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Quality of life and attitudes to ageing in Turkish older adults at old people's homes

Mehmet Top PhD* and Elif Dikmetaş PhD†

*Associate Professor, Department of Health Care Management, Faculty of Economics and Administrative Sciences, Hacettepe University, Ankara, and †Associate Professor, Vocational School of Health Services, Ondukuz Mayis University, Samsun, Turkey

Correspondence
Mehmet Top PhD
Associate Professor
Department of Health Care Management
Faculty of Economics and Administrative Sciences
Hacettepe University
06800 Beytepe
Ankara, Turkey
E-mail: mtop@hacettepe.edu.tr

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Abstract

Objectives The purpose of this study was to investigate quality of life (QOL) and attitudes to ageing in Turkish older adults at two old people's homes (nursing homes) and to explain relationship between QOL and attitudes to ageing.

Methods This study is a quantitative and descriptive exploratory study of QOL and attitudes to ageing of older adults in nursing homes in a developing country.

Instruments Two international data measurement tools were used for data collection. Data measurement instruments in this study are The World Health Organization Quality of Life Instrument–Older Adults Module (WHOQOL-OLD) and the WHO – Attitudes to Ageing Questionnaire (AAQ). The WHOQOL-OLD module consists of 24 items assigned to six facets (sensory abilities, autonomy, past, present and future activities, social participation, death and dying and intimacy) AAQ consists of 24 items classified in three domains (psychosocial loss, physical change and psychological growth) with eight items each.

Participants The Turkish version of the WHOQOL-OLD and AAQ was administered to 120 older (>65 years) adults living in two old people's homes in Samsun Province, Turkey. This study was conducted and planned between on 1 November 2011 and on 31 November, 2011.

Results The results indicated that there was significant relationship between QOL and attitudes to ageing of older adults. In this study, the highest significant relationship is between psychological growth subscale of attitudes to ageing and sensory abilities subscale of QOL ($r = 0.579$; $P < 0.01$). Overall QOL and overall attitudes to ageing had a significant and positive relationship ($r = 0.408$; $P < 0.01$). The dimensions of attitudes to ageing (psychosocial loss, physical change and psychological growth) were significant predictors for QOL in older adults in Turkey. It was found that the gender does not affect overall QOL in older adults. However, happiness is significant variable for overall QOL in this study.

Conclusion The results suggest that QOL is a complex, multidimensional concept that should be studied at different levels of analysis in Turkey and other developing countries. The results of this study emphasize the importance of QOL in older adults in older people's homes in Turkey and attitudes to ageing of nursing home residents in Turkey.

Introduction

The world is experiencing a profound and irreversible demographic shift as older people are living longer and healthier than ever before.[1] In 2002, older people constituted 7% of the world's population and this figure is expected to rise to 17% globally by 2050.[2] The most dramatic increases in proportions of older people are evident in the oldest old section of society (people aged 80 years plus) with an almost fivefold increase from 69 million in 2000 to 377 million in 2050.[3] The World Health Organization (WHO) reports that in 2000, there were 600 million people aged 60 years and over and that there will be 1.2 billion by 2025 and 2 billion by 2050. WHO also suggests that populations in developing countries will become elderly before they become rich, while those in industrialized countries will become rich before they become elderly, emphasizing that worldwide all countries need to be prepared to address the consequences of ageing populations. As it was stated for the rationale of the WHO Aging and Health Program, 'the health of the elderly should not and cannot be examined simply from the vantage-point of disease prevalence or the absence of illness. Even when they are ill, large numbers of the elderly feel perfectly healthy because their illness does not have any major adverse effects on their daily lives'.[4] As such, self-reported health status is a concept that is increasing in importance for the elderly.[5]

Quality of life (QOL) was defined by the World Health Organization Quality of Life (WHOQOL) Group as 'individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns'.[6,7] It is a broad-ranging concept affecting a persons' physical health, psychological state, level of independence, social relationships and relationships with salient features of his or her environment.[8]

There is no standard way of measuring attitudes to ageing,[9] and there is a lack of information about older adults' own attitudes to ageing in older people's homes.[10] The Attitudes to Ageing Questionnaire (AAQ) was developed as part of a larger 3-year international project on QOL of older adults in collaboration with WHO. The study involved a partnership of 23 centres representing a wide range of cultures, from Europe and North America to Japan, China and Turkey. The main aims of the project were to develop a measure to assess QOL in older adults and to test this measure in an innovative cross-cultural study of healthy ageing.[11–13]

Ageing is an issue that needs to be assessed with ample significance in terms of developing countries, as well, and not just developed countries. Turkey is making a transition to a new demographic structure.[14] The decrease in the child and young population over time and the increase in the share of the elderly population within the overall population are foreseen as the reasons for the fertility rate to drop to renewal level. In developed nations, several studies and assessments are conducted on the effects of ageing of the population on the socio-economic structure, while efforts to ensure that elderly people continue with their lives without being detached from social life gain importance. Proper evaluation of the changes in the demographic structure of

Turkey and the reflections thereof would ensure determination of the possible consequences of ageing before the issue turns into a problem for the country. Efforts for 'Health Ageing and Health of Elderly People' were initiated within the scope of Goal 5 of the 'Health for All in the 21st century' policy.[15]

