

## Original Article

## The Effect of Pain Levels and Pain Beliefs of Elderly People Living in Nursing Home on Quality of Life

**Nevin Dogan, MSc**

Research Assistant, Nursing Department, Gazi University Faculty of Health Sciences, Ankara, Turkey

**Songul Goris, PhD**

Assistant Professor, Nursing Department, Erciyes University Faculty of Health Sciences, Kayseri, Turkey

**Correspondence:** Nevin Dogan, Research Assistant, Nursing Department, Gazi University Faculty of Health Sciences, Ankara, Turkey, e-mail: nevin-blg@hotmail.com

### Abstract

**Objective:** This descriptive study was conducted in order to determine the effect of pain levels and pain beliefs of elderly people living in nursing home on quality of life.

**Methodology:** The study was conducted on 108 elderly people who were living in a nursing home in the city center of Kayseri, met inclusion criteria, and agreed to participate in the study. The data of the study were collected by using Elderly Information Form, Geriatric Pain Measure (GPM), Pain Beliefs Questionnaire (PBQ), and Quality of Life Questionnaire Older Adults Module (WHOQOL-OLD). In the study, ethics committee approval, Institution approval, and Informed consent from the elders were taken in the study. In the evaluation of the data; descriptive statistics, independent two sample t test, One-Way ANOVA, Mann-Whitney U test, Kruskal Wallis test, Pearson and Spearman Correlation analyses were used. The value of  $p < 0.05$  was considered as statistically significant.

**Results:** GPM total score of the elderly in the study was determined as  $40.48 \pm 29.79$ . A statistically significant difference was determined between gender, presence of chronic disease, health perception form and GPM mean score ( $p < 0.05$ ). Elderly's Psychological PBQ (PBQ-P) mean score was determined as  $1.80 \pm 0.73$  and Organic PBQ (PBQ-O) mean score was  $3.02 \pm 0.74$ , and the WHOQOL-OLD mean score was found as  $50.15 \pm 15.82$ . It was determined that there was a negative correlation between elders' life quality and "pain intensity", "pain with strenuous activities" and "pain with other activities" among subscales of GPM and "psychological beliefs" from PBQ subscales are effective on autonomy, "organic beliefs" are effective on death and dying subscale ( $p < 0.05$ ).

**Conclusions:** As a result, it was determined that the majority of the elderly people had pain complaints and that the pain affects the quality of life negatively.

**Keywords:** Pain, pain beliefs, nursing, elderly, quality of life

### Introduction

Elders get sick more frequently and experience more chronic diseases and they mostly try to deal with more than one health problem due to difficulty in adaptation to changing conditions, decreased immunization and stress (Sivri, 2002; Kunt, 2007). One of the mostly expressed problems by elders among these health problems is pain (Sawyer et al., 2006; Miro, 2007). In a study, pain frequency is reported to vary in 19-40% in different regions in 70 years and older patients (Woo et al., 1994). In terms of the elders living in aged care homes or nursing homes, pain is also a major problem and the frequency of the pain which cannot be treated completely is found

to vary between 45-80% (Kutsal, 2007). Pain is an important but neglected problem among the elder individuals (Briggs, 2002; Evans, 2004). This is caused by the problems such as not treating the pain sufficiently, not questioning the pain-related factors, cognitive losses, and the health personnel who do not evaluate the pain (Cowan, 2003; Chapman, 2010). Since pain beliefs from the cognitive mechanisms are recently thought to play a significant role in treatment and chronic stage of the pain in the studies on pain, evaluation of pain beliefs is important in effective pain management (Kocoglu & Ozdemir, 2011).

The quality of life having the potential of significant reduction with ageing is affected negatively by the pain elderly people are experiencing (Bumin, Kirdi & Kayihan, 2006). Studies have revealed that frequent pain experience affects physical, psychological, and social well-being negatively and reduces the quality of life (Telater & Ozcebe, 2004; Tavsanlı, Özcelik & Karadakovan, 2013).

One of the objectives of nursing services focusing to protect and promote the health of the individuals in every period of their life is to enhance the quality of life of the elderly individuals and help them to maintain an active life (Erdil, 2007). In particular, nursing homes which is the primary one of the institutions providing services to the elders should be evaluated in this sense and the effect of the pain and pain beliefs of the elders staying in the nursing homes on the quality of life should be evaluated. It is aimed in this study to draw attention into the subject by evaluating the elderly individuals' pain and pain beliefs objectively, to determine the effect of pain on quality of life and to form the basis for planning the studies for the application.

