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RESEARCH

EXAMINATION OF THE RELATIONSHIP BETWEEN THE QUALITY OF LIFE AND DEMOGRAPHIC AND ACCIDENT-RELATED CHARACTERISTICS OF ELDERLY PEOPLE LIVING IN A NURSING HOME

ABSTRACT

Introduction: The purpose of this research was to assess the quality of life of 65+ year old people living in a nursing home in Ankara and to examine the relationship between the quality of life and the demographic and accident-related characteristics of these individuals.

Materials and Method: World Health Organization "WHOQOL-OLD Life Quality Scale" and a questionnaire consisting of some variables developed by the researchers to assess the demographic characteristics of the study participants and the accidents they had were used as data collection tools in the scope of the study. The questionnaire form was administered to 121 elderly people living in a nursing home in Ankara and the collected data were analyzed using appropriate statistical methods in line with the objectives of the research.

Results: A significant relationship was found between the WHOQOL-OLD Life Quality Scale and elderly people's gender, age, marital status, monthly income, education level and accidents they had. Of the elderly people, 27.3% had an accident over the past year and almost all of these accidents (97.0%) were falls.

Conclusion: Some demographic characteristics and casualty-injury status affect the quality of life of elderly people.

Key Words: Aged; Quality of Life; WHOQOL Life Quality Scale; Accident.

ARAŞTIRMA

HUZUREVİNDEKİ YAŞLILARIN YAŞAM KALİTESİ İLE DEMOGRAFİK VE KAZAYA İLİŞKİN ÖZELLİKLERİ ARASINDAKİ İLİŞKİNİN İNCELENMESİ

ÖZ

Giriş: Bu araştırmanın amacı; Ankara'daki bir Huzurevinde kalan 65 yaş üzeri yaşlıların yaşam kalitelerinin belirlenmesi ve yaşlıların yaşam kalitesi ile demografik ve kaza geçirme durumlarına ilişkin özellikleri arasındaki ilişkinin incelenmesidir.

Gereç ve Yöntem: Araştırmada veri toplama yöntemi olarak, Dünya Sağlık Örgütü WHOQOL-OLD Yaşam Kalitesi Ölçeği ve yaşlıların demografik ve kaza geçirme durumlarını belirlemek üzere araştırmacılar tarafından hazırlanmış bazı değişkenlerin yer aldığı anket kullanılmıştır. Anket formu, Ankara'da bir Huzurevinde kalan 121 yaşlı birey üzerinde uygulanmış ve toplanan veriler araştırmanın amacı doğrultusunda uygun istatistiksel yöntemler ile analiz edilmiştir.

Bulgular: Yaşlıların WHOQOL-OLD Yaşam Kalitesi Ölçeği'ne ilişkin bazı alt boyutlar ile yaşlıların cinsiyeti, yaşı, medeni durumu, aylık geliri, öğrenim düzeyi ve kaza geçirme durumu arasında anlamlı bir ilişki bulunmuştur. Araştırmaya katılan yaşlıların %27.3'ünün son bir yıl içinde kaza geçirdiği ve bunların hemen hemen tamamının (%97.0) düşme kazası olduğu saptanmıştır.

Sonuç: Yaşlıların bazı demografik özellikleri ve kaza geçirme durumu yaşam kalitesi üzerinde etkili olmaktadır.

Anahtar Sözcükler: Yaşlı; Yaşam Kalitesi; WHOQOL Yaşam Kalitesi Ölçeği; Kaza.

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Introduction

Elderliness is defined as a period of aging process between a particular age and death (1). The World Health Organization defines elderliness as "reduced ability to adapt to environmental factors" (2). According to the results of the 2003 Turkish Population and Health research, the percentage of the population over the age of 65 years is 7% in Turkey (3).

The life span of people has increased due to technological advances, medical developments, and increasing awareness about maintaining health (4). Ageing of the communities and inevitability of elderliness has resulted in introduction of the term "quality of life in the elderly" and increasing the quality of life has become one of the most crucial targets (5, 6). Health-related quality of life can be defined as the value assigned to the duration of life as modified by the impairments, functional states, perceptions and social opportunities that are influenced by disease, injury, treatment or policy (7). Quality of life is a dynamic personal perception that is enhanced by positive life connections and diminished by disconnections (8).