Ageing is one of the major social risks that fall in the scope of the social security system. One of the services offered to elderly people in Turkey is the social security service. Provision of social security for persons who have worked for a specified period of time and become entitled for pension constitutes a major part of the services offered to elderly people. As the Republic of Turkey is a social state, the requirement of the state to provide social security to all citizens is specified in the 1982 Constitution. The state assumes a protective role through social insurances in addition to its obligation to prevent social risks (old age, disability, occupational accidents, diseases, motherhood, family expenses and unemployment). It is stated in the 1982 Constitution that social security, together with its clauses on the protection of elderly people, is a fundamental right. It was established that elderly people having been included in the social security system on account of the changing social conditions be protected against financial risks and monthly income and health-care assistance be provided to elderly people and their dependents. However, in Turkey, the number of people benefiting from social security programmes who are insured in the literal sense has not reached the adequate level and a comprehensive social security network could not be built as of yet. In Turkey, social security is not provided at an adequate level for elderly people in the agricultural sector.[15]

Within the scope of the Prime Ministry General Directorate of Social Assistance and Solidarity, elderly people who are in poverty and deprivation, who are not subject to social security institutions and not entitled to pension or any income from such institutions benefit from the Social Solidarity Fund in Turkey.[15]

Ageing is an inevitable process – but this process may be a health and high-quality process, thereby the social burden arising from the elderly population may be decreased. Developing strategies aiming at increasing the QOL and health ageing is an important means in increasing social health. Thus, health-care policies targeting elderly people must be developed and implemented as soon as possible, in addition to the general health-care policies currently in effect in Turkey. The significance of health ageing on personal and social terms has to be emphasized and social training concerning therewith has to be provided.[15]

Within the framework of the social services offered to elderly people, the concept of social welfare involves the entire services aiming at sustaining and promoting living standards of individuals, as a consequence of rapid industrialization and urbanization involved in the modernization process and upon taking on of family functions by the society. An increase is observed in the whole world and in our country in the human lifespan and in the elderly population, as a result of the advancements in medicine. Furthermore, transformation from a large family into a nuclear family, migration from rural areas to urban areas, entrance of women in working life and the changes in traditional culture and values within the industrialization and urbanization process result with shaking off of the former roles of elderly people in the family, changing the quality of age as a prestigious element and making caring for the elderly person in the family an ever-growing problem due to the differences between generations.[15] (Turkish State Planning Organization).

In accordance with the provisions of the Regulations for Private Nursing Homes for Elderly People in Turkey, it is provided that elderly individuals who are 55 years old or older, who are in social and/or economic deprivation and require long-term care by institutions are cared for and protected in private nursing homes or in nursing homes if they require special care. Turkey had 197 nursing homes in 2005. Tables 1 and 2 show information on the nursing homes of public and private institutions and organizations in Turkey.

Table 1 Nursing homes for elderly people operating under public institutions Turkish Red Crescent and their capacities (in 2005) (SPO 2007, p. 29, 36)

Rest home	Number of rest homes	Capacity
Nursing homes operating under ministries	7	2592
Nursing homes operating under municipalities	21	2099
Nursing homes operating under Turkish Red Crescent	4	260
Total	32	4951

Table 2 Establishments offering private nursing home services and their capacities (in 2005) (SPO 2007, p. 26)

Rest home	Number of rest homes	Capacity
Nursig homes of associations and foundations	30	2147
Nursing homes of minorities	7	979
Private nursing homes	64	2233
Total	101	5369

Table 3 Nursing homes operating under Social Services and Child Protection Agency Directorate General and their capacities (in 2005) (SPO 2007, p. 30)

Rest Home	Number	Normal care	Special care	Total capacity
Rest Home (nursing home)	16	922	30	952
Nursing Home Special Care Unit	28	2143	470	2613
Nursing Home Elder Care and Rehabilitation Center	15	1557	1697	3254
Nursing Home and Rehabilitation Center	4	117	59	176
Total	63	4739	2226	6965

Table 3 provides information on the nursing homes operating under the Social Services and Child Protection Agency Directorate General.

In the field of ageing, QOL is considered by most experts as a multidimensional concept involving multiple domains (health, psychological, social and environmental), containing objective and subjective components. Nevertheless, in recent years, QOL has been reduced to the subjective appraisal, to health or to subjective psychological attributes such as well-being, happiness or life satisfaction. Moreover, conceptual confusions can be found between QOL and other concepts related to positive ageing.[16]

In Turkey, professional homecare foundations and professionals for elderly people are insufficient and rare. Therefore, older people without access to family caregivers or who are incapable of self-care tend to live in assisted living facilities.[8] The research-related QOL and attitudes to ageing in older adults are little. Moreover, there is currently a lack of research using the WHO Quality of Life Assessment for Older Adults (WHOQOL-OLD) assessments with residents of Turkish older people's homes.[17] It is important to understand the important determinants of QOL and attitudes to ageing in various subgroups of older adults to support evidence-based policy guidelines, programme development and policy decisions in Turkey health and social systems. This study is the first study about relationship between QOL and attitudes to ageing in Turkey. The purpose of this study was to investigate QOL and attitudes to ageing in Turkish older adults at two old people's homes and to explain relationship between QOL and attitudes to ageing.