This study was planned to determine the effect of pain levels and beliefs of the elderly individuals living in nursing homes on quality of life.

### **Materials and Methods**

This descriptive study was conducted with 65 years old and over elderly people living in a nursing home located in city center of Kayseri, having sufficient cognitive competence to answer all of the questions (without dementia and alzheimer diseases) and agreeing to participate in the study between September and October 2014. The study was completed by 108 elderly people.

In order to collect the data of the study; Elderly Information Form, Geriatric Pain Scale (GPM), Pain Beliefs Questionnaire (PBQ), and Quality of Life Questionnaire Older Adults Module (WHOQOL-OLD) were used.

### **Elderly Information Form**

Elderly Information Form prepared by the researcher with the help of literature (Briggs, 2002; Evans, 2004; Chapman, 2010) consisted of 18 questions including sociodemographic characteristics like gender, age, marital status, educational level and income status and questioning smoking and alcohol use, chronic diseases, drugs, perception level of the health

status and the characteristics related with the pain.

### **Geriatric Pain Measure (GPM)**

GPM which was developed by Ferrell, Stein & Beck (2000) and whose Turkish validity and reliability study was conducted by Dursun (2013), is a 24-point scale. The scale has five subscales including "disengagement", "pain intensity", "pain with ambulation", "pain with strenuous activity", and "pain with other activities".

22 items in the scale are in binary form and the other two items are scored according to 0-10 scale. Total score is found by summing "Yes" answers and it varies between 0-42. The score is converted into a 0-100 system by multiplying each scale item with 2.38. In the evaluation of GPM, scores lower than 0-30 are evaluated as "mild pain", the scores between 30-69 are "moderate pain", and 70 points and over are evaluated as "severe pain" (Dursun, 2013). Cronbach's alpha coefficient of the scale in Turkish validity and reliability study of GPM was found as 0.85 (Dursun, 2013). Cronbach's alpha coefficient of GPM was 0.88 in this study.

### **Pain Beliefs Questionnaire (PBQ)**

Turkish validity and reliability study of the scale developed by Edwards et al. (1992) was conducted by Sertel (2006). PBQ is a scale having two subscales as psychological and organic towards source and results of the pain. Total score is not obtained in 6-point Likert-type scale consisting of 12 items, but the scores of two subscales as psychological pain beliefs (PBQ-P) and organic pain beliefs (PBQ-O) are obtained. There is no cut-off point for the scale scores. Obtaining high scores from the subscale signifies high pain belief for the subscale and the low score signifies low pain belief for the subscale. Cronbach alpha coefficient of the scale in Turkish validity and reliability study of PBQ was found as 0.71 for psychological beliefs subscale and 0.64 for organic beliefs subscale (Sertel, 2006). In this study, Cronbach alpha coefficient was found as 0.58 for psychological beliefs subscale and 0.51 for organic beliefs subscale.

### **Quality of Life Questionnaire Older Adults Module (WHOQOL-OLD)**

WHOQOL-OLD module is developed by The World Health Organization Quality of Life (WHOQOL) group (1998) using a simultaneous approach in 22 countries and its Turkish validity

and reliability study was conducted by Eser et al. (2010). WHOQOL-OLD module is a five-point Likert-type scale composed of 24 questions and 6 subscales. The scale consists of “Sensory abilities”, “autonomy”, “past”, “present and future activities”, “social participation”, “death-dying”, and “intimacy” sub-scales.

The lowest score is 1 and the highest score is 5 for each question in the scale. In addition, items 1, 2, 6, 7, 8, 9, and 10 are reverse. Subscale scores vary between 4-20 and the total score is calculated by summing the scores taken from each item. The highest total score to be taken from the scale is 120 and the lowest total score is 24. The quality of life enhances with the increase of the score. While Eser et al. (2010) found the Cronbach’s alpha value of the scale as 0.85 in their study, this value was found as 0.79 in this study.

The data obtained from this study is evaluated by using IBM SPSS Statistics 22.0 package (IBM Corp., Armonk, New York, USA) program. In the evaluation of the data; descriptive statistics (number, percentage, mean, standard deviation), Cronbach’s alpha for the reliability of the scale, Shapiro-Wilk normality test, One-Way ANOVA test in the variables showing normal distribution in the significance tests of the difference between two means, and Independent Two-Sample t-test, Kruskal-Wallis and Mann-Whitney U tests in the variables not showing normal distribution, and Pearson and Spearman Correlation analysis to determine the correlation among the data were used. In all analysis, the value of  $p < 0.05$  was accepted as statistically significant.

