



# Evaluation of Mental Health Literacy Status of Patients Admitted to the Family Medicine Outpatient Clinic

## Aile Hekimliği Polikliniğine Başvuran Hastaların Ruh Sağlığı Okuryazarlığı Durumunun Değerlendirilmesi

✉ Sibel TUNÇ KARAMAN, ✉ Çağla ALTUN, ✉ Okcan BASAT

University of Health Sciences Turkey, Gaziosmanpaşa Training and Research Hospital, Clinic of Family Medicine, İstanbul, Turkey

### ABSTRACT

**Aim:** Mental health literacy (MHL) refers to knowledge and beliefs regarding recognizing, managing, and preventing mental health disorders. It is critical in the early diagnosis of mental health diseases. This study aimed to determine the symptom levels of individuals for anxiety and depression and to evaluate their MHL status.

**Materials and Methods:** This prospective study was designed as descriptive and single-centered. The study was performed with patients between the ages of 18 and 65 years, who were admitted to the Family Medicine Outpatient Clinic of a tertiary hospital and who met the inclusion criteria. The participants' sociodemographic and medical characteristics were questioned by the Patient Information Form. Symptom levels for anxiety and depression were evaluated with the Hospital Anxiety and Depression Scale (HADS), and MHL levels were determined with the Mental Health Literacy Scale (MHLS).

**Results:** The mean age of 327 participants was  $38.95 \pm 11.94$  years, and most were female ( $n=216$ ; 66.1%). According to HADS, the mean anxiety score was  $7.90 \pm 4.54$ , and the mean depression score was  $6.97 \pm 4.36$ . The mean total MHLS score was  $14.05 \pm 3.49$ , the mean knowledge subscale score was  $7.56 \pm 1.93$ , the mean belief subscale score was  $4.17 \pm 1.83$ , and the mean resource subscale score was  $2.28 \pm 1.54$ . An inverse and significant correlation was determined between age and MHLS total score ( $p=0.001$ ). There was a significant difference in education levels regarding MHLS total score ( $p=0.000$ ). An inverse and significant correlation was observed between MHL total score and HADS anxiety and depression scores ( $p=0.041$ ,  $p=0.000$ , respectively).

**Conclusion:** In our study, MHL was determined to be at a moderate level, and it was lower in those with high symptom levels for anxiety and depression. On the other hand, MHL level was also negatively affected by advanced age and the presence of chronic diseases, and it was higher in those with higher education levels, those who were married, and those who worked in any job.

**Keywords:** Family medicine, anxiety, depression, mental health, mental health literacy

### ÖZ

**Amaç:** Ruh sağlığı okuryazarlığı (RSOY) ruh sağlığı bozukluklarını tanıma, yönetme ve önlemeye yönelik bilgi ve inançları ifade etmektedir. Ruh sağlığı bozukluklarının erken teşhisinde kritik öneme sahiptir. Bu çalışmanın amacı; kişilerin anksiyete ve depresyona yönelik semptom düzeylerini belirlemek ve RSOY durumlarını değerlendirmektir.

**Gereç ve Yöntem:** Bu prospektif çalışma tanımlayıcı ve tek merkezli olarak tasarlandı. Çalışma üçüncü basamak bir hastanenin Aile Hekimliği Polikliniği'ne başvuran 18-65 yaş arası hastalardan çalışmaya dahil edilme kriterlerini karşılayanlar ile yapıldı. Katılımcıların sosyodemografik ve tıbbi özellikleri hasta bilgi formu ile sorgulandı. Hastane Anksiyete ve Depresyon Ölçeği (HADÖ) ile anksiyete ve depresyona yönelik semptom düzeyleri, Ruh Sağlığı Okuryazarlığı Ölçeği (RSOYÖ) ile RSOY düzeyleri değerlendirildi.