Method

This study was planned based on explanatory and quantitative research design. This study investigated the QOL and attitudes to ageing of older adults in Turkey. The issue of this study was to determine the relationships between QOL, attitudes to ageing, gender and happiness in Turkish older adults.

The hypotheses were listed below.

Hypothesis 1. There are significant relationship between QOL and attitudes to ageing in older adults.

Hypothesis 2. The subscales of attitudes to ageing (psychosocial loss, physical change, psychological growth) affect significantly QOL of older adults.

Hypothesis 3. Gender affects significantly QOL of older adults.
Hypothesis 4. Happiness affects significantly QOL of older adults.

Participants

A cross-sectional study was conducted in the Samsun Province of Turkey. The study included participants who were at least 65 years old. The inclusion criteria for sample were that the participants needed to be 65 years or older and needed to provide consent to participate in the study. Data from a sample of 120 individuals aged 65 and older were analysed in this study. Of 160 individuals aged 65 and older live in two old people's homes in Samsun, Turkey. Response rate in this study is 75.0%. The participants in this study have been living in an old people's home. All the subjects involved were adults from 65 to 90 years old and were able to read and understand the instruments. Unfortunately, the instrument may not be suitable for people who were having cognitive difficulties due to brain damage, dementia, mental retardation, etc.

The old people's homes, which are the only two in the city, are public social establishments. The staff consists of three nurses and one social service staff worker. The nurses work in three shifts per day. A general practitioner comes to the facility 1 day per week and monitors the health of the residents. Access to more intense medical care is available for those who need it; the general practitioner will send residents to the hospital when necessary. The residents' feeding, cleaning and bathing needs are regularly carried out by trained personnel. Residents have opportunities to watch television, listen to music and play games such as cards and backgammon. Social activities, such as concerts, parties and picnics, are organized by the management. If they wish, residents can travel to the city centre on a daily basis via the facility's bus. Rooms are double occupancy and gender specific. There are also gender-specific places of worship, baths and toilets on each floor. There are gender-neutral living rooms, kitchens and play saloons on every floor. The building has an elevator. Residents who do not have social insurance or income can live in this government-supported facility.

Instruments

The WHOQOL-OLD and The AAQ were used in this study for collecting data.

The WHO Quality of Life Assessment for Older Adults

The WHOQOL-OLD was originally developed by the WHOQOL group for the investigation of QOL in older adults.[11] It consists of six facets: sensory abilities; autonomy; past, present and future activities; social participation (thoughts on); death and dying; and intimacy. The WHOQOL-OLD[11,18,19] comprises 24 items (rated on a five-point Likert scale), divided into six facets. Facet 1 evaluates sensory abilities based on the following items: sensory impairment (taste, smell, sight, hearing and touch) affecting daily life; a loss of sensory abilities that affects participation in activities; problems with sensory functioning affecting social interaction; and rating of sensory functioning. Facet 2 evaluates autonomy based on the following items: freedom to make decisions; feeling in control of one's future; people around oneself being respectful of one's freedom; and ability to do things one would like to do. Facet 3 includes questions regarding past, present and future activities to determine the following: satisfaction with the current availability of opportunities to achieve goals; having received the recognition one deserves in life; satisfaction with what one has achieved in life; and confidence that one has things to look forward to. Aspects of social participation are evaluated in facet 4: perception that one has a sufficient number of activities to perform each day; satisfaction with the way in which one is using one's time; perception of an appropriate activity level; and satisfaction with the number of opportunities one has to participate in community activities. Facet 5 evaluates the

attitudes an individual has towards death and dying: concerns regarding the way in which one will die; fear of not being able to control one's own death; fear of dying itself; and fear of a painful death. Facet 6 includes questions related to intimacy to determine the following: feeling a sense of companionship in life; experiencing love in life; having opportunities to love; and having opportunities to be loved. Higher scores indicate better QOL in each domain. This questionnaire was administered on a face-to-face basis, and the period assessed was the previous 2 weeks. Possible facet scores range from 4 to 20. A total score can also be calculated by summing each of individual item values. Higher scores indicate higher QOL. The items were sorted into the appropriate scales. For positively worded items, the above classification can be applied in which higher values represent a higher QOL. For negatively worded items, the score has to be recoded.[7,17] The WHOQOL-OLD was validated for use in Turkey by Eser *et al*.[5]

The Attitudes to Ageing Questionnaire

The AAQ is a self-report measure with which older people themselves can express their attitudes to the process of ageing. The development of the AAQ followed a coherent, logical and empirical process taking full account of relevant gerontological knowledge and modern and classical psychometric analytical methods.[20] The scale consists of 24 items (rated on a five-point Likert scale) in three domains [psychosocial loss (PL); physical change (PC) and psychological growth (PG)] with eight items each (min 8 max 40). The AAQ was validated for use in Turkey by Eser *et al*.[21]

Data collection

All the instruments were designed for self-administration of questionnaire and to be completed by the subjects. Each instrument may take 10–30 min to complete, depending on how fast the subject can respond. Data were obtained through face-to-face interviews. Assistance was provided by a co-researcher if a respondent requested or required help with the questionnaire.