At every stage of the study, attention was paid to comply with ethical principles. Before starting the practice, Ethics Committee approval and written institutional permission from the nursing home where the study was conducted were obtained. Elderly individuals included in the study were informed about the purpose of the study and they signed informed consent.

## Results

### Elderly People’s Sociodemographic Characteristics

Table 1 shows descriptive characteristics of the elderly people living in the nursing home. 52.8% of the elderly people were male, 41.7% were in the age group of 65-74 years, and educational level of 56.5% was literate/illiterate. It was determined that 75.9% of the elderly people in

the study group had at least one chronic disease, 46.3% used five or more drugs in a day, and 49.1% perceived their health status as good (Table 1).

### Elderly People’s Pain Related Characteristics and Pain Beliefs

It was determined that 76.9% of the elderly people experienced pain, 62.6% experienced the pain every day, and 36.2% experienced pricking type of pain and those who had pain mostly complained of pain of low extremity (43.2%). The top three among the practices performed by the elderly people suffering from pain were getting the analgesic prescribed by a physician (26.3%), massaging the painful area (21.9%) and exercise (19.7%) (Table 2). According to GPM mean scores in the study; it was determined that 36.1% of the elderly people had mild level of pain, 43.5% had moderate level, and 20.4% had severe level of pain.

When GPM scores were examined according to the elderly people’s descriptive characteristics; it was found that GPM subscale and total scores of those who were female, had chronic disease and expressed their health status as moderate level were higher and the difference between them was statistically significant ( $p < 0.05$ ) (Table 3).

When PBQ subscale mean scores of the elderly people living in the nursing home were examined; it was determined that psychological beliefs subscale mean score was  $1.80 \pm 0.73$  and the organic beliefs subscale mean score was  $3.02 \pm 0.74$ .

### Quality of Life of Elderly People

Elderly people’s WHOQOL-OLD total score was determined as  $50.15 \pm 18.82$ . In the subscales of WHOQOL-OLD scale; “sensory abilities” mean score was  $64.23 \pm 30.24$ , “autonomy” mean score was  $47.97 \pm 18.16$ , “past, present, and future activities” mean score was  $36.16 \pm 21.83$ , “social participation” mean score was  $36.11 \pm 23.01$ , “death and dying” mean score was  $63.59 \pm 34.02$ , and “intimacy” mean score was  $52.83 \pm 25.62$ .

Table 4 shows the correlation between GPM and PBQ scores and WHOQOL-OLD scores in elderly individuals. A negative significant correlation was found between scores of the pain intensity, a GPM subscale, and quality of life “autonomy” subscale score and quality of life “total” score ( $p < 0.05$ ).

Characteristics	n	%
<b>Gender</b>		
Male	57	<b>52.8</b>
Female	51	47.2
<b>Age group</b>		
65-74 years	45	<b>41.7</b>
75-84 years	43	39.8
85 years and over	20	18.5
<b>Educational level</b>		
Literate / Illiterate	61	<b>56.5</b>
Primary School	34	31.5
Secondary school and higher	13	12.0
<b>Social security</b>		
Yes	68	<b>63.0</b>
No	40	37.0
<b>Income level</b>		
Good	47	<b>43.5</b>
Moderate	26	24.1
Bad	35	32.4
<b>Smoking status</b>		
Non-smoker	73	<b>67.6</b>
Smoker	22	20.4
Quitted	13	12.0
<b>Alcohol status</b>		
Drinking	100	<b>92.6</b>
Quitted	8	7.4
<b>Chronic disease status</b>		
Yes	82	<b>75.9</b>
No	26	24.1
<b>Number of chronic diseases (n=82)*</b>		
1	23	28.1
2	29	<b>35.4</b>
3	17	20.7
4 and more	13	15.8
<b>Number of drugs used daily</b>		
2 and less	31	28.7
3 -4	27	25.0
5 and more	50	<b>46.3</b>
<b>State of perceiving health</b>		
Good	53	<b>49.1</b>
Moderate	27	25.0
Bad	28	25.9

**Table 1. Descriptive Characteristics of the Elderly People (n=108)**

\* Percentages were taken over "n"