**Bulgular:** Çalışmaya dahil edilen 327 hastanın yaş ortalaması  $38,95 \pm 11,94$  yıl olup çoğu kadın ( $n=216$ ; %66,1) idi. HADÖ'ye göre ortalama anksiyete skoru  $7,90 \pm 4,54$ , depresyon skoru  $6,97 \pm 4,36$  idi. Ortalama total RSOYÖ skoru  $14,05 \pm 3,49$ , bilgi odaklı RSOY skoru  $7,56 \pm 1,93$ , inanç odaklı RSOY

**Address for Correspondence:** Sibel TUNÇ KARAMAN MD, University of Health Sciences Turkey, Gaziosmanpaşa Training and Research Hospital, Clinic of Family Medicine, İstanbul, Turkey

**Phone:** +90 212 945 30 00 **E-mail:** drsibeltunc@hotmail.com **ORCID ID:** orcid.org/0000-0003-1833-8758

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skoru  $4,17 \pm 1,83$ , kaynak odaklı RSOY skoru  $2,28 \pm 1,54$  idi. Yaş ile RSOYÖ total skoru arasında ters yönlü ve anlamlı bir ilişki bulundu ( $p=0,001$ ). Eğitim durumları arasında RSOY toplam skoru açısından anlamlı bir farklılık saptandı ( $p=0,000$ ). RSOY total skoru ile HADÖ anksiyete ve depresyon skorları arasında ters yönlü ve anlamlı bir ilişki bulundu (sırasıyla  $p=0,041$ ;  $p=0,000$ ).

**Sonuç:** Çalışmamızda RSOY orta düzeyde bulunmuş olup anksiyete ve depresyona yönelik semptom düzeyleri yüksek olanlarda daha düşük olarak saptandı. Bununla birlikte RSOY düzeyinin ilerleyen yaş ve kronik hastalık varlığından da olumsuz etkilendiği ve eğitim düzeyi yüksek olanlarda, evli olanlarda, herhangi bir işte çalışanlarda daha yüksek olduğu görüldü.

**Anahtar Kelimeler:** Aile hekimliği, anksiyete, depresyon, ruh sağlığı, ruh sağlığı okuryazarlığı

## INTRODUCTION

According to the World Health Organization (WHO), mental health is defined as a state of well-being in which a person realizes his/her potential, copes with the normal stresses of life, works efficiently, and contributes to himself and society<sup>1</sup>.

Deterioration in mental health may occur due to exposure to stress, genetics, nutrition, perinatal infections, and environmental hazards. Many mental health disorders such as depression, bipolar disorder, psychotic disorders such as schizophrenia, dementia, and autism, which can occur with abnormalities in thoughts, perceptions, emotions, and behaviors, are well-known<sup>2</sup>.

Mental health disorders are a major concern worldwide<sup>3</sup>. WHO reported that mental disorders could occur in approximately 12% of the entire population at any given time in the European Region<sup>4</sup>. In Turkey, the rate of mental illnesses detected in the "Turkish Mental Health Profile Study", the first and only scaled study reporting a nationwide prevalence, is 17.2%. More than 20 years have passed since this research, and it should not be overlooked that there have been significant changes in Turkey's health system, as well as in its social and population structure during this time<sup>5</sup>. In the light of this information, it can be considered that people are likely to encounter a mental health disorder in themselves or their relatives at any time during their lifetime. In this context, the concept of mental health literacy (MHL), an extension of health literacy that continues to develop, is vital in terms of early diagnosis and intervention of mental health disorders. According to Jorm, who first defined this concept, MHL refers to individuals' ability to understand and identify mental disorders, their etiology, how and where to seek help for mental health, and the management and prevention of mental health disorders<sup>6,7</sup>.

As MHL increases, people's awareness of the symptoms of mental health disorders and their behavior of using treatment resources correctly will increase, and thus, an improvement in mental health is expected. Those with low MHL levels may not realize that when a mental health disorder occurs in them or their relatives, it is a disease that requires medical attention. This situation may result in less healthcare, delays in diagnosis, and worsening prognosis<sup>8,9</sup>.

MHL is a concept that is being researched more every day since it plays a decisive role in the mental health of individuals and society. However, there is not enough research on MHL in Turkey. This study aimed to determine the symptom levels of individuals for anxiety and depression and to evaluate the MHL status.

## MATERIALS AND METHODS

This prospective research was designed as a descriptive and single-centered study. Ethical permission for the study was obtained from the Gaziosmanpaşa Training and Research Hospital Local Ethics Committee (approval no: 371, dated: 24.11.2021). The study was performed as per the principles of the Declaration of Helsinki. Written informed consent was obtained from each participant before the study.

### Study Design

Participants were selected from patients referred to the Family Medicine Outpatient Clinic of a tertiary hospital between December 27, 2021 and January 21, 2022. Three hundred and twenty-seven people who had no known mental health problems and a history of psychiatric drug use, who were between the ages of 18 and 65 years, and who agreed to participate were included in the study. Those under the age of 18 years and over the age of 65 years, those with known psychiatric disease and psychiatric drug use, those with a disability to communicate, and those who were illiterate were excluded from the study.

