

The Relationship between Sleep Quality and Fear of Death and Socio-Demographic Factors in Middle-Age and Above Individuals Applied to the Hospital

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ABSTRACT

Objective: In this study, it was aimed to reveal the relationship between sleep quality, fear of death and socio-demographic factors in middle-aged and older individuals who applied to the hospital.

Materials and Methods: This descriptive study was conducted by applying a questionnaire to middle-aged and older individuals who were hospitalized in the Health Practice and Research Center of a state university and agreed to participate in the study. Data Collection Form, Thorson-Powell Death Anxiety Scale and Pittsburgh Sleep Quality Index (PUKI) were used for all middle-aged and older individuals who agreed to participate in the study. Student t test, Anova and analysis of variance were used to compare the scores obtained from the scales.

Results: 38% of the individuals participating in the study are in the 45-64, 36% are in the 65-74, and 26% are in the 75 and over age group. In the correlation analysis, a weak linear correlation was found between DAS score (high score indicates increased fear of death) and PUKI in the opposite direction ($r=-0.216$) and economic level perception ($r=0.238$). In the correlation analysis, there was an inverse relationship between PUKI score (high score indicates increased sleep problem) and DAS, poor ($r=-0.216$), perception of quality of life, perception of health status, perception of adaptation to life, perceived age, education level and perception of economic level.

Conclusion: According to the correlation analysis, there is a weak correlation between death anxiety and sleep quality in the opposite direction.

Keywords: Aging, Death Anxiety, Sleep Quality

Hastaneye Başvuran Orta Yaş ve Üzeri Bireylerde Uyku Kalitesi ile Ölüm Korkusu ve Sosyo-Demografik Faktörler Arasındaki İlişki

ÖZET

Amaç: Bu çalışmada, hastaneye başvuran orta yaş ve üzeri bireylerde uyku kalitesi ile ölüm korkusu ve sosyo-demografik faktörler arasındaki ilişkinin ortaya çıkarılması amaçlanmıştır.

Yöntem: Tanımlayıcı tipteki bu araştırma bir devlet üniversitesine bağlı Sağlık Uygulama ve Araştırma Merkezi'nde yatan orta yaş ve üzerinde olup araştırmaya katılmayı kabul eden bireylere soru formu verilerek gerçekleştirilmiştir. Araştırmaya katılmayı kabul eden tüm orta yaş ve üstü bireylere Veri Toplama Formu, Thorson-Powell Ölüm Kaygısı Ölçeği ve Pittsburgh Uyku Kalitesi İndeksi (PUKI) kullanılmıştır. Ölçeklerden alınan puanlarının karşılaştırılması için student t testi, Anova ve varyans analizi kullanılmıştır.

Bulgular: Araştırmaya katılan bireylerin %38'ini 45-64 yaş grubu, %36'sını 65-74 yaş grubu ve %26'sını 75 ve üzeri yaş grubu bireyler oluşturmaktadır. Korelasyon analizinde, DAS puanı (yüksek puan ölüm korkusunun arttığını gösterir) ile PUKI arasında zıt yönde zayıf ($r=-0,216$) ve ekonomik düzey algısı ($r=0,238$) arasında doğrusal yönde zayıf bir ilişki bulunmuştur. Korelasyon analizinde, PUKI puanı (yüksek puan uyku sorununu arttığını gösterir) ile DAS arasında zıt yönde zayıf ($r=-0,216$), yaşam kalitesi algısı, sağlık durumu algısı, yaşama uyum algısı, algılanan yaş, öğrenim düzeyi ve ekonomik düzey algısı arasında zıt yönde, zayıf bir ilişki bulunmuştur.

Sonuç: Korelasyon analizine göre ölüm kaygısı ve uyku kalitesi arasında zıt yönde zayıf bir ilişki mevcuttur.