Properties	n	%
<b>State of experiencing pain</b>		
Experiencing	83	<b>76.9</b>
Not experiencing	25	23.1
<b>Pain frequency (n=83)*</b>		
Everyday	52	<b>62.6</b>
3-4 times a week	5	6.1
1-2 times a week	18	21.7
1-2 times per month	8	9.6
<b>Pain area (n=148)**</b>		
Lower extremities	64	<b>43.2</b>
Body	42	28.4
Upper extremities	22	14.8
Head-neck	20	13.6
<b>Pain type (n=83)*</b>		
Pricking	30	<b>36.2</b>
Tingled	21	25.3
Throb	15	18.0
Burning	10	12.0
Other (knife stuck style, blunt)	7	8.5
<b>State of using regularly analgesics (n=83)*</b>		
Using	49	<b>59.1</b>
Not using	34	40.9
<b>Frequency of using analgesics (n=49)*</b>		
Everyday	35	<b>71.5</b>
1-2 times a week	7	14.3
3-4 times a week	4	8.1
1-2 times per month	3	6.1
<b>Practices made for pain (n= 187)**</b>		
Taking the analgesics prescribed by the physician	49	<b>26.3</b>
Massaging the painful area	41	21.9
Exercising	37	19.7
Resting	26	13.9
Hot/cold application to the painful area	17	9.1
Methods helping to control stress	11	5.8
Using analgesics that is not prescribed by the physician.	6	3.3

**Table 2. Elderly people's pain-related characteristics (n=108)**

\* Percentages were taken over "n".

\*\* Multiple answers were given.

Characteristics	GPM disengagement Median(%25-%75)	GPM Intensity Median(%25-%75)	GPM ambulation Median(%25-%75)	GPM strenuous activity Median(%25-%75)	GPM Other Median(%25-%75)	GPM Total Median(%25-%75)
<b>Gender</b>						
Female	30.94 (16.66-38.08)	14.28 (9.52-16.66)	9.52 (0.00-9.52)	2.38 (0.00-4.76)	7.14 (4.76-11.90)	59.50 (33.32-73.78)
Male	16.66 (0.0-27.37)	7.14 (0.0-11.90)	0.0 (0.0-9.52)	0.0 (0.0-4.76)	2.38 (0.0-7.14)	30.94 (0.0-52.36)
<i>P</i>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.079	<b>0.000</b>	<b>0.000</b>
<b>Age Group</b>						
65-74 years	21.42 (0.0-35.70)	9.52 (0.0-14.28)	4.76 (0.0-9.52)	2.38 (0.0-2.38)	4.76 (0.0-9.52)	42.84 (0.0-65.45)
75-84 years	21.42 (9.52-30.94)	11.90 (2.38-16.66)	9.52 (0.0-9.52)	2.38 (0.0-4.76)	7.14 (0.0-9.52)	49.98 (16.66-69.02)
85 years and over	21.42 (0.0-36.89)	10.71 (0.0-16.06)	7.14 (0.0-9.52)	2.38 (0.0-4.76)	7.14 (0.0-9.52)	46.41 (0.0-65.45)
<i>P</i>	0.988	0.786	0.347	0.192	0.751	0.858
<b>Chronic disease status</b>						
Yes	26.18 (9.52-35.70)	11.90 (6.54-16.66)	9.52 (0.0-9.52)	2.38 (0.0-4.76)	7.14 (2.38-9.52)	52.36 (27.96-67.23)
No	0.0 (0.0-24.39)	0.0 (0.0-10.11)	0.0 (0.0-7.73)	0.0 (0.0-2.38)	0.0 (0.0-5.35)	0.0 (0.0-49.98)
<i>P</i>	<b>0.001</b>	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Health perception status</b>						
Good	9.52 (0.0-30.94)	4.76 (0.0-11.90)	0.0 (0.0-9.52)	0.0 (0.0-2.38)	2.38 (0.0-7.14)	21.42 (0.0-51.17)
Moderate	23.80 (9.52-33.32)	11.90 (9.52-14.28)	9.52 (0.0-9.52)	2.38 (0.0-4.76)	7.14 (2.38-9.52)	52.36 (26.18-66.64)
Bad	35.70 (21.42-42.84)	16.66 (11.9-16.66)	9.52 (9.52-9.52)	2.38 (2.38-4.76)	9.52 (7.14-11.90)	69.02 (48.79-79.73)
<i>p</i>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.005</b>	<b>0.000</b>	<b>0.000</b>

**Table 3. GPM scores according to Elderly People's Descriptive Characteristics (n=108)**

\* Percentages were taken over "n".