Based on the sample size calculation made with G-power analysis using the simple random sampling method from the study population, the minimum required number of participants was 291 with a 95% confidence interval.

### Data Collection Tools

In the study, the Patient Information Form, Hospital Anxiety and Depression Scale (HADS), and Mental Health Literacy Scale (MHLS) were used to obtain data.

**Patient Information Form:** A patient information form was formulated, which we prepared using the literature, including the participants' sociodemographic characteristics (age, gender, marital status, working status, educational status), and

questioned general health status (presence of chronic diseases, medication, alcohol, and cigarette use).

**HADS:** HADS was developed by Zigmond and Snaith<sup>10</sup> in 1983 to determine the risk of anxiety and depression to measure the level and change in severity. The Turkish validity and reliability study was performed by Aydemir et al.<sup>11</sup> in 1997. This four-point Likert-type scale includes 14 questions in total and it consists of two subscales: HADS-anxiety (HADS-A) and HADS-depression (HADS-D). In the validity and reliability study, the cut-off score was 10 for HADS-A and 7 for HADS-D. Those who score above these values are considered at risk for anxiety and depression. The Cronbach's alpha coefficient was 0.8525 for HADS-A and 0.7784 for HADS-D<sup>11</sup>.

**MHLS:** The MHLS was developed by Jung et al.<sup>9</sup> in 2016. The Turkish validity and reliability study was performed by Göktaş et al.<sup>12</sup> in 2019. The scale consists of three sub-dimensions and 22 items. There are 11 items in the knowledge subscale, 8 items in the belief subscale, and 4 items in the resource subscale. The 18 questions in the first two subscales are in six-point Likert type, and the answers are given as "strongly agree, agree, undecided, disagree, strongly disagree, do not know". The answers to 4 questions in the resource subscale are "yes" and "no". When the answers to the questions are "strongly agree", "agree", and "yes", "1 point" is given, other answers are considered as "0 points". The score that can be obtained from the scale varies between 0 and 22, and as the score increases, the MHL level increases. The Cronbach's alpha coefficient was calculated as 0.71 in the Turkish version of the scale<sup>9,12</sup>.

**Statistical Analysis**

While evaluating the data obtained in the study, IBM Statistical Package for the Social Sciences statistics 22 software was used for statistical analysis. The suitability of the parameters to the normal distribution was evaluated by the Kolmogorov-Smirnov and Shapiro-Wilks tests, and the parameters did not show normal distribution. While evaluating the data, in addition to descriptive statistical methods (mean, standard deviation, frequency), the Kruskal-Wallis test was employed to compare the parameters between more than two groups in the comparison of quantitative data, and the Dunn's test revealed the group that caused the difference. The Mann-Whitney U test was used for the comparison of parameters between two groups. The Spearman's rho correlation analysis was used to analyze the correlations between parameters. The statistical significance was determined at the  $p < 0.05$  level.

**RESULTS**

The ages of 327 participants ranged from 18 to 65 years, with a mean of  $38.95 \pm 11.94$  years. 66.1% (n=216) of the participants were female, 62.4% (n=204) were married, and 39.4%

(n=129) were university graduates. While 54.1% (n=177) were unemployed, the majority of the employees (38.7%; n=58) were working in the private sector. 30.3% (n=99) were active smokers, 37.6% (n=123) had any chronic disease. The distribution of descriptive information about the participants is presented in Table 1.

As demonstrated in Table 2, the mean MHLS total score of the participants was  $14.05 \pm 3.49$  (4-22). The mean knowledge subscale score was  $7.56 \pm 1.93$  (2-10), the mean belief subscale score was  $4.17 \pm 1.83$  (0-8), and the mean resource subscale score was  $2.28 \pm 1.54$  (0-4). The mean HADS-A score was