Demographic information was collected related to gender, age, nationality, marital status, education level, occupation, living arrangement and self-reported health status and self-reported disease status. These data were used to describe the sample and also to determine characteristics that might influence QOL. This study did not require funding.

Ethical consideration

Informed consent forms were received from all participants, and permission was granted by the directors of the old people's homes. This study did not require funding.

Data analysis

All data were checked and analysed using Statistical Package for the Social Sciences (SPSS version 15.0, SPSS Inc., Chicago, IL, USA). Descriptive statistics were used to identify participant characteristics and the distribution of subscale scores. Evaluation of internal consistency and intercorrelations was based on Cronbach's alpha and bivariate correlations, respectively. Mean, standard deviation, range, minimum and maximum scores for QOL and attitudes to ageing were also evaluated. Kolmogorov–Smirnov was used for normality analysis. Pearson's correlations between QOL and attitudes to ageing were performed for the total participant group to determine the degree of the relationships among the variables. Scores of the QOL and attitudes to ageing subscales were calculated, and then, reliability, correlation and multiple regression analyses were used for purposes of this study. Correlation analysis for Hypothesis 1, multiple regression analysis for Hypothesis 2, Student's *t*-test for Hypothesis 3 and Mann–Whitney *U*-test for Hypothesis 4 were used in this study.

Results

This section provides main results of this study according to tables and explanations. Table 4

Table 4 Sociodemographic properties of the study population (n = 120)

Property	n	%
Gender		
Female	44	36.66
Male	76	63.34
Happiness		
Happy	106	88.33
Not happy	14	11.67
Age (mean ± SD)	74.02 ± 7.24	Min 65, Max 90
Marital status		
Single	78	65.00
Married	42	35.00
Educational status		
Primary school	50	41.66
Elementary school	43	35.83
University	27	22.51

shows some sociodemographic characteristics of older adults in this study. The percentage of men was 63.34% and women 36.66%. The majority of participants (88.33%) considered themselves to be healthy. But 14 participants were not happy at older people's home. The mean age of the participants was 74.02. The range of age was between 65 and 90. 65.0% of older adults in this study were single. The majority of older adults had degree of primary school. 22.51% of participants graduated from a university.

Table 5 shows descriptive statistics (mean, median, mod etc.) for overall QLF, attitudes to ageing and subscales of QOL and attitudes to ageing. Of 120 old people's mean of overall QOL score is 80.28 ± 12.31. Maximum score for overall QOL is 120. So, this mean score indicated that older adults' QOL is medium high level. Also, mean scores for subscales of QOL are more higher than medium level. Intimacy subscale of QOL had the highest mean score in subscales of QOL. The highest subscale score for QOL was for intimacy (14.16), followed by past, present and future activities (13.48) and social participation (13.46). The lowest domain score of QOL was sensory abilities (12.56) followed by death and dying domain (13.30). These results were consistent with results of previous studies in Turkey[7] and in Canada[20] and Norway and in other countries.[21]

Old adults had a medium level scores for attitudes to ageing. Psychological Growth subscale of attitudes to ageing have got the highest mean score among subscales of attitudes to ageing.

Pearson's correlation was used to determine whether a relationship existed among the categories and subcategories of QOL, attitudes to ageing and physical disorder (Table 6). This study revealed that there are significant correlations between QOL and attitudes to ageing in older adults. There are negative relationships between physical disorder and QOL and attitudes to ageing. However, these relationships

Table 5 Scores and descriptive statistics for QOL and attitudes to ageing

	Mean	Median	Mod	SD	Range	Minimum	Maximum
Who – Europe attitudes to ageing							
Psychosocial loss	20.15	20	16	6.01	30	8	38
Physical change	25.27	25	28	5.87	27	13	40
Psychological growth	27.30	27	32	6.93	49	12	61
Overall attitudes to ageing score	72.72	73	80	11.43	74	44	118
WHOQOL-OLD							
Sensory abilities	12.56	12	13	3.36	14	6	20
Autonomy	13.32	13	16	3.00	13	7	20
Past, present and future activities	13.48	13	12	2.84	14	6	20
Social participation	13.46	14	16	2.98	15	5	20
(Thoughts on) Death and dying	13.30	13	12	3.21	15	5	20
Intimacy	14.16	14	14	2.91	15	5	20
Overall quality of life score	80.28	78	76	12.31	64	48	112

WHOQOL-OLD, WHO Quality of Life Assessment for Older Adults.