\*\* Multiple answers were given.

A negative significant correlation was determined between the scores obtained by the elderly people from "pain with strenuous activity" subscale and WHOQOL-OLD "total" score ( $p < 0.05$ ). A negative significant correlation was determined between the score obtained by the elderly people included in the study from "pain with the other activities" subscale and quality of life "sensory abilities", "autonomy", "social participation" subscale scores and "total" score of WHOQOL-OLD ( $p < 0.05$ ). While a negative correlation was found between PBQ-P and "autonomy" subscale among pain belief subscales and WHOQOL-OLD subscales in elderly people, a positive significant correlation was found between PBQ-O and "death and dying" subscale ( $p < 0.05$ ) (Table 4).

## Discussion

Elderly people constitute an important risk group in terms of chronic pain comparing to the other individuals (Kutsal, 2007). In this study, pain frequency of the elderly people living in the nursing homes was found as 76.9% (Table 2). Previous studies also supported that the pain is one of the most frequently experienced problems among the elderly people. Similar to this study, frequency of pain in the elderly people is reported to be 46%-75% in other studies (Blomqvist, 2003; Tanrıverdi et al, 2009; Yildiz, Erol & Ergun, 2009; Takai, 2013).

**Table 4. Correlation between GPM and PBQ scores and WHOQOL-OLD Scores of the Elderly People (n=108)**

	WHOQOL-OLD Sensory Abilities	WHOQOL-OLD Autonomy	WHOQOL-OLD Past, present and future activities	WHOQOL-OLD Social participation	WHOQOL-OLD Death and dying	WHOQOL-OLD Intimacy	TOTAL
<b>GPM</b>	$\rho=-0.073$ $p=0.453$	$\rho=-0.120$ $p=0.218$	$\rho=-0.038$ $p=0.696$	$\rho=-0.022$ $p=0.817$	$\rho=-0.139$ $p=0.151$	$\rho=0.027$ $p=0.779$	$\rho=-0.106$ $p=0.274$
Disengagement due to pain	$\rho=-0.160$ $p=0.099$	$\rho=-0.219$ $p=0.023$	$\rho=-0.065$ $p=0.503$	$\rho=-0.132$ $p=0.173$	$\rho=-0.166$ $p=0.086$	$\rho=-0.050$ $p=0.606$	$\rho=-0.201$ $p=0.037$
Pain intensity	$\rho=-0.095$ $p=0.331$	$\rho=-0.093$ $p=0.339$	$\rho=0.046$ $p=0.635$	$\rho=-0.058$ $p=0.548$	$\rho=-0.179$ $p=0.064$	$\rho=-0.037$ $p=0.700$	$\rho=-0.149$ $p=0.125$
Pain with ambulation	$\rho=-0.186$ $p=0.054$	$\rho=-0.091$ $p=0.350$	$\rho=-0.023$ $p=0.812$	$\rho=-0.115$ $p=0.235$	$\rho=-0.154$ $p=0.111$	$\rho=-0.169$ $p=0.081$	$\rho=-0.235$ $p=0.014$
Pain with strenuous activities	$\rho=-0.218$ $p=0.023$	$\rho=-0.217$ $p=0.024$	$\rho=-0.095$ $p=0.327$	$\rho=-0.222$ $p=0.021$	$\rho=-0.160$ $p=0.098$	$\rho=-0.106$ $p=0.274$	$\rho=-0.275$ $p=0.004$
Pain with other activities	$\rho=-0.115$ $p=0.235$	$\rho=-0.141$ $p=0.145$	$\rho=-0.039$ $p=0.688$	$\rho=-0.086$ $p=0.378$	$\rho=-0.166$ $p=0.086$	$\rho=-0.006$ $p=0.952$	$\rho=-0.159$ $p=0.099$
GPM total score							
<b>PBQ</b>	$\rho=-0.146$ $p=0.131$	$\rho=-0.209$ $p=0.030$	$\rho=-0.160$ $p=0.098$	$\rho=-0.108$ $p=0.266$	$\rho=0.060$ $p=0.535$	$\rho=-0.114$ $p=0.242$	$\rho=-0.141$ $p=0.145$
PBQ-P	$\rho=0.066$ $p=0.500$	$\rho=-0.051$ $p=0.603$	$\rho=-0.067$ $p=0.494$	$\rho=-0.006$ $p=0.951$	$\rho=0.263$ $p=0.006$	$\rho=0.097$ $p=0.320$	$\rho=0.085$ $p=0.384$
PBQ-O	$\rho=-0.073$ $p=0.453$	$\rho=-0.120$ $p=0.218$	$\rho=-0.038$ $p=0.696$	$\rho=-0.022$ $p=0.817$	$\rho=-0.139$ $p=0.151$	$\rho=0.027$ $p=0.779$	$\rho=-0.106$ $p=0.274$