**Table 1. Distribution of descriptive characteristics of the participants**

		n	%
Gender	Female	216	66.1
	Male	111	33.9
Marital status	Married	204	62.4
	Single	123	37.6
Working status	Unemployed	177	54.1
	Employed	150	45.9
Occupational classification (n=150)	Worker	21	14.0
	Officer	43	28.7
	Self-employment	28	18.7
	Private sector	58	38.7
Educational status	Literate	18	5.5
	Primary school	80	24.5
	Middle school	33	10.1
	High school	67	20.5
Smoking status	University	129	39.4
	Active smoker	99	30.3
	Ex-smoker	61	18.7
Alcohol use	Never smoked	167	51.1
	No	260	79.5
Presence of chronic disease	Yes	67	20.5
	No	204	62.4
Chronic disease type (n=123)	Yes	123	37.6
	Cardiovascular diseases	20	16.3
	Endocrinological diseases	29	23.6
	Pulmonary disease	11	8.9
	Other	43	35
	Cardiological+Endocrinological	10	8.1
Drug use	Multiple diseases	10	8.1
	No	235	71.9
	Yes	92	28.1

7.90±4.54 (0-21), the mean HADS-D score was 6.97±4.36 (0-21), and it was observed that the values were below the cut-off values determined for the Turkish form (Table 2).

When HADS and MHLS scores were compared, a significant inverse correlation was determined between the HADS-A score and MHLS total score and resource subscale score of MHLS ( $p=0.041$ ,  $p=0.001$ , respectively). There was a significant inverse correlation between the HADS-D score and MHLS total score, knowledge subscale score of MHLS, and resource subscale score of MHLS ( $p=0.000$ ,  $p=0.004$ ,  $p=0.000$ , respectively). Findings related to the comparison of HADS and MHLS results are summarized in Table 3.

**Table 2. Distribution of total scores from scales and sub-dimension scores**

	Minimum-maximum	Mean±SD	Median
<b>HADS</b>			
HADS-A	0-21	7.90±4.54	7
HADS-D	0-21	6.97±4.36	6
<b>MHLS total score</b>	4-22	14.05±3.49	14
<b>MHLS subscales</b>			
Knowledge subscale MHLS	2-10	7.56±1.93	8
Belief subscale MHLS	0-8	4.17±1.83	4
Resource subscale MHLS	0-4	2.28±1.54	2

Data presented as mean±SD and minimum-maximum.  
HADS: Hospital Anxiety Depression Scale, HADS-A: Hospital Anxiety Depression Scale-Anxiety, HADS-D: Hospital Anxiety Depression Scale-Depression, MHLS: Mental Health Literacy Scale, SD: Standard deviation

**Table 3. Correlation of the scores obtained from the HAS scale and the total score and sub-dimension scores of the MHLS**

		HADS	
		HADS-A	HADS-D
<b>MHLS total score</b>	r	-0.113	-0.220
	p	0.041*	0.000*
<b>MHLS subscales</b>			
<b>Knowledge subscale MHLS</b>	r	-0.039	-0.158
	p	0.480	0.004*
<b>Belief subscale MHLS</b>	r	-0.051	-0.053
	p	0.355	0.336
<b>Resource subscale MHLS</b>	r	-0.181	-0.241
	p	0.001*	0.000*

Spearman's rho correlation test, \* $p<0.05$ .  
HADS: Hospital Anxiety Depression Scale, HADS-A: Hospital Anxiety Depression Scale-Anxiety, HADS-D: Hospital Anxiety Depression Scale-Depression, MHLS: Mental Health Literacy Scale

A significant inverse correlation was determined between age and MHLS total score, knowledge, and resource subscale scores of MHLS ( $p=0.001$ ,  $p=0.003$ ,  $p=0.000$ , respectively).

Data for the evaluation of the MHLS results according to the descriptive characteristics of the patients are presented in Table 4. There was no statistically significant difference between the genders regarding total MHLS score, knowledge, and belief subscale MHLS scores ( $p>0.05$ ). However, men's resource subscale scores of MHLS were significantly higher than women's ( $p=0.031$ ). The knowledge and resource subscale MHLS scores of the married were significantly higher than the singles ( $p=0.007$ ,  $p=0.013$ , respectively). When the participants were evaluated according to their employment status, the employees' total MHLS, knowledge, and resource subscale MHLS scores were significantly higher than those of unemployed people ( $p=0.003$ ,  $p=0.003$ ,  $p=0.000$ ; respectively) (Table 4). There were significant differences in education levels in terms of MHL total score, knowledge, and resource subscale MHLS scores ( $p=0.000$ ,  $p=0.015$ ,  $p=0.000$ ; respectively). The results of the post hoc analyses performed to determine from which education level the significance originates are also presented in Table 4.