Anahtar Kelimeler: Yaşlılık, Ölüm Kaygısı, Uyku Kalitesi

In the aging process; Irreversible functional losses occur within the scope of tissues, cells and systems in the organism (1). With the aging of the population in the world and in our country, many biological and psychological diseases arise (2). Especially among the psychosocial problems they experience, intense sadness, unhappiness, anger towards the environment and themselves, loss of role in the family, the feeling of not being self-sufficient due to their current illness, fear of death, and social isolation are common (3). When the studies in the literature are examined, it is seen that death anxiety has multiple dimensions. In particular, the fear of uncertainty and being alone, the fear of losing loved ones, the unknown after death, the fear of losing control and personal identity can be counted. The idea and perception of the individual about the concept of death and death anxiety differ according to the society, culture, personality structure and religion of the individual. The attitude, balance and harmony of the society in which the individual lives in the face of death are important. In case of loss of balance and harmony, the anxiety in the individual increases and it becomes difficult for the individual to adapt to the environment (4). It is possible to define death anxiety as a feeling that makes its presence felt in all people, is seen as the basis of all fears throughout life, and develops as a result of the awareness that one can lose himself and everything around him, that he will be nothing, in short, that he may disappear completely (5). The concept of death anxiety is considered multidimensional. Dimensions such as age, gender, education level, marital status, culture, beliefs, close losses, religion and death thoughts may vary in the dimensions of the concept of death anxiety. It is thought that accepting one's own death will increase courage, add integrity to one's life and enrich it (6,7). Sleep is an important physiological requirement for human life. It covers approximately 1/3 of a person's life (8). There are studies that have concluded that there is a relationship between death anxiety and sleep (9). There are many factors that cause sleep problems. Such as pain, anxiety, depression, physical problems and advancing age (10). Sleep problems in the elderly are mainly seen as Insomnia or Hypersomnia. These disorders can be the main disease (primary) or a symptom (secondary) of a disease. Sleep disturbance in old age is considered primary if it does not change according to mental illnesses, drugs used, a stimulant such as coffee or tea or the environment, but if it continues continuously, it is considered as a secondary sleep disorder if the numbers vary according to the circumstances (11,12).

MATERIALS AND METHODS

Working Group

The population of the research consists of middle-aged and older individuals hospitalized in Yozgat Bozok University Health Application and Research Center located in the center of Yozgat province. The study sample consists of middle-aged and older individuals who were hospitalized in Yozgat Bozok University Health Application and Research Center between 01.06.2018 and 01.09.2018 and accepted to participate in the research. Data Collection Form, Thorson-Powell Death Anxiety Scale and Pittsburgh Sleep Quality Index (PUKI) were applied to all middle-aged and older individuals who agreed to participate in the study at the beginning of the data collection process. The questionnaire to be applied to each participant took approximately 15 minutes and was carried out by face-to-face interview technique. A total of 100 people were reached. In the study, the data were evaluated in computer environment using SPSS 18 package program. The socio-demographic characteristics of the elderly who participated in the study were indicated by numbers and percentages. Death anxiety and PSQI scales were calculated separately, the average and standard deviation of the scores obtained from the scales were calculated and student t-test, Anova and variance analysis were used to compare the scores. Factors associated with PUKI score in univariate tests were analyzed by multivariate linear regression. In addition, correlation analysis between DAS Score and PUKI was evaluated.

Data Collection Tools

Data Collection Form: The Data Collection Form, which was created by the researchers by examining the relevant literature, consists of 22 questions related to the socio-demographic characteristics of individuals (8 questions), chronic diseases (9 questions), and measuring the level of self-health perception (5).

Thorson-Powell Death Anxiety Scale (TP DAS)

The Turkish adaptation of the Thorson-Powell Death Anxiety Scale was first performed by Karaca and Yıldız (13). In this study, four dimensions called "loss of physical and spiritual functions", "anxiety about other worlds", "decay and deterioration" and "death process and suffering" were determined. Thorson-Powell Death Anxiety Scale consists of 25 items prepared in a 5-point Likert format. A score between 0 and 100 is obtained from the scale, and high scores indicate high death anxiety. Items 4, 10, 11, 13, 17, 21, 23 and 25 in the scale are scored in reverse (13).