In the study, according to GPM mean scores; it was determined that 36.1% of the elderly people had mild level of pain, 43.5% had moderate level of pain and 20.4% had the pain of severe level. In Dursun's (2013) study, it was reported that 48.8% of the elderly people experienced mild pain, 43% experienced moderate pain, and 8.2% experienced severe pain. In their study, Yildiz, Erol & Ergun (2009) showed that 54.5% of the elderly people had moderate pain and 25.5% had severe pain. The study results were compatible with the literature; but elderly people's pain reports are less since the elderly individuals think that the pain is a part of ageing should be taken into consideration.

In the previous studies, gender was emphasized to be an important factor in pain report (Werner, 1998; Edirne et al., 2001). While the study was compatible with the literature, women's GPM subscale scores and total scores were found to be higher than men's scores ( $p<0.001$ ) (Table 3). In line with these results, women can be asserted to experience and express the pain more than men.

When the correlation between age and pain was investigated, in the studies, experiencing pain frequency is reported to increase directly with the age (Edirne et al., 2001; Tsai, 2004; Tanrıverdi et

al, 2009). However, in the studies conducted in elderly groups, there were also results showing that there was no correlation between age and experiencing pain (Woo, Leung & Lau, 2009; Patel et al., 2013). When GPM scores were examined according to age in this study; no significant correlation was found between age and subscale and total scores of the scale ( $p>0.05$ ) (Table 3). This was associated with the fact that all the individuals participating in the study were in the similar age group.

When the presence of chronic diseases the elderly people have with their GPM scores were compared in the study, GPM subscale and total scores of elderly individuals with chronic disease were found to be higher ( $p<0.05$ ) (Table 3). Similarly, another study showed the correlation between GPM and presence of chronic disease (Ferrell, Stein & Beck, 2000). Accordingly, the study results supported that the presence of chronic disease which increased with age increased the pain complaints of elderly people.

When the effect of health status on GPM was examined; GPM subscale and total mean scores of the elderly people perceiving health status bad were determined to be higher than the others ( $p<0.001$ ) (Table 3). Simsek et al. (2011) showed

in their study that elderly people's health status impaired as the pain levels increases. In Dursun's (2013) study, GPM scores of the elderly people defining their health status as "bad" were found to be higher than those defining their health status "good". Study results are found to be compatible with the literature, it was concluded that the elderly people perceived the health status as bad as the pain level increased.

Since pain beliefs play an important role in the response to the treatment and in pain perception, it is an important concept required to be assessed. In the study, elderly people's PBQ-O mean scores ( $3.02 \pm 0.74$ ) were found to be higher than PBQ-P mean scores ( $1.80 \pm 0.73$ ). In the line of these results, it can be asserted that the elderly people considered the source of the pain as organic ones rather than the psychological reasons. In literature, it is reported that the elderly people perceive the pain as a part of the changes that occur in the body due to aging (Briggs, 2002; Evans, 2004).

In the study, WHOQOL-OLD total score of the elderly individuals was determined as  $50.15 \pm 18.82$ . Similarly, in their study Eser et al. (2010) determined the WHOQOL-OLD total score as  $56.02 \pm 11.86$ . The study results were similar to the literature and the quality of elderly people's life can be asserted to be low. It was determined in this study that "autonomy" subscale and "quality of life total" scores of the elderly decreased with the increase of pain intensity (Table 4). Akyol et al. (2010) reported in their study that there was a negative correlation between the pain intensity and the quality of life. The results of the present study were found to be similar with literature and it was concluded that elderly people's pain intensity affected the quality of life negatively. A negative significant correlation was determined between the scores obtained by the elderly individuals, who participated in the study, from "pain with other activities" subscale and the quality of life "sensory abilities", "autonomy", "social participation" subscales and "the quality of life total" score ( $p < 0.05$ ) (Table 4). The pain the elderly people were experiencing is known to cause a decrease in the quality of life by leading social isolation, depression, despair and inaction (Karadakovan, 2014). Study results support the literature and the pain an elderly individual is experiencing may be thought to reduce the quality of life by affecting especially

independency, self-sufficiency and social life negatively.