Table 6 The correlations among QOL, attitudes to ageing and physical disorder

QOL/attitudes to ageing/physical disorder	1	2	3	4	5	6	7	8	9	10	11	12
1. Psychosocial loss, *r*	1											
2. Physical change, *r*	−0.134	1										
3. Psychological growth, *r*	−0.107	0.373**	1									
4. Sensory abilities, *r*	−0.324**	0.432**	0.579**	1								
5. Autonomy, *r*	−0.290**	0.534**	0.475**	0.502**	1							
6. Past, present and future activities, *r*	−0.443**	0.569**	0.352**	0.416**	0.416**	1						
7. Social participation, *r*	−0.285**	0.572**	0.392**	0.429**	0.422**	0.397**	1					
8. (Thoughts on) death and dying, *r*	−0.537**	0.321**	0.084	0.229*	0.185*	0.273**	0.001	1				
9. Intimacy, *r*	−0.433**	0.516**	0.360**	0.410**	0.348**	0.423**	0.542**	0.188*	1			
10. Overall attitudes to ageing score, *r*	0.393**	0.669**	0.742**	0.403**	0.410**	0.273**	0.381**	−0.067	0.255**	1		
11. Overall quality of life score, *r*	−0.573**	0.723**	0.557**	0.752**	0.709**	0.713**	0.682**	0.476**	0.711**	0.408**	1	
12. Physical disorder, *r*	−0.049	−0.161	0.052	−0.015	−0.131	0.018	−0.121	0.060	−0.149	−0.077	−0.081	1

**Correlation is significant at the 0.01 level (two tailed).
*Correlation is significant at the 0.05 level (two tailed).

are not significant. Psychosocial Loss subscale of attitudes to ageing affects significantly (but negatively) overall QOL and subscales of QOL. In this study, the highest significant relationship is between Psychological Growth subscale of attitudes to ageing and Sensory Abilities subscale of QOL ($r = 0.579$; $P < 0.01$). The second highest significant correlation is Psychosocial Loss and overall QOL ($r = -0.573$; $P < 0.01$). Overall QOL and overall attitudes to ageing had a significant and positive relationship ($r = 0.408$; $P < 0.01$). The sensory abilities and death and dying domains (subscales) had weak relationships with the other domains, whereas the autonomy domain score was strongly correlated with all the other domains, except the death and dying domain. Hypothesis 1 (There are significant relationship between QOL and attitudes to ageing in older adults) was accepted (Table 6).

Table 7 shows that 82.5% (adjusted $R^2 = 0.80$, $F = 182.647$; $P < 0.001$) of the variance in the dependent variable (overall QOL) was explained by the independent variables (psychosocial loss, physical change, psychological growth). The Durbin–Watson statistics was 1.876 (below 2.50), which did not reveal autocorrelation among residuals, confirming the suitability of using regression for analysis. Furthermore, variance inflation factors (VIFs) were all below 10 (1.002 and 1.235), indicating the absence of multicollinearity.[22] All independent variables [Psychosocial Loss ($\beta = 1.015$; $t = -13.076$; $P < 0.01$), Physical Change ($\beta = 1.097$; $t = 12.811$; $P < 0.01$) and Psychological Growth ($\beta = 0.501$; $t = 6.844$; $P < 0.01$)] have a significant effect on the dependent variable. Physical Change was more significant regressor of overall QOL compared with the other subscales of attitudes to ageing. Hypothesis 2 (The subscales of attitudes to ageing (psychosocial loss, physical change, psychological growth) affect significantly QOL of older adults) was accepted.

There was not a significant difference in QOL, attitudes to ageing and physical disorder between female and male groups. This study indicated that the gender is not related to

Table 7 The predictors for QOL

Model (Enter)	Unstandardized coefficients		Standardized coefficients				
	Beta (β)	SE	Beta (β)	*t*	*P*	VIF	
Constant	59.396	2.786		21.316	0.000		$R = 0.908$
Psychosocial loss	−1.015	0.078	−0.508	−13.076	0.000	1.002	$R^2 = 0.825$
Physical change	1.097	0.086	0.552	12.811	0.000	1.235	$F = 182.647$
Psychological growth	0.501	0.073	0.295	6.844	0.000	1.233	$P = 0.0000$
							Durbin–Watson (DW) = 1.876

VIF, variance inflation factor.
Dependent variable: Overall QOL; Independent variables: (Constant), Subscales of attitudes to ageing (psychosocial loss, physical change, psychological growth).

Table 8 QOL, attitudes to ageing and physical disorder according to gender

QOL/attitudes to ageing/physical disorder	Gender					
	Female ($n = 44$)		Male ($n = 76$)			
	Mean	SD	Mean	SD	*t*	*P*
Subscales of attitudes to ageing						
Psychosocial loss	20.04	5.51	20.10	6.29	−0.054	0.957
Physical change	25.25	5.90	25.25	5.92	−0.003	0.998
Psychological growth	27.68	5.00	27.01	7.88	0.505	0.614
Overall attitudes to ageing score	72.97	10.14	72.37	12.14	0.278	0.782
Subscales of QOL						
Sensory abilities	12.40	3.14	12.64	3.52	−0.359	0.720
Autonomy	13.38	2.74	13.32	3.15	0.116	0.908
Past, present and future activities	13.52	2.39	13.45	3.10	0.128	0.899
Social participation	13.56	2.48	13.40	3.27	0.295	0.769
(Thoughts on) Death and dying	13.40	3.42	13.21	3.11	0.319	0.750
Intimacy	14.40	1.71	14.01	3.44	0.712	0.478
Overall QLF score	80.70	10.27	80.04	13.49	0.282	0.778
Physical disorder	3.16	1.31	2.85	1.13	1.339	0.183

QOL, attitudes to ageing and physical disorder in older adults. Hypothesis 3 (Gender affects significantly QOL of older adults) was not accepted (Table 8).