Death Anxiety Scale (SCA)

17 items of the "Death Anxiety Scale" (Thorson-Powell's Death Anxiety Scale) developed by Thorson and Powell (14) and consisting of 25 items are in the form of positive sentences and the other 8 items are in the form of negative sentences. The scale was scored from 0 to 4, from weak to strong, using a 5-point Likert format (very agreeable to my opinion; agreeable to my opinion; undecided; contrary to my opinion; very contrary to my opinion). Items placed in the scale in negative sentence structure are scored by reversing. The lowest 0 and the highest 100 points can be obtained from SCA, and high scores indicate a high level of anxiety. There are 25-item questions that can be answered as true or false in the scale. Thus, the lowest score that can be obtained from the scale is 25 and the highest score is 75. A high score indicates high death anxiety. This scale, which was previously applied with a true-false format for the convenience of elderly subjects, was converted to 5-point Likert format in later studies, and the final form of the scale remained in 5-point Likert format after it was observed that the elderly did not have much problems in filling out the scale (14).

Pittsburgh Sleep Quality Index (PUKI) Scale

PUKI was accepted in determining sleep quality, and in 1989 Buysse et al. (15) and its validity and reliability were determined (Cronbach's $\alpha=0.80$). In our country, the validity and reliability study was carried out by Ağargün et al. (16) and the Cronbach alpha value of the scale was found to be 0.80. The scale is a four-point Likert type and contains a total of 24 questions; subjective sleep quality (component 1), sleep latency (component 2), sleep duration (component 3), habitual sleep efficiency (component 4), sleep disturbance (component 5), use of sleeping pills (component 6) and daytime dysfunction (component 3) 7) consists of 7 components. The sum of the seven component scores gives the total PUKI score. The response of each is scored between 0-3 according to symptom frequency. The total score has a value between 0-21. High values indicate poor sleep quality and high level of sleep disturbance. A total score above 5 indicates clinically poor sleep quality. The nineteenth question is also not taken into account in scoring. Six questions are answered by the spouse or a friend of the individual. These 6 questions are used only for clinical information and are not taken into account in determining the total and component scores of the scale.

Ethics committee permission: In order to conduct the study, Yozgat Bozok University Clinical Research Ethics Committee Approval (dated 30.05.2018 and

numbered 2018-05-118 and decision number 2017-KAEK-189_2018.05.30_15) and Yozgat Bozok University Health Practice and Research Center Institutional permission has been obtained. In addition, before the research, the participants were informed about the research and their consent was obtained.

RESULTS

In the correlation analysis, a weak linear correlation was found between DAS score (high score indicates increased fear of death) and PUKI in the opposite direction ($r=-0.216$) and economic level perception ($r=0.238$). In other words, as the sleep problem decreases and the economic level increases, the fear of death increases. There was no significant relationship between DAS score and perception of quality of life, perception of health status, perception of adaptation to life, perceived age, age, BMI, education level and number of chronic diseases (Table 4).

In the correlation analysis, there was an inverse relationship between PUKI score (high score indicates increased sleep problem) and DAS, poor ($r=-0.216$), perception of quality of life, perception of health status, perception of adaptation to life, perceived age, education level and perception of economic level. There was a weak linear correlation between the number of chronic diseases ($r=0.301$) and the number of chronic diseases ($p<0.05$). There was no significant relationship between PUKI score and age and BMI (Table 4).

When the factors associated with the DAS score are analyzed with multivariate linear regression, the increase in the economic level and having a child increase the fear of death. BMI and PUKI, which were significant in the univariate test, were not statistically significant in the regression analysis (Table 5).

When the factors associated with PUKI score in univariate tests were analyzed with multivariate linear regression, in order of importance, the level of education decreased ($\beta=-0.323$), the number of chronic diseases increased ($\beta=0.249$), negative perception of health status ($\beta=-0.195$) and the decrease in the economic level ($\beta=-0.180$) increases the sleep problem.