WHO defines quality of life (QOL) as "an individual's perception of his position in life in the context of the culture and value systems he lives in, and in relation to his goals, expectations, standards and concerns" (9). There is a negative relationship between age and the quality of life. Quality of life is a complex concept depending on many variables. One of its most important determinants is health (10). Although the individuals may have no illness, physiological changes that occur with ageing may affect them. Decrease in visual efficiency and auditory powers, insufficiency of muscle strength and coordination, forgetfulness, rapid fatigue and similar factors increase the accidents risk in older ages (1).

The 65+ age group is one of the most vulnerable groups; risk of accidents increase as the age advances. Those over 75 years of age suffer both the highest mortality rates and the most severe injuries (11, 12). The majority of accidents involving older people, both fatal and non-fatal, are falls (13-16). Due to the age dependent changes, falls may cause tissue injuries, breaks, loss of function, and even death. The reported death rate from falls is five times higher in the 75+ age group when compared to other age groups (17).

Quality of life for elderly people is also affected by falls, through a subsequent fear of falling (18-20). People with limitations in activity might have fewer opportunities to be satisfied with life or to experience happiness, which may have a negative effect on quality of life (21).

Twenty percent of deaths directly related to falls among 85+ year old elderly people occur in nursing homes (22). Of the elderly people staying in these institutions 50% fall at least once, and 40% fall more than once a year (23).

Several studies on elderly people's certain demographic features, general health status and quality of life have been conducted in Turkey and many other countries (4-6, 23-28). There are some studies on fall accidents/the fear of falling/hip fractures and the quality of life among elderly people, as well (29-34). However, to date, no research was carried out on how the accidents affect the quality of life of elderly people staying in nursing homes.

Therefore, the purpose of this research was to assess the quality of life of the 65+ year old elderly people living in a nursing home in Ankara and to examine the relationship between the quality of life and their demographic characteristics and the accidents they had.

Materials and Method

This cross-sectional research was conducted on one hundred and twenty one people living in a nursing home in Ankara who answered the questionnaire on a voluntary basis. Having received written approval from the official institution to which the nursing home is attached (20.11.2008), the institution's administration was duly informed and interview appointments were made for the elderly people who volunteered to participate.

Research data were collected by means of face to face interviews with elderly people conducted between 16.02.2009 and 27.02.2009 using the questionnaire form developed by the researchers and with the World Health Organization WHOQOL-OLD Scale of Life Quality.

The questionnaire form consisted of three parts. First part included information on gender, age, marital status, education and income level, duration of resting period and stay in the nursing home. Second part included information on accidents experienced in the past year, the accident types, and the causes and locations of the accidents. Third part consisted of the questions taken from the World Health Organization's 24-item WHOQOL-OLD Scale of Life Quality (short form). Validity and reliability of the WHOQOL-OLD form was shown by Eser et al. (35) in Turkey. The WHOQOL-OLD module consists of 24 Likert-type questions and 6 subfields. These domains are categorized as sensory abilities, autonomy, past, present and future activities, social participation, death and dying, and intimacy. With ***Sensory Abilities*** questions, effects of visual, auditory, sensory, taste and appetite changes on

the quality of life were assessed. ***Autonomy*** questions examined independence, respect, general control over life, ability to make free decisions and effects of these factors on the quality of life. In ***Past,*** Present ***and Future Activities***, successes achieved in the past and satisfaction with these successes, recollections of the past, and feelings and opinions about the future were analyzed. In ***Social Participation***, opinions about the use of time and the state of taking part in crucial activities were examined. In ***Death andDying***, opinions about the acceptance of death, its inevitability and meaning were questioned. Finally in Intimacy, relations with other people and social support were examined. The lowest possible score for each question wais 1.0 and the highest possible score was 5.0. While 1st, 3rd, 4th, 17th, 18th, 19th and 20th questions of the questionnaire were negative statements and scored from "None=5" to "Completely=1", remaining questions were positive statements scored from "None=1" to "Completely=5". Thus, quality of life increased with the score obtained from the relevant domains.

In the data analysis stage, the SPSS file of WHOQOL-OLD Scale of Life Quality was sent to WHOQOL Center in Turkey and only subfield scores were evaluated in this center. Then, the frequency and percentage distributions of elderly people's demographic features and characteristics of the accidents they had were calculated. The opinions of elderly people about the questions listed in WHOQOL-OLD Scale of Life Quality were described by calculating mean and standard deviation values. Independent samples t-test and one-way ANOVA were used to compare elderly people's opinions about the subject according to their demographic features and the accidents they had. Tukey test, a multiple comparison test, was applied to reveal the reasons behind the differences. The relationship between the demographic characteristics of the participants and the accidents they had in the past year were analyzed via Chi-Square test.