In general, the quality of life which can be used as a "well-being status" is a broad concept affected by the individual's physical health, psychological status, beliefs, social relations and the relation with the environment (Muezzinoglu, 2005). When the correlation between pain beliefs and quality of life was examined in the study, there was a negative correlation between psychological beliefs and "autonomy" subscale and a positive correlation between organic beliefs and "death and dying" subscale ( $p < 0.05$ ) (Table 4). Based on these results, thinking that the source of the pain is mostly psychological affects the elderly people's autonomy negatively, and thinking that the source is organic is asserted to be associated with death since it is related to the physical dimension. In the study of Lame et al. (2005), they determined that the pain beliefs that the individuals with chronic pain have were effective on the quality of life and in particular on social functioning, mental health, and general health.

**In line with these results**, it can be suggested to perform comprehensive and objective evaluation in regular intervals to determine the pain and the factors affecting the pain in elderly people, for the health personnel to plan proper training towards the pain and pain beliefs of the elderly people living in nursing homes within the frame of a multidisciplinary approach, and plan practical studies on relieving the pain of the elderly people living in the nursing homes and enhancing the quality of life.

## References

- Akyol, Y., Durmus, D., Dogan, C., Bek, Y. & Canturk, F. (2010) Quality of life and level of depressive symptoms in the geriatric population. *Turkish Journal of Rheumatology* 25: 165-173.
- Blomqvist, K. (2003) Older People in persistent pain: nursing and paramedical staff perceptions and pain management. *Journal of Advanced Nursing* 41: 575-584.
- Briggs, E. (2002) The nursing management of pain in older people. *Nurs Older People* 14: 23-29.
- Bumin, G., Kirdi, N. & Kayihan, H. (2006) Assessing the quality of life in geriatric age group. In: Ariogul, S. (Editors) *Geriatrics and Gerontology*, MN Medical and Nobel, Ankara, Turkey, 221-231.
- Chapman, S. (2010) Managing pain in the older person. *Nursing Standard* 25: 17-23.
- Cowan, D.T., Fitzpatrick, J.M., Roberts, J.D., While, A.E. & Baldwin, J. (2003) The assessment and management of pain among older people in care