The variables of DAS, age, BMI, perception of quality of life, perception of adaptation to life, perceived age, visiting a doctor in the last 6 months, and assessing old age were not found to be statistically significant in the regression analysis (Table 5).

Table 1. DAS and PUKI mean scores by socio-demographic variables								
		N=100	DAS		t/F	PUKI		t/F
		%	Mean	SD	P	Mean	SD	P
PUKI Group	no problem	31	46,8	17,82	1,69	3,5	1,36	8,00a
	There is problem	69	40,9	15,06	0,094	9,9	3,05	<0,001
Gender	Woman	48	44,5	15,21	1,06	8,5	4,14	1,38
	Boy	52	41,1	16,87	0,293	7,4	3,79	0,171
Age Group	45-64	38	41,9	14,31	0,41	7,3	3,98	0,83
	65-74	36	41,9	15,92	0,663	8,4	3,79	0,441
	75+	26	45,2	18,97		8,2	4,26	
Education Status	illiterate	20	42,9	11,35	1,45	10,2	3,86	5,88
	literate	31	38,1	19,00	0,234	8,4	3,45	0,001
	primary school	30	45,0	16,09		7,6	3,82	
	middle school +	19	46,6	14,50		5,3	3,81	
Marital Status	married	80	43,0	16,79	0,31	7,7	3,88	1,31
	widow	20	41,7	13,32	0,759	9,0	4,31	0,193
Child	there is	93	43,7	15,77	2,19	7,9	3,97	0,16
	none	7	30,1	16,29	0,031	8,1	4,38	0,873
Economical situation	income less than expense	17	41,9	11,94	7,26	10,1	4,40	5,75
	income equal to expense	70	40,2	15,23	0,001	7,8	3,70	0,004
	more income than expense	13	57,6	18,34		5,4	3,52	
Income Source	pension	71	43,0	14,15	0,24	7,7	3,58	2,27
	Other income	29	42,1	20,39	0,809	8,5	4,85	0,026
BKI (kg/m ²)	Normal	18	45,7	15,40	3,60	7,1	3,22	0,93
	slightly fat	37	46,3	15,40	0,016	7,8	3,99	0,427
	1st degree obese	31	35,2	16,72		7,8	4,58	
	2nd degree obese	14	46,5	12,74		9,4	3,34	
Chronic Disease	no	6	51,5	15,83	1,43	7,0	2,97	4,56
	1 piece	52	44,4	14,92	0,238	6,7	3,46	0,005
	2 piece	26	40,2	16,86		9,7	4,51	
	3 or more	16	38,2	18,00		9,4	3,76	
Continuous Medication	there is	78	41,4	16,91	1,53	8,2	4,22	1,22
	none	22	47,4	12,07	0,129	7,0	2,89	0,226
	Total	100	42,7	16,10		7,9	3,98	