Furthermore, in the scope of the present research, reliability analysis for each dimension (factor) determined with factor analysis was carried out by Cronbach's Alpha coefficient. In data analysis, NCSS and SPSS 15.0 for Windows programs were used.

Considering that it could be easier for elderly people to remember, they were asked about the accidents they had over the previous year, and those living in the nursing home for at least one-year were included in the study.

In the elderly people module (WHOQOL-OLD) study, Eser et al. (35) reported the "Cronbach Alpha" values calculated for internal consistency of the scale for each domain as follows: Sensory abilities: .83, autonomy: .78, past, present and future activities: .77, social participation: .76, death: .77 and intimacy: .78. In this research, Cronbach's Alpha values were: sensory abilities:.72, autonomy:.79, past, present and future activities:.73, social participation :.75, death:.75, and intimacy:.74.

RESULTS

Some demographic features of the participants and information on accidents they had is given in Table 1.

Of the study participants, 59.5% were male (n=72), and 40.5% (n=49) were female; and 36.3% were between 75 – 79 years of age. The percentages of those who were single+ widow/widower (79.3%), those who had a monthly income of 1501 TL + (47.1%) and those who were university graduates (46.3%) were the highest. While 12.4% of the participants had been living in the nursing home for a year, 47.1% had been living there for 2-4 years, and 40.5% had been living there for five years or more (Table 1).

Of the elderly people living in the nursing home, 27.3% were found to have had an accident in the previous year and almost all of these accidents (97.0%) were falls. As for the reasons of the accidents, 51.6% of the participants mentioned that they had accidents due to carelessness, while 36.4% of them stated that they had accidents because the floor was slippery. When they were analyzed according to the locations where they had the accidents, most common location was the corridor (30.3%) followed by the bedroom (24.2%), the bathroom (15.2%) and the garden (15.2%) (Table 2).

When the mean scores of dimensions in Table 3 were examined, it was recorded that elderly people's "intimacy" domain scores (15.72±0.26) were higher compared to the other scores. Elderly people took the lowest scores from the domain of "sensory abilities" (9.22±0.22). In other words, the most negative dimension in terms of quality of life was "sensory abilities". When all of the factors were combined, the total score from WHOQOL-OLD Life Quality Scale was calculated as 12.18±0.14 on average. The average scores the participants took from the items related to the life quality (items 3 and 4) demonstrated that the impairments (1.53) and problems (1.72) in auditory, visual, olfactory, tactile and taste functions have negative effects on daily activities and relationships with others. On the other hand, the participants made the most positive statements on "feeling of friendship, feeling and experiencing love, opportunity to love and to be loved" related to the domain of intimacy; on "freedom of making one's own de-

Table 1— Distribution of Elderly People on the Basis of Their Demographic Features (n=121)

Variable	n	%
Gender		
Male	72	59.5
Female	49	40.5
Age Group		
65-69	14	11.6
70-74	25	20.7
75-79	44	36.3
80 +	38	31.4
Marital Status		
Married	25	20.7
Single +widow/widower	96	79.3
Monthly Income Level (TL)		
1000 and Less	15	12.4
1001-1500	49	40.5
1501 and Over	57	47.1
Education Level		
Primary Education and Lower	11	9.1
Secondary Education	13	10.7
High school	41	33.9
University	56	46.3
Duration of Living in Nursing Home		
1 Year	15	12.4
2-4 Years	57	47.1
5 Years or more	49	40.5

Table 2— Distribution of the Elderly People Who Had An accident in the Past Year (n=121)

Variable	n	%
Had an accident in the past year		
Yes	33	27.3
No	88	72.7
Accident type		
Fall	32	97.0
Cut	1	3.0
Cause of the accident		
Slipperiness of the Floor	12	36.4
Carelessness	17	51.6
Insufficient Illumination	2	6.0
Stumbling Upon an Object While Walking	2	6.0
Location of the accident		
Bedroom	8	24.2
Stairs	3	9.1
Bathroom	5	15.2
Corridor	10	30.3
Dining Room	2	6.0
Garden	5	15.2

cisions" related to the domain of autonomy; and on "using time and opportunity to take part in social activities" related to the domain of social participation.

