening to old people's accounts of their past experiences.			0.731	
The federal government should reallocate money from Medicare to research on AIDS or pediatric diseases.				0.730
It is the of society's responsibility to provide care for its elderly persons.				0.715
Medicare for old people uses up too much human and material resources.				0.611
Old people do not contribute much to society.				0.639

determined reliability coefficient of the scale as 0.78 in their studies incorporating residents (internal diseases and family doctors) and geriatric fellows. Cronbach  $\alpha = 0.69$  was found as in the study of Kishimoto et al. (2005).

Internal consistency coefficient (Cronbach  $\alpha = 0.67$  was found as sufficient in our study.

Factor loads of the scale and variance percent are considered sufficient in terms of construct validity in the studies of scale development. 4-Factor analysis emerged for the factor analysis same as the original scale (Reuben et al., 1998; Lee et al., 2005). Known group validity allows us to discriminate the difference of the scale among groups. Known group validity of this scale adapted to Turkish was found sufficient. Similarly, Reuben et al. (1998) determined that scores of the individuals with different geriatrics education level are significantly different in English version.

SEDA scale being other Turkish scale of attitude toward the elderly was used for comparison (Vefikulucay, 2008). SEDA is a

scale having aspects for positive and negative discrimination toward the elderly. Comparing UCLA-GA scale and SEDA, significant correlation was found. Reuben et al. (1995) compared the scale they developed to Maxwell-Sulvian scale and determined a good correlation.

Comparing the scores of both scales, it was determined that students had significantly lower scores than the specialists in our study. This case can be associated with education and work experience.

A study about the attitudes of health care providers toward the elderly during the period of pre-graduation is available in the literature. It was determined that the attitude toward the elderly is more positive for upper classes of students of physiotherapy, diet, nursing and medical faculty and the ones with geriatrics education (Kaempfer et al., 2002; Shue et al., 2005; Hobbs et al., 2006; Wang et al., 2009). In a study, positive affect of multi-disciplinary geriatrics education on students was discussed. Students of different profession group participated in geriatrics education covering services at hospitals, nursing home and house (geriatric medical fellows and residents, physician assistant students, redoctoral psychology interns, pharmacy fellows and residents, occupational therapy students, social work, advance practice nursing, and audiology-speech pathology) and it was determined that the best improvement was in question for psychology students. Students planned to prefer geriatrics benefited from this program more (Rodriguez et al., 1998). Students of medical faculty and school of nursing participated in our study and no difference was determined in terms of attitude toward the elderly. In some studies, it is emphasized that students of school of nursing have more positive attitudes than students of medical faculty. It is expressed that the fact that students of school of nursing meet the elderly more during the services rendered at the hospital and for the society can have effect on this case (Fajemilehin, 2004; Wang et al., 2009). It was determined in our study that having elderly relative is not effective on attitude toward the elderly in our study. In some studies, it was determined that attitudes of the ones living with the old relative are more positive (Hweidi and Al-Hassan, 2005; Usta et al., 2011).

No relation was found between age, sex and attitude toward the elderly of health care providers in our study. Different results were reported about this subject. While Shahidi and Devlen (1993) and Usta et al. (2011) identified a relation with positive attitude of sex of woman and living with an old person, Cankurtaran et al. (2006) did not identify such a relation.

Attitude score was found significantly higher for the group with education than the group with no education in this study. Different results are reported about the effect of geriatrics education on attitude toward the elderly. The significance of education programs

**Table 3**

Distribution of total scores of UCLA-GA and SEDA scales by socio-demographic characteristics of the study group.