Table 2. PUKI results for socio-demographic variables

		PUKI						x ²
		No Problem Sleeping		Sleep Problems Have		Total		
		n	%	n	%	n	%	p
Gender	Woman	12	25,0	36	75,0	48	100,0	1,55
	Boy	19	36,5	33	63,5	52	100,0	0,213
Age Group	45-64	17	44,7	21	55,3	38	100,0	5,41
	65-74	8	22,2	28	77,8	36	100,0	0,067
	75+	6	23,1	20	76,9	26	100,0	
Education Status	illiterate	2	10,0	18	90,0	20	100,0	25,50
	literate	4	12,9	27	87,1	31	100,0	<0,001
	primary school	11	36,7	19	63,3	30	100,0	
	middle school +	14	73,7	5	26,3	19	100,0	
Marital Status	married	26	32,5	54	67,5	80	100,0	0,42
	single	5	25,0	15	75,0	20	100,0	0,517
Child	there is	28	30,1	65	69,9	93	100,0	0,49
	none	3	42,9	4	57,1	7	100,0	0,482
Economical situation	income less than expense	4	23,5	13	76,5	17	100,0	3,81
	income equal to expense	20	28,6	50	71,4	70	100,0	0,149
	more income than expense	7	53,8	6	46,2	13	100,0	
Income Source	pension	23	32,4	48	67,6	71	100,0	0,22
	Other income	8	27,6	21	72,4	29	100,0	0,637
BKI (kg/m ²)	Normal	7	38,9	11	61,1	18	100,0	2,67
	slightly fat	11	29,7	26	70,3	37	100,0	0,445
	1st degree obese	11	35,5	20	64,5	31	100,0	
	2nd degree obese	2	14,3	12	85,7	14	100,0	
Chronic Disease	no	2	33,3	4	66,7	6	100,0	5,48
	1 piece	21	40,4	31	59,6	52	100,0	0,140
	2 piece	6	23,1	20	76,9	26	100,0	
	3 or more	2	12,5	14	87,5	16	100,0	
Continuous Medication	there is	24	30,8	54	69,2	78	100,0	0,01
	none	7	31,8	15	68,2	22	100,0	0,925
Total		31	31,0	69	69,0	100	100,0	

Table 3. PSQI results according to some health attitudes and behaviors

		N=100	PUKI		x ²	PUKI		t/F
		%	Yok	Var	p	Mean	SD	p
Seeking a doctor in the last 6 months	Yeah	69	26,1	73,9	2,51	8,4	4,10	2,00
	no	31	41,9	58,1	0,113	6,7	3,47	0,049
Regular check up	Yeah	52	26,9	73,1	0,84	8,6	4,18	1,77
	no	48	35,4	64,6	0,359	7,2	3,66	0,080
Hospitalization in the last 1 year	Yeah	44	22,7	77,3	2,51	8,9	4,02	0,44
	no	56	37,5	62,5	0,113	7,2	3,82	0,661
Using assistive devices	Yeah	33	27,3	72,7	0,32	8,8	4,11	1,61
	no	67	32,8	67,2	0,572	7,5	3,87	0,110
Evaluation of old age	usual situation	48	39,6	60,4	3,18	6,8	3,48	2,68
	adverse situation	52	23,1	76,9	0,075	8,9	4,18	0,009
Detecting your own age	youth	7	28,6	71,4	12,15	7,0	4,93	3,62
	middle age	33	51,5	48,5	0,007	6,5	3,84	0,016
	old	50	24,0	76,0		8,4	3,59	
	too old	10	,0	100,0		10,6	4,22	
	Total	100,0	31,0	69,0				

Table 4. Correlation

	DAS	PUKI	Perception of quality of life	Health perception	Perception of adaptation to life	Detecting your own age	Age	BKI	Education level	Economic level perception
DAS	1									
PUKI	-0,216*	1								
Perception of quality of life	0,121	-0,248*	1							
Perception of health status	0,185	-0,359**	0,833**	1						
Perception of adaptation to life	0,183	-0,353**	0,714**	0,772**	1					
Detecting your own age	0,140	-0,289**	0,416**	0,443**	0,422**	1				
Age	0,000	0,178	-0,024	-0,014	-0,062	0,330**	1			
BKI	-0,047	0,167	0,072	0,069	0,062	-0,174	-0,156	1		
Education level	0,144	-0,414**	0,161	0,175	0,229*	-0,327**	-0,335**	-0,189	1	
Economic level perception	0,238*	-0,325**	0,344**	0,337**	0,407**	-0,278**	0,000	-0,137	0,250*	1
KH top	-0,183	0,301**	-0,134	-0,188	-0,200*	0,251*	0,174	0,097	-0,049	0,005