Relationships between having an accident in the past year and "autonomy", and "past, present and future activities" were found significant ($p<0.05$) (Table 4). According to the total score in Table 4 the "autonomy" and "past, present and future activities" scores of those who had an accident in the past year were lower than those who did not. No significant relationship was found between some sub dimensions (sensory abilities, social participation, death and dying , intimacy, total score) of the WHOQOL Life Quality Scale and elderly people's having an accident in the past year ($p>0.05$). Besides, there was no significant relationship between the type, cause and the location of the accident and the dimensions of the scale ($p>0.05$).

A significant relationship was found between some subdimensions of WHOQOL Life Quality Scale and elderly people's gender, age, marital status, monthly income and education level. ($p<0.05$) (Table 5). The relationships between gender and "sensory abilities" and "autonomy"; between age and "sensory abilities", "death and dying" and "intimacy"; between marital status and "social participation", "death and dying", "intimacy" and "total score"; between monthly income level and "sensory abilities", "past, present and future activities" and "total score"; between education level and "sensory abilities", "past, present and future activities", "social participation", "intimacy" and "total score" were found to be statistically significant. No significant relationship was recorded between the duration of living in a nursing home and dimensions of the scale ($p>0.05$). In Table 5 were examined, "autonomy" was higher in men compared to women; and "social participation", "death and dying", "intimacy" and "total" scores of married participants were higher than those who were single or widow/widower.

Furthermore, the "sensory abilities" scores of elderly people aged 80 years or over, the "death and dying" scores of those aged 65-69 years, and the "intimacy" scores of those aged 70-74 years were higher than the other groups. In addition, it

Table 3— Descriptive Statistics Pertaining to the WHOQOL-OLD Life Quality Scale

Dimensions	Items	Average	S.D.	Dimension Aggregate
Sensory	OLD-1-	3.48	1.16	
Abilities	OLD-2-	2.49	1.14	9.22
	OLD-3-	1.53	.64	±0.22
	OLD-4-			
		1.72	.70	
Autonomy	OLD-5-	4.19	.77	10.98
	OLD-6-	2.25	1.05	±0.27
	OLD-7-	2.30	1.00	
	OLD-8-	2.23	1.00	
Past, present and future activities	OLD-9-	2.49	1.04	11.78
	OLD10-	2.39	1.15	±0.23
	OLD-11-	3.45	1.00	
	OLD-12-	3.43	.93	
Social participation	OLD-13-	4.04	.83	14.11
	OLD-14-	3.15	.93	±0.24
	OLD-15	4.11	.78	
	OLD-16-	3.38	.92	
Death and dying	OLD-17-	2.65	.90	11.32
	OLD-18-	3.15	.955	±0.28
	OLD-19-	2.74	.94	
	OLD-20-	2.78	1.07	
Intimacy	OLD-21-	3.80	.87	15.72
	OLD-22-	3.95	.80	±0.26
	OLD-23-	4.06	.73	
	OLD-24-	3.90	.70	
All dimensions –factors- (total score average)				**12.18 ±0.14**

was shown that "sensory abilities", "past, present and future activities" and "total" scores of elderly people who had a monthly income over 1500 TL were higher than those who had a monthly income of 1500 TL or lower. Moreover, the "sensory abilities", "past, present and future activities", "social participation", "intimacy" and "total" scores of those with high school or university education were higher than those with secondary school or less education (Table 5).

Discussion

In the research, of the elderly people staying in the nursing home 27.3% were found to have an accident in the past year and almost all of these accidents (97.0%) were falls. In Kerem et al.'study (36) including elderly people living in a nursing home and at home in Ankara, 36.0% of elderly people were found to have a fall accident. Yesilbalkan and Karadakovan (37) conducted a study in a nursing home in Izmir and found that 48.7% of the elderly people had fall accidents.

Elderly people mentioned carelessness as the primary (51.6%), and slipperiness of the floor as the secondary cause of accidents (36.4%). Of women 29.2 and of men 24.5% stated that they had an accident in the past year. Regarding gender differences, elderly females tended to suffer from osteoporosis and weakness of the musculoskeletal system more frequently than males (38).