Physical change (a subscale of attitudes to ageing), autonomy, social participation (two subscales of QOL) and overall QOL change significantly in terms of existence of happiness. Happy older adults have higher mean scores than unhappy older adults according to physical change, autonomy, social participation and overall QOL ($P < 0.05$). In this study, it was found that happiness significantly affects overall QOL in older adults. Hypothesis 4 (Happiness affects significantly QOL of older adults) was partially accepted (Table 9).

Discussion and conclusion

The results indicated that there was significant relationship between QOL and attitudes to ageing of older adults. The dimensions of attitudes to ageing (PL, PC and PG) were significant predictors for QOL in older adults in Turkey. It was found that the gender does not affect overall QOL in older adults. However, happiness is significant variable for overall QOL in older adults.

The main results of our study were consistent with previous studies in Turkey and in other countries. Eser *et al.*[5] found out that three domains of QOL in Turkish older adults – autonomy, past, present and future activities

Table 9 QOL, attitudes to ageing and physical disorder according to existence of happiness

	Are you happy?						
	Yes (n = 106)		No (n = 14)				
QOL/attitudes to ageing/physical disorder	Mean	SD	Mean	SD	Mann–Whitney U	Z	P
Subscales of attitudes to ageing							
Psychosocial loss	19.95	6.07	21.15	5.42	582.500	−0.909	0.363
Physical change	25.63	6.04	22.15	3.21	421.500	−2.283	0.022
Psychological growth	27.61	7.16	24.38	3.84	472.000	−1.853	0.064
Overall attitudes to ageing score	73.19	11.71	67.69	6.98	464.000	−1.919	0.055
Subscales of QOL							
Sensory abilities	12.64	3.49	11.84	2.19	626.000	−0.539	0.590
Autonomy	13.56	2.96	11.53	2.72	435.000	−2.176	0.030
Past, present and future activities	13.60	2.82	12.46	2.98	489.500	−1.713	0.087
Social participation	13.70	2.96	11.46	2.53	398.000	−2.98	0.012
(Thoughts on) Death and dying	13.38	3.22	12.46	3.23	555.500	−1.144	0.253
Intimacy	14.19	2.98	13.84	2.47	654.000	−0.301	0.763
Overall QLF Score	81.10	12.58	73.61	7.91	446.500	−2.067	0.039
Physical disorder	2.90	1.21	3.54	1.05	478.500	−1.844	0.065

and social participation – had correlation coefficients with overall score >0.7. The sensory abilities and death and dying domains had weak relationships with the other domains, whereas the autonomy domain score was strongly correlated with all the other domains, except the death and dying domain.[7] Kalfoss *et al.*[9] found that all subscales of WHOQOLF-OLD and WHO-AAQ correlations were significant in Canadian and Norwegian samples ($P < 0.001$), the lowest being between psychosocial loss and psychosocial growth for Canada ($r = 0.363$) and Norway ($r = 0.132$).[7] Previous studies and reports confirm that social interactions and independent living (autonomy) are strong determinants of health-related QOL.[5,23–28]

There were not significant differences in the scores of overall QOL between older men and women in our study. Bowling *et al.*[29] determined that there was no significant relationship between QOL ratings and gender. However, the scores of women living in the assisted living facility obtained from subdomains of physical, psychological and environmental measurements of QOL were lower than the men's scores.[29] Netuveli *et al.*[30] found that QOL was significantly higher for women than men, while Wiggins *et al.*[31] found no gender differences. Luleci *et al.*[17] revealed that there was significant difference between QOL scores for men and women in older adults of a nursing home in Turkey.[13] In this study, QOL scores did not differ according to gender, which is consistent with the results of the global WHOQOL-OLD study.[11] The QOL of the women might be affected negatively from a new lifestyle. Their emotional bond is more powerful to former experiences, their memories are stronger, and relationships with family members are greatly missed. Turkish women are very involved in all aspects of domestic life and extremely dependant on their families. These factors might cause a reduced QOL for Turkish women living in an assisted living facility. Relief programmes and psychological interventions may increase their QOL.[8,32,33] Ng *et al.*[34] reported lower QOL scores pre-operatively for women, although gender differences did not continue post-operatively.

QOL is more related to a personal sense of happiness and subjective life satisfaction than to objective problems such as physical functioning.[35] QOL was usually measured with objective indicators such as socio-economic status, education and housing, which accounted for only 15% of the variance in QOL compared to 50% of the variance accounted by subjective indicators such as happiness and life

satisfaction.[36] Molzahn and Skevington[37] revealed that happiness was a significant regressor for overall QOL in older adults. Happiness could enhance QOL of older adults.

This study has some limitations, primarily the fact that it was conducted and planned two old people's homes in one city in Turkey. Due to this limitation, our findings cannot be generalized to the older adults in Turkey. The cross-cultural nature of the present study and composition of the study population, which might not represent the entire Turkish elderly population, limit the accuracy and generalizability of the results. Our other limitations include the non-assessment of cognitive impairment, medication use and side-effects, disease severity and comorbidity, all of which could have impacted on results.