## DISCUSSION

MHL is a multifaceted concept and refers to the knowledge and beliefs that assist in recognizing, managing and preventing mental health disorders<sup>6</sup>. Evaluating people's MHL levels is critical in promoting early diagnosis and not delaying treatment in mental health disorders<sup>13</sup>. This study aimed to investigate the severity of depression and anxiety symptoms in patients admitted to the Family Medicine Outpatient Clinic, to evaluate the MHL levels, and to examine the affecting factors. In the light of the findings obtained, MHL was found to be at a moderate level, and it was lower in those with high symptom levels for anxiety and depression. On the other hand, it was determined that the MHL level was negatively affected by advanced age and the presence of chronic diseases, and it was higher in those with higher education levels, those who were married, and those who worked in any job.

Although MHL is an increasingly researched concept, studies on this subject are generally less in non-western countries. These few studies have revealed low MHL levels in non-western countries<sup>14</sup>.

There are few studies on MHL in Turkey<sup>12,15,16</sup>. One of them is the adaptation study of MHLS to Turkish, including university students. In this study, the average of the total scores obtained from the MHLS was found to be 12, and it was higher (average MHLS total score: 17) in medical faculty students than in other students<sup>12</sup>. In another study by Pehlivan et al.<sup>15</sup> performed with university students, more than half of the participants

**Table 4. Evaluation of MHLS total and sub-dimension scores according to the descriptive characteristics of the patients**

		MHLS total score	Knowledge subscale MHLS	Belief subscale MHLS	Resource subscale MHLS
		Mean±SD (median)	Mean±SD (median)	Mean±SD (median)	Mean±SD (median)
Gender	Female	14.14±3.47 (14)	7.67±1.87 (8)	4.26±1.81 (4)	2.15±1.56 (2)
	Male	13.86±3.53 (14)	7.35±2.03 (8)	3.98±1.85 (4)	2.53±1.48 (3)
	<sup>1</sup> p	0.494	0.229	0.336	0.031*
Marital status	Married	13.78±3.67 (14)	7.34±1.99 (7)	4.29±1.81 (4)	2.12±1.55 (2)
	Single	14.49±3.14 (15)	7.93±1.77 (8)	3.96±1.85 (4)	2.54±1.49 (3)
	<sup>1</sup> p	0.099	0.007*	0.169	0.013*
Working status	Unemployed	13.49±3.37 (14)	7.29±1.9 (7)	4.14±1.77 (4)	1.99±1.51 (2)
	Employed	14.71±3.53 (15)	7.88±1.92 (8)	4.21±1.91 (4)	2.62±1.5 (3)
	<sup>1</sup> p	0.003*	0.003*	0.536	0.000*
Profession type	Worker	12.81±3.78 (13)	7.57±2.13 (7)	3.62±2.2 (4)	1.71±1.55 (1)
	Officer	16.12±3.35 (17)	8.12±1.83 (9)	4.7±1.75 (5)	3.3±1.15 (4)
	Self-employment	12.89±3.22 (13)	7±1.94 (7)	3.57±1.91 (4)	2.18±1.54 (2)
	Private sector	15.22±3.11(15.5)	8.24±1.8 (8)	4.36±1.81 (5)	2.66±1.48 (3)
	<sup>2</sup> p	0.000*	0.025*	0.075	0.000*
Educational status	Literate	11.17±4.12 (11)	6.89±2.11(6.5)	3.44±1.82 (4)	0.83±1.42 (0)
	Primary school	12.64±3.14 (12.5)	7.21±1.97 (7)	4±1.83 (4)	1.44±1.39 (1)
	Middle school	13.45±3.02 (13)	7.42±1.8 (8)	3.91±1.86 (4)	1.94±1.3 (2)
	High school	14.3±3.04 (14)	7.45±1.83 (7)	4.18±1.93 (4)	2.6±1.44 (3)
	University	15.34±3.38 (16)	7.96±1.91 (8)	4.43±1.75 (5)	2.93±1.35 (4)
	<sup>2</sup> p	0.000*	0.015*	0.171	0.000*
Smoking status	Active smoker	13.87±3.3 (14)	7.18±1.92 (7)	4.03±1.78 (4)	2.64±1.35 (3)
	Ex-smoker	14.75±3.82 (15)	7.87±1.85 (8)	4.57±2.01 (5)	2.31±1.57 (3)
	Never smoked	13.89±3.46 (14)	7.67±1.94 (8)	4.1±1.78 (4)	2.06±1.6 (2)
	<sup>2</sup> p	0.140	0.043*	0.136	0.025*
Alcohol use	No	13.93±3.49 (14)	7.58±1.95 (8)	4.12±1.81 (4)	2.2±1.57 (2)
	Yes	14.49±3.48 (14)	7.49±1.86 (8)	4.37±1.9 (5)	2.58±1.38 (3)
	<sup>1</sup> p	0.286	0.694	0.227	0.097
Presence of chronic disease	No	14.38±3.53 (14)	7.65±1.91 (8)	4.2±1.91 (4)	2.48±1.49 (3)
	Yes	13.5±3.37 (14)	7.41±1.95 (7)	4.12±1.7 (4)	1.95±1.57 (2)
	<sup>1</sup> p	0.028*	0.221	0.501	0.002*
Drug use	No	14.27±3.53 (14)	7.64±1.93 (8)	4.14±1.9 (4)	2.45±1.49 (3)
	Yes	13.47±3.33 (14)	7.36±1.91(7.5)	4.25±1.66 (4)	1.86±1.59 (2)
	<sup>1</sup> p	0.049*	0.195	0.846	0.002*