Most frequent accident locations were the corridors (30.3%), followed by the bedrooms (24.2%), the bathrooms (15.2%) and the garden (15.2%). In a study about opinions of the nursing home staff on elderly people's risk of falling, Emi-

Table 4— Comparison of the Subdimensions of the WHOQOL-OLD Life Quality Scale According to the Participants' Having an Accident in the Past Year

Dimensions	Variables	Group	Mean	sd	Df	t	P
Sensory Abilities	Having an Accident in the Past Year	Yes	9.18	2.27	119	.416	.67
		No	9.25	2.43			
Autonomy	Having an Accident in the Past Year	Yes	10.69	2.15	119	1.79	*
		No	11.75	2.14			
Past, Present and Future Activities	Having an Accident in the Past Year	Yes	11.61	1.71	119	1.76	*
		No	12.24	1.82			
Sensory Abilities	Having an Accident in the Past Year	Yes	9.18	2.27	119	.416	.67
		No	9.25	2.43			
Social Participation	Having an Accident in the Past Year	Yes	14.08	2.51	119	.571	.56
		No	14.13	2.71			
Death and Dying	Having an Accident in the Past Year	Yes	11.28	2.96	119	.231	.81
		No	11.34	2.26			
Intimacy	Having an Accident in the Past Year	Yes	15.60	2.69	119	.285	.76
		No	15.77	2.92			

*: p<0.05

roglu and Yildirim (39) showed that the staff considered the elderly people staying in the institution primarily fell in the bathrooms and toilets. This result demonstrates that arrangements should be made in these areas to prevent elderly people from fall accidents.

The mean quality of life scores of the participants were found to be as follows: sensory abilities: 9.22±0.22, autonomy: 10.98±0.27, past-present and future activities: 11.78±0.23, social participation: 14.11±0.24, death and dying: 11.32±0.28, andintimacy: 15.72 ±0.26. By analysis of the mean scores taken from the items related to quality of life (items 3 and 4), the impairments and problems in sensory abilities (i.e auditory, visual, olfactory tactile and taste functions) were found to have negative effects on the daily activities and on the relationships established with the others. On the other hand, elderly people living in the nursing home made the most positive statements on "the feeling of friendship, feeling and experiencing love, opportunity to love and to be loved" related to the domain of intimacy; on "freedom of making one's own decisions" related to the domain of autonomy; and on "using time and opportunity to take part in social activities" related to the domain of social participation. Ozyurt et al. (5) aimed to determine the factors influencing quality of life of elderly people living in Manisa and also showed that the highest mean score was obtained from the "intimacy" subfield. (14.37±2.00) .

Life quality is a complex concept depending on many variables. One of its important determinants is health (10). Having an accident may have a negative effect on health and therefore the quality of life. The "autonomy" and "past, present and future activities" scores of the participants who had an accident in the past year were found to be significantly lower than those of the participants who did not. This result indicates that elderly people who had an accident are affected more from the domain of autonomy and of the past, present and future activities -subfields of life quality- when compared to the other domains.

In the present research, mean life quality scores of men were found to be higher than those of women except for sensory abilities. Ozyurt et al. (5) also stated that except for the subfields of sensory abilities and death and dying, the mean scores of men were higher than those of women. The life quality scores of men were found to be higher than those of women in a similar research by Arslantas et al. (23) in Eskisehir, by Cingil and Bodur (24) in Konya, by Turgul et al. (40) in Izmir, by Ersoy and Demirel (4) in Ankara, and by Calıstır et al. (6) in Mugla. These results seem to support the findings of the present research. The lower mean life quality scores observed in women may be due to the higher accident rates among them, and the consequent difficulties they had in accomplishing their daily tasks.

Table 5— Comparison of the Subdimensions of the WHOQOL-OLD Life Quality Scale According to the Participants' Demographic Features.