Future research should focus on specifying the directionality of the relationships between different domains of QOL as well as on specifying different levels of the QOL construct in older adults. Also, advanced quantitative methods, such as structural equation modelling, should be used to study the complex relationships between QOL-related factors in ageing. A by-product of using structural equation models, regression models and factorial models is that they provide an effective manner of summarizing and validating research findings. In addition, QOL research might benefit the most from longitudinal studies and field research designed to test the causal implications between QOL dimensions as well as studying the effect of manipulating different dimension of QOL.[35]

A broader perspective of QOL is important for multisector policy evaluation, and a better understanding of the quality of later life is essential if we are aiming to enhance it.[38] The WHOQOL-OLD module and WHO Europe Attitudes to Ageing Questionnaire could provide researchers, clinicians and policy makers with unique scales to measure the impact of successful ageing interventions. It also provides a vehicle for the measurement of how individuals age across cultures and under different economic, political and social circumstances. However, the field of QOL, attitudes to ageing and happiness of old adults require much more research, discussion and methodological sophistication and, ultimately, more common sense in Turkey and other countries. Lastly, the results of this study emphasize the importance of QOL in older adults in older people's homes in Turkey and attitudes to ageing of nursing home residents in Turkey.

Understanding and investigating on attitudes of older adults and evaluation of QOL in older adults in Turkey and developing countries could assist with planning programmes that are meaningful to older adults, contribute to their psychological growth, minimize physical decline and reduce perceptions of psychological loss.[9,39] Attitudes also influence decisions that have an impact on health-promoting behaviours, as suggested in the WHO Active Ageing Policy Framework.[40]

In Turkey, generally, the elder people who do not have sufficient economic resources and anyone to support them legally are allowed to live in the old people's homes free of charge and those having sufficient economic resources but socially deprived are accepted in charge.[41] Services aimed at meeting health-care, economic and psychosocial needs of elderly people should be developed to ensure that their QOL is elevated, their requirements accommodated in the best possible manner and their integration with their families and the society is provided for in the ever-changing social structure. The support of the state and volunteer organizations is required in this respect. The necessary training should be given and arrangements made to ensure that the care and services offered to male elderly people are equally provided to women in especially the rural families where patriarchal system is dominant. The training facilities and support to be provided by institutions and organizations in this context should be coordinated, and the efforts of non-governmental organizations in this respect should be encouraged.[15]

Conflict of interest

The authors declare that they have no conflict of interest.

References

1 United Nations. *World Population Ageing: 1950–2050*. Department of Economic and Social Affairs, Population Division. New York: United Nations Publications, 2001.

2 US Census Bureau. *International Population Reports WP/02, Global Population Profile: 2002*. Washington, DC: U.S. Government Printing Office, 2004.

3 United Nations. *World Population Prospects: The 2002 Revision*. New York: United Nations Population Division, 2003.

4 WHO. *Ageing and Health Programme – Growing Older*. Geneve: Staying Well (WHO/HPR/AHE/98.2), 1998.

5 Eser S, Saatli G, Eser E, Baydur H, Fidaner C. The reliability and validity of the Turkish version of the World Health Organization Quality of life instrument-older adults module (WHOQOL-Old). *Turkish Journal of Psychiatry*, 2010; **21**: 37–48.

6 The WHOQOL Group. Study protocol for the World Health Organization Project develop a quality of life assessment instrument (WHOQOL). *Quality of Life Research*, 1993; **2**: 153–159.

7 The WHOQOL Group. The World Health Organization Quality of life Assessment (WHOQOL): position paper from the World Health Organization. *Social Science and Medicine*, 1995; **41**: 1403–1409.

8 Bodur S, Cingil DD. Using WHOQOL-BREF to evaluate quality of life among Turkish elders in different residential environments. *The Journal of Nutrition, Health & Aging*, 2009; **13**: 652–656.

9 Kalfoss MH, Low G, Molzahn AE. Reliability and validity of the attitudes to ageing questionnaire for Canadian and Norwegian older adults. *Scandinavian Journal of Caring Sciences*, 2010; **24**: 75–85.

10 Bowling A. Lay perceptions of successful ageing: findings from a national survey of middle aged and older adults in Britain. *European Journal of Ageing*, 2006; **3**: 123–36.

11 Power M, Quinn K, Schmidt S, WHOQOL-OLD Group. Development of WHOQOL-OLD module. *Quality of Life Research*, 2005; **14**: 2197–214.

12 The WHOQOL Group. The World Health Organization quality of life assessment (WHOQOL): development and general psychometric properties. *Social Science and Medicine*, 1998; **46**: 1569–85.

13 The WHOQOL Group. Development of the World Health Organization WHOQOL-BREF Quality of Life Assessment. *Psychological Medicine*, 1998; **28**: 551–8.

14 Arun Ö., Çevik AÇ. Quality of life in ageing societies: Italy, Portugal, and Turkey. *Educational Gerontology*, 2011; **37**: 945–966.

15 Turkish State Planning Organization. *The Situation of Elderly People in Turkey and National Plan of Action on Ageing*. Ankara, Turkey, 2007, Available at: http://ekutup.dpt.gov.tr/nufus/yaslilik/eylempla-i.pdf, accessed 10 October 2012.