Data presented as mean±SD and minimum-maximum. <sup>1</sup>Mann-Whitney U test, <sup>2</sup>Kruskal-Wallis test, \*p<0.05.  
MHLS: Mental Health Literacy Scale, SD: Standard deviation

had diagnosable psychological problems and had low MHL levels (mean MHLS total score: 12). There are other studies that concluded low MHL levels in university students<sup>17,18</sup>. In the study of Öztaş and Aydoğan<sup>16</sup>, in which health professionals evaluated the MHL levels, the mean MHLS score was found to be 17<sup>16</sup>. Since the level of knowledge of health professionals is higher than the general population, it is expected that MHL would be higher. In our study, MHL levels were higher in total

(total score: 14) and subscale scores than in the studies of Göktaş et al.<sup>12</sup> and Pehlivan et al.<sup>15</sup>, and lower than in the study of Öztaş and Aydoğan<sup>16</sup> considering that the highest score that can be obtained from the MHLS is 22, the MHL level of the participants in our study was slightly above the mid-value.

When the factors affecting MHL were examined, compared to most of the studies in the literature, a lower MHL level was observed with increasing age compared to young adults<sup>19,20</sup>.

In a review evaluating the studies on MHL in Singapore, the level of MHL was revealed to be generally low, and younger people and those with a better education level were found to have more knowledge and a better understanding of mental disorders than the elderly<sup>3</sup>. Similarly, our study observed that the MHL level decreased as the age increased. However, it was demonstrated in the literature that different results had been reached regarding the effect of age on MHL<sup>16,21,22</sup>. In a cross-sectional study examining the MHL status of elderly people in Korea, the participants' self-reported MHL levels were lower in general, while those who were older, had a spouse, and lived in rural areas had lower MHL levels<sup>21</sup>. Piper et al.<sup>22</sup> observed that, despite advancing age, elderly people with a mental disorder in one of their relatives had better MHL levels. In this context, it can be considered that having a mental disorder in a relative is a factor that increases the MHL level regardless of age. Öztaş and Aydoğan<sup>16</sup>, on the other hand, determined a positive correlation between the ages of the participants and MHL levels in their study on health professionals. In parallel with the advancing age of health professionals, the increase in years in the profession, the increase in professional experience, and the increase in the level of knowledge and awareness about mental health lead to an increase in the level of MHL. In the study in which the MHL was adapted to the Turkish population, age did not affect the MHL level, unlike the literature<sup>12</sup>. Based on all these different results, it was concluded that "age" alone might not affect the MHL level and that other personal characteristics might be more dominant from time to time.

There are different results in the literature regarding the effect of gender on MHL<sup>12,15,22</sup>. In the study of Pehlivan et al.<sup>15</sup>, MHL levels were higher in female university students. The relationship of the male gender with low MHL was also reported by Farrer et al.<sup>19</sup> and Reavley et al.<sup>20</sup>. Göktaş et al.<sup>12</sup>, on the other hand, observed that the gender of university students did not lead to a change in MHL levels. Öztaş and Aydoğan<sup>16</sup> did not find a significant relationship between gender and MHL in healthcare professionals. Piper et al.<sup>22</sup> also found no gender difference in MHL levels in older adults. It was concluded that gender differences might vary, especially with age, and become less relevant to MHL as we get older. In our study, no difference was found in terms of MHL levels based on gender. These different results in the literature in terms of gender are considered to be related to the occupational and age differences of the participants included in different studies.