Variables	Group	WHOQOL Life Quality Scale													
		Sensory abilities		Autonomy		Past, present and future activities		Social Participation		Death and dying		Intimacy		Total	
		mean	*sd*	*mean*	*sd*	*mean*	*sd*	*mean*	*sd*	*mean*	*sd*	*mean*	*sd*	*mean*	*sd*
Gender	Male	8.78	2.51	11.59	2.98	11.93	1.90	14.77	2.45	11.36	3.00	16.01	2.75	12.28	1.51
	Female	8.89	2.15	10.07	2.79	11.57	1.52	14.61	2.94	11.27	3.21	15.30	2.98	12.05	1.47
	p	*		*		-		-		-		-		-	
Age	65-69	8.87a	2.53	10.78	3.55	12.57	1.55	15.42	2.62	12.86a	3.37	17.14a	2.85	12.49	1.36
	70-74	8.76a	2.04	10.80	2.72	11.56	1.52	14.76	2.35	11.84b	2.34	16.32b	2.65	12.33	1.41
	75-79	8.94a	2.15	10.54	2.84	11.56	1.83	14.93	2.77	11.67b	2.97	15.70c	2.52	12.16	1.45
	≥80	9.98b	2.29	11.68	2.93	11.89	1.85	14.15	2.71	10.02c	3.28	14.84c	3.13	12.04	1.65
	p	***		-		-		-		***		*		-	
Marital Status	Married	9.12	2.10	10.60	3.06	12.32	1.81	16.04	2.16	12.96	3.05	17.12	2.47	12.76	1.44
	Single + Widow/widower	9.25	2.42	11.08	2.91	11.64	1.72	14.36	2.67	10.89	3.03	15.36	2.84	12.02	1.47
	p	-		-		-		***		***		***		**	
Monthly Income Level (TL)	<1000	8.62a	2.98	11.13	3.31	10.66a	2.05	13.53	2.72	10.85	2.81	14.26	3.15	11.36a	1.42
	1001-1500	8.73a	2.09	10.53	2.47	11.41a	1.75	14.59	2.22	11.46	2.14	15.81	2.50	11.64a	1.19
	>1500	9.81b	2.22	11.33	3.19	12.45b	1.59	15.12	2.91	11.32	3.87	16.03	2.98	12.84b	1.64
	p	***		-		*		-		-		-		**	
Education Level															
	Primary Education	8.16a	2.11	10.18	2.40	9.72a	1.84	13.45a	2.87	10.74	2.24	13.90a	2.42	11.06a	1.22
	Secondary Education	7.53a	2.47	10.84	3.10	10.76a	1.09	12.76a	2.20	10.53	2.77	14.15a	2.47	11.14a	1.19
	High School	9.62b	2.23	10.46	2.46	12.26b	1.91	14.90b	2.37	11.33	2.90	16.26b	2.35	12.42b	1.21
	University	9.55b	2.27	11.55	3.25	12.07b	1.37	15.26b	2.67	11.62	3.54	16.05b	3.12	12.51b	1.51
	p	***		-		***		***		-		**		***	

*: p<0.05, **: p<0.01, ***: p<0.001, a,b,c,: indicates a significant difference between the factors with different letters.

In this research, mean scores were found higher in the 65-69 years age group compared to those in other age groups. The number of health problems increase with increasing age. Moreover, the rate of accidents may also increase. These factors may contribute to the decrease in quality of life in older ages. Arslantas et al. (23), showed that the mean quality of life scores of 65-69 years age group was higher than those of the other age groups. Calıstır et al. (6) also stated that the quality of life decreases as the age advances.

Mean quality of life scores of the married participants were found to be higher than those of single and widow/widower participants, and the mean scores of those with a monthly income higher than 1500 TL were found to be higher than those with lower income levels. Calıstır et al. (6) stated that the quality of life decreases with decreasing levels of income as well. These results are parallel with the findings of this study.

In this research, the mean quality of life scores of university graduates were found to be higher than those of the participants with lower education levels. The mean quality of life scores increased as the education levels increased. This finding suggests that an increase in the education level has a positive influence on the quality of life. Arslantas et al. (23), Calıstır et al. (6), and Kuan-Lang et al. (26), reported that the mean quality of life scores of elderly people increases as the education level increases, supporting the findings of the present study.

Conclusion

In the present research, 27.3% of elderly people were found to have an accident in the past year; almost all of these accidents were falls; and most of the accidents occurred in the corridor (30.3%) and the bedroom (24.2 %). A statistical relationship was determined between certain subdimensions of WHOQOL-OLD Life Quality Scale and elderly people's gender, age, marital status, monthly income, education level and having an accident.

In accordance with these results, we suggest:

- Educating the staff and elderly people staying in the institutions on accidents and risk factors in order to prevent the accidents, and by raising their awareness on this subject, enabling them to take the necessary precautions against accidents
- Making the necessary arrangements in the institutions to prevent elderly people from having an accident (e.g. using non-slip floor coverings, removing objects in the walking area, providing sufficient illumination etc.)
- Conducting comprehensive research on this issue all around Turkey, evaluating the results of such research, and increasing the quality of life of elderly people by means of arrangements which will put an end to the accidents.

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