16 Fernández-Ballesteros R. Quality of life in old age: problematic issues. *Applied Research Quality Life*, 2011; **6**: 21–40.

17 Luleci E., Hey W, Subasi F. Assessing selected quality of life factors of nursing home residents in Turkey. *Archives of Gerontology and Geriatrics*, 2008; **46**: 57–66.

18 Fleck MP, Chachamovich E, Trentini C. Development and validation of the Portuguese version of the WHOQOL-OLD module. *Revista de Saude Publica*, 2006; **40** : 785–91.

19 WHO. *WHOQOL-OLD Manual*. Copenhagen: WHO European Office, 2006.

20 Laidlaw K, Power MJ, Schmidt S, WHO Quality of Life Group – WHOQOL-OLD Group. The Attitudes to Ageing Questionnaire (AAQ): development and psychometric properties. *International Journal of Geriatric Psychiatry*, 2007; **22**: 367–379.

21 Eser E, Gerçekoğlu GS, Eser S. *et al*. Psychometric properties of the Turkish version (AYTA-Tr) of The Who-Europe Attitudes of Aging (EAAQ) Questionnaire. *Turkish Journal of Geriatrics*, 2011; **14**: 101–110.

22 Low G, Molzahn A, Kalfoss M. Quality of life of older adults in Canada and Norway examining the Iowa model. *Western Journal of Nursing Research*, 2008; **30**: 458–476.

23 Fang J, Power M, Lin Y, Zhang J, Hao Y, Chatterji S. Development of short versions for the WHOQOL-OLD Module. *The Gerontologist*, 2012; **52**: 66–78.

24 Hair J., Anderson R., Tatham R., Black W. *Multivariate Data Analysis*. Upper Saddle River, NJ: Prentice Hall, 1998.

25 Constança P, Fonseca A M, Ignácio M, Amado J. Psychosocial profile of rural and urban elders in Portugal. *European Psychologist*, 2003; **8**: 160–167.

26 Borg C, Hallberg IR, Blomqvist K. Life satisfaction among older people (65+) with reduced self-care capacity: the relationship to social, health and financial aspects. *Journal of Clinical Nursing*, 2006; **15**: 607–18.

27 Hellström Y, Persson G, Hallberg IR. Quality of life and symptoms among older people living at home. *Journal of Advanced Nursing*, 2004; **48**: 584–93.

28 Borglin G, Jakobsson U, Edberg AK *et al*. Older people in Sweden with various degrees of present quality of life: their health, social support, everyday

activities and sense of coherence. *Health and Social Care in the Community*, 2006; **14**: 136–146.
29 Bowling A, Banister D, Sutton S, Evans O, Windsor J. A multidimensional model of the quality of life in older age. *Aging & Mental Health*, 2002; **6**: 355–371.
30 Netuveli G., Wiggins R. D., Hildon Z., Montgomery S. M., Blane D. Quality of life at older ages: evidence from the English longitudinal study of aging. *Journal of Epidemiological Community Health Studies*, 2006; **60**: 357–363.
31 Wiggins R. D., Higgs P. F. D., Hyde M., Blane D. B. Quality of life in the third age: key predictors of the CASP-19 measure. *Ageing and Society*, 2004; **24**: 693–708.
32 Fassino S, Leombruni P, Daga GA, Brustolin A, Rovera GG, Fabris F. Quality of life in dependent older adults living at home. *Archives of Gerontology and Geriatrics*, 2002; **35**: 9–20.
33 Wang X, Gao L, Zhang H, Zhao C, Shen Y, Shinfuku N. Post-earthquake quality of life and psychological well-being: longitudinal evaluation in a rural community sample in northern China. *Psychiatry and Clinical Neurosciences*, 2000; **54**: 427–433.
34 Ng CY, Ballantyne JA, Brenkel IJ. Quality of life and functional outcome after primary total hip replacement: a five-year follow-up. *Journal of Bone and Joint Surgery. American Volume*, 2007; **89**: 868–73.
35 Cardona LA. *Understanding quality of life in older adults* (Unpublished Master of Science Dissertation). Texas, USA: University of North Texas, 2010.
36 Haas B. K. Clarification and integration of similar quality of life concepts. *Journal of Nursing Scholarship*, 1999; **31**: 215–120.
37 Molzahn A, Skevington SM. The importance of facets of quality of life to older adults: an international investigation. *Quality of Life Research*, 2010; **19**: 293–298.
38 Bowling A. What older people say. In: Mollenkopf H, Walker A (eds) *Quality of Life in Old Age*. New York: Springer Publication, 2007: 15–30.
39 Tate RB, Leedline L, Cuddy TE. Definition of successful aging by elderly Canadian males: the Manitoba follow – up study. *Gerontologist*, 2003; **43**: 735–44.
40 World Health Organization. Active ageing: a policy framework, 2002. Available at: http://whqlibdoc.who.int/hq/2002/WHO_NMH_ NPH_02.8.pdf, accessed 10 December 2010.
41 Altun I., Ersoy N. Perspectives on old age in Turkey. *Eubios Journal of Asian and International Bioethics*, 1998; **8**: 143–145.