- homes: current status and future directions. *The International Journal of Nursing Studies* 40: 291-298.
- Dursun, G. (2013) Validity and reliability study of the geriatric pain measure in elderly individuals, Nursing of Master's Thesis, Antalya: Akdeniz University Institute of Health Sciences
- Edwards, L.C., Pearce, S.A., Turner-Stokes, L. & Jones, A. (1992) The pain beliefs questionnaire: an investigation of beliefs in the causes and consequences of pain. *Pain* 51: 267-272.
- Erdil, F. (2007) Elderly nursing services. In: Kutsal, Y.G. (Editors) *Basic Geriatrics*. Gunes Medical Bookstore, Ankara, Turkey, 3-9.
- Erdine, S., Hamzaoglu, O., Ozkan, O., Balta, E. & Domac, M. (2001) The prevalence of pain among adults in Turkey. *Pain* 13: 22-30.
- Eser, S., Saatli, G., Eser, E., Baydur, H. & Fidaner, C. (2010) The Reliability and Validity of the Turkish Version of the World Health Organization Quality of Life Instrument-Older Adults Module (WHOQOL-Old). *Journal of Turkish Psychiatry* 21: 37-48.
- Evans, C. (2004) Improving assessment of pain in older people. *Emergency Nurse* 12: 18-21.
- Ferrell, B.A., Stein, W.M. & Beck, J.C. (2000) The Geriatric Pain Measure: validity, reliability and factor analysis. *Journal of the American Geriatrics Society* 48: 1669- 1673.
- Karadakovan, A. (2014) *Elderly Health and Care*. Academician Bookstore, Ankara, Turkey
- Kocoglu, D. & Ozdemir, L. (2011) The relation between pain and pain beliefs and sociodemographic-economic characteristics in an adult population. *Pain* 23: 64-70.
- Kunt, M.M. & Sivri, B. (2007) *Geriatric Emergencies*. In: Kutsal, Y.G. (Editors) *Basic Geriatrics*. Gunes Medical Bookstore, Ankara, Turkey, 193-197.
- Kutsal, Y.G. (2007) Pain. In: Kutsal YG. *Basic Geriatrics*. Gunes Tip Kitabevleri, Ankara p. 279-288.
- Lame, I.E., Peters, M.L., Vlaeyen, J.W., Kleef, M.V. & Patijn, J. (2005) Quality of life in chronic pain is more associated with beliefs about pain, than with pain intensity. *European Journal of Pain* 9: 15-24.
- Miro, J., Paredes, S., Rull, M., Queral, R., Miralles, R., Nieto, R., Huguet, A. & Baos, J. (2007) Pain in older adults: A prevalence study in the Mediterranean region of Catalonia. *European Journal of Pain* 11: 83-92.
- Muezzinoglu, T. (2005) Life quality. *Urooncology Bulletin* 4: 25-29.
- Patel, K.V., Guralnik, J.M., Dansie, E.J. & Turk, D.C. (2013) Prevalence and impact of pain among older adults in the United States: Findings from the 2011 National Health and Aging Trends Study. *Pain* 154: 2649-2657.
- Sawyer, P., Bodner, E.V., Ritcheie, C.S. & Allman, R.M. (2006) Pain and pain medication use in community-dwelling older adults. *American Journal of Geriatric Pharmacotherapy* 4: 316-24.
- Sertel, B.H.O. (2006) The experience of chronic pain and pain beliefs: The Turkish validation study of the pain beliefs questionnaire, Nursing of PhD Thesis, Istanbul: Istanbul University Social Sciences Institute.
- Sivri, B. (2002) *Geriatric emergencies*. In: Kutsal, Y.G. (Editors) *Geriatrics*. Turgut Publishing, Istanbul, Turkey, 49-54.
- Simsek Tarsuslu, T., Yumin Tutun, E., Ozturk, A., Sertel, M. & Yumin, M. (2011) The Relationship Between Pain and Health Status, Mobility and Daily Life Activities in Community-Living elderly Healthy Volunteers. *Turkey Journal of Physical Medicine and Rehabilitation* 57: 216-220.
- Takai, Y., Yamamoto-Mitani, N., Chiba, Y., Nishikawa, Y., Sugai, Y. & Hayashi, K. (2013) Prevalence of pain among residents in Japanese nursing homes: A descriptive study. *Pain Management Nursing* 14: e1-e9.
- Tanrıverdi, G., Okanlı, A., Cetin, H., Ozyazıcıoğlu, N., Sezgin, H., Kararman Özışık, H. Korkut, M. (2009) Pain in the elderly population. *Turkish Journal of Geriatrics* 12: 190-197.
- Tavsanlı, N.G, Özcelik, H. & Karadakovan, A. (2013) Examine of quality of life of elderly individuals suffering pain. *Pain* 25: 93-100.
- Telatar, T.G. & Özcebe, H. (2004) Increasing quality of life of elderly. *Turkish Journal of Geriatrics* 7: 162-165.
- Tsai, Y.F., Tsai, H.H., Lai, Y.H. & Chu, T.L. (2004) Pain prevalence, experiences and management strategies among the elderly in Taiwanese nursing home. *Journal of Pain and Symptom Management* 28: 579-84.
- Werner, P., Cohen-Mansfield, J., Watson, V. & Pasis, S. (1998) Pain in participants of adult day care centers: assessment by different raters. *Journal of Pain and Symptom Management* 15: 8-17.
- Woo, J., Ho, S.C., Lau, J. & Leung, P.C. (1994) Musculoskeletal complaints and associated consequences in elderly Chinese aged 70 years and over. *Journal of Rheumatology* 21: 1927-1931.
- Woo, J., Leung, J. & Lau, E. (2009) Prevalence and correlates of musculoskeletal pain in Chinese elderly and the impact on 4-year physical function and quality of life. *Public Health* 123: 549-556.
- World Health Organization Quality of Life Group. (1998) Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychological Medicine* 28: 551-558.
- Yildiz, A., Erol, S. & Ergun, A. (2009) Pain and depression risk among elderly people living in a nursing home. *Turkish Journal of Geriatrics* 12: 156-164.