In previous studies, it is observed that the evaluations regarding the effect of marital status on MHL were not performed in detail. In the study of Öztaş and Aydoğan<sup>16</sup>, MHL levels of those who were married were high. In our study, although there was no statistically significant difference in terms of marital status and MHL total score, knowledge and resource subscale MHL

scores were found to be significantly higher in the married individuals compared to the singles. Although the prediction that marital status will not be a variable that affects MHL is accepted, it is thought that different results may be obtained in different study groups.

Another critical factor affecting MHL is education level. Studies have concluded that high education level positively affects MHL<sup>20,23,24</sup>. On the other hand, Piper et al.<sup>22</sup> did not find a relationship between education level and MHL in the elderly people. Our study's data also revealed a strong correlation between education level and MHL, in line with the majority of the literature. It is thought that the probable reason for the higher MHL level of those with higher education is that they have better psychological awareness and help-seeking knowledge. Low education level leads to inadequacy in understanding mental disorders, suggesting a need for education and interventions for the general population.

Several studies have examined the effect of people's having a diagnosed or undiagnosed mental health disorder on MHL<sup>15,18,21,24</sup>. In a study performed with cancer patients in 2019, the severity of depression and anxiety symptoms in people with and without a history of cancer was investigated, and MHL levels were evaluated in terms of major depressive disorder and generalized anxiety disorder. In this study, patients with cancer had lower MHL levels than healthy controls, and it was not associated with anxiety and depression symptoms<sup>24</sup>. Similarly, Pehlivan et al.<sup>15</sup> did not determine a significant difference between university students with and without a diagnosis of psychiatric illness in terms of MHL. Gorczynski et al.<sup>18</sup>, on the other hand, indicated moderate and severe psychological distress in the majority of university students and found low MHL levels. A study performed with the geriatric population determined that the presence of depression negatively affected MHL<sup>21</sup>. Our study observed that the mean values in the evaluation of anxiety and depression symptoms were below the cut-off values determined for HADS. As anxiety and depression symptoms increased, MHL decreased statistically significantly. Although different results have been obtained in different studies according to the sociodemographic characteristics of the groups studied, the evaluation of MHL levels of people at risk of a mental health disorder is critical in accelerating the diagnosis and treatment process.

### Study Limitations

The study's main limitation was that it used face-to-face self-report questionnaires, which might be subject to individual bias. The strength of the study was its prospective setting, and that there are very few similar studies examining this issue in the Turkish population.

## CONCLUSION

This study determined that the MHL level was negatively affected by advanced age and the presence of chronic diseases, and it was higher in those with higher education levels, those who were married, and those who worked in any job. For mental health disorders, it is essential to make various interventions on a community basis and individually. With more frequent and effective implementation of training programs to increase the level of MHL, more positive results regarding health and social aspects may be obtained, individuals can better manage their own and their relatives' mental health, and thus the burden of disease can be reduced.

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## Ethics

**Ethics Committee Approval:** The study were approved by the Gaziosmanpaşa Training and Research Hospital Local Ethics Committee (approval no: 371, dated: 24.11.2021).

**Informed Consent:** Consent form was filled out by all participants.

**Peer-review:** Externally peer-reviewed.

## Authorship Contributions

Surgical and Medical Practices: S.T.K., Ç.A., O.B., Concept: S.T.K., Ç.A., O.B., Design: S.T.K., Ç.A., O.B., Data Collection or Processing: S.T.K., Ç.A., O.B., Analysis or Interpretation: S.T.K., Ç.A., O.B., Literature Search: S.T.K., O.B., Writing: S.T.K., Ç.A., O.B.

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## REFERENCES

- Mental health: strengthening our response. Last Accessed Date: 09.01.2022. Available from: <https://www.who.int/en/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
- Mental disorders. Last Accessed Date: 09.01.2022. Available from: <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>
- Tonsing KN. A review of mental health literacy in Singapore. *Soc Work Health Care*. 2018;57:27-47.
- Mental: fact sheet. Last Accessed Date: 09.01.2022. Available from: [https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0004/404851/MNH\\_FactSheet\\_ENG.pdf](https://www