	UCLA-GA	SEDA
Sex		
Women	49.69 $\pm$ 5.81	89.24 $\pm$ 8.30
Men	49.39 $\pm$ 5.44	89.52 $\pm$ 9.16
Profession		
Pre-graduation	106	41.41
Student of school of nursing	48.78 $\pm$ 4.61	87.57 $\pm$ 8.30
Student of medical faculty	48.48 $\pm$ 5.79	88.57 $\pm$ 9.69
Post-graduation	150	58.59
Assistant	49.42 $\pm$ 4.85	90.00 $\pm$ 7.36
Practitioner	51.08 $\pm$ 4.20	87.70 $\pm$ 9.43
Nurse/physiotherapist/ dietician/psychologist	48.44 $\pm$ 7.58	87.20 $\pm$ 7.25
Specialist	52.28 $\pm$ 5.97	93.69 $\pm$ 7.73
Age (years)		
18–24	48.68 $\pm$ 5.09	88.53 $\pm$ 9.17
25–29	48.86 $\pm$ 5.62	87.04 $\pm$ 8.27
30–34	48.63 $\pm$ 6.90	91.16 $\pm$ 6.27
35–39	52.19 $\pm$ 5.34	91.09 $\pm$ 10.46
40–44	52.81 $\pm$ 6.13	89.46 $\pm$ 8.08
45+	51.36 $\pm$ 5.33	91.21 $\pm$ 10.15
Presence of elderly relative		
Yes	49.76 $\pm$ 5.64	89.54 $\pm$ 8.65
No	47.42 $\pm$ 5.87	86.00 $\pm$ 7.64
Visiting old people's home		
Yes	49.85 $\pm$ 5.94	89.31 $\pm$ 9.33
No	49.25 $\pm$ 5.34	89.41 $\pm$ 7.57
Geriatric education		
Yes	51.37 $\pm$ 5.97	90.82 $\pm$ 8.45
No	48.35 $\pm$ 5.13	88.08 $\pm$ 8.52



allowing the first contact with the elder as the healthy elders in the society and educations organized as to feed the positive attitude for the education to affect the attitude toward the elderly positively is emphasized (Wilkinson et al., 2002; Eskildsen and Flacker, 2009). The reason of negative effect of education on attitude toward the elderly is considered as the fact that students at the upper grades are more active at clinics (Kishimoto et al., 2005; Chua et al., 2008). Similarly, Lee et al. (2005) determined in their study that they involved residents (internal diseases and family doctors) and geriatrics fellows that while positive attitude increased for the first 2 years for the residents, a slight drop-off was in question for fellows. Authorities stated the reason of it as residents contact elder patients applied to outpatients setting being more healthy elderly than fellows who frequently contact frail elders inpatients setting.

Presence of geriatrics in pre-graduation education is emphasized in all studies. It is stated that the optimal time for beginning geriatrics education is the first year (Brooks, 1993). It is expressed that in addition to beginning geriatrics education in early-period, the first encountering with healthy elderly may have an effect on positive attitude (Linn and Zeppa, 1987).

In this study, participants were not chosen by probabilistic sampling. Since the number of geriatrists is very few in our country, the scale could not be applied to geriatrists only however, nurses having in-service trainings in geriatrics and working at old people's home and in different specialties were included in the study. In addition to this incorporation of specialists from different branches and students of medical faculty and school of nursing increases the strength of the study. Other restriction of the study is that contact with the elderly and geriatrics curriculum was not standard in the groups having geriatrics education. Groups having geriatrics education and not having education involved in the study are different groups at the same time frame. For this reason, it was decided to plan a similar longitudinal study that will involve qualities of contact of the elderly and contents of education programs at the next stage.

Requirement of trained health care providers to render health care services to increasing elderly population is increasing day by day. Attitude toward the elderly is an important factor for preferring geriatrics of health care provider for the career. For this reason, the attitude toward the elderly of health care providers should be determined and it is important for present and forward education and practice planning. Turkish validity and reliability of UCLA-GA scale was proven in the study. Since the Turkish version of UCLA-GA scale is short and clear, it is recommended to use it for the assessment of attitudes toward the elderly of health care providers in geriatrics.

## Conflict of interest statement

None.

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