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

Table 5. Analysis of Factors that May Affect DAS and PUKI by Linear Regression

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
	B	Std. Error	β			Lower Bound	Upper Bound
DAS^a							
(Constant)	29,803	5,740				18,410	41,196
Economic level	7,101	2,818	,242	2,520	,013	1,508	12,693
Are there children = no	-13,861	6,032	-,221	-2,298	,024	-25,834	-1,889
PUKI^b							
(Constant)	13,746	1,566		8,779	,000	10,637	16,854
Education status	-1,071	,288	-,323	-3,722	,000	-1,643	-,500
Economical situation	-1,304	,659	-,180	-1,978	,051	-2,613	,005
Current Health assessment	-,041	,019	-,195	-2,144	,035	-,079	-,003
KH top	1,061	,363	,249	2,924	,004	,341	1,782

a Independent variables: PUKI, BKI, economic level perception, presence of children
b Independent variables: DAS, BKI, Age, Education level, Perception of economic level, Evaluation of quality of life, Perception of current health status, Evaluation of adaptation to lifestyle, Perception of own age, KH number, Application to a doctor in the last 6 months, Evaluation of old age

DISCUSSION

Our research is a study planned to examine the relationship between death anxiety and sleep quality and the factors affecting it. According to our correlation analysis (Table 4), there is a weak opposite relationship between death anxiety and sleep quality. No study has been found examining this relationship, and the general opinion is that sleep problems are related to psychological problems (17). It was determined that there was a very low positive correlation between the number of children and death anxiety of the elderly who participated in our study (Table 5). Accordingly, it was concluded that as the number of children increases, death anxiety will also increase. While this finding is in parallel with Kalaoğlu Öztürk's 2010 (18) and Kurt Magrebi and Akçay's 2020 (19) studies in the literature, it differs with Top et al.'s 2010 (20). The fact that death anxiety is positively related to having a child can be associated with the obligations of the person and the anxiety of being isolated from his family.

Not feeling financially secure can negatively affect older people. The weak correlation found in our study that perceiving low income level increases death anxiety (Table 5) is consistent with the literature (19,20). This may be due to the fact that the elderly feel needy and unprotected.

In our study, the PUKI score increases as the education level decreases (Table 5). In the study of Fadiloğlu et al. (21) it was shown that education level has no effect on sleep

quality. Arslan et al. (22) also reported that there was no relationship between sleep quality and education level. Our study differs from the literature. It can be thought that a high level of education allows the elderly to communicate more comfortably and openly in their environment, thus causing them to be less affected by the environment by causing them to maintain their social well-being.

The presence of chronic disease is encountered in many studies as a factor affecting sleep quality, the presence of the disease affects sleep, and sleep disturbance can cause the disease to be experienced more intensely. In our study, it was found that the presence of a chronic disease and the negative perception of the health status of the individuals decreased their sleep quality (Table 1, Table 4). Ekici (23) found that pain reduced sleep quality in patients suffering from chronic pain. In addition, Ersoy and Mercan (24) found that being 50 years old and over and having comorbidity increased sleep apnea according to the logistic regression analysis in a study they conducted in the adult group. In addition, difficulty in sleeping in the menopausal period is one of the most important complaints after night sweats and hot flashes. The prevalence of sleep difficulties in women in the menopausal period ranges from 14% to 53% (25).

When the relationship between environmental factors, income level and sleep complaints was investigated, it was observed that sleep complaints were more common in those with low income (Table 1). The relationship between sleep problems and socioeconomic indicators has been investigated in different studies, and a statistically significant relationship was found between low income level and sleep problems, similar to this study (26,27).

Health-related quality of life is a concept that is perceived by the individual and focused on health and happiness. Sleep disorders in the elderly should be carefully examined as they will reduce the quality of life of the elderly. It has been shown that quality of life in the elderly is associated with activity level in daily life and healthy lifestyle behaviors (28,29). In a study conducted on adults with cancer, it was found that quality of life decreases with an increase in the PUKI score (22). Similar to our study, Pekçetin and İnal (30) found that an increase in the quality of life and sleep quality in the elderly decreased the quality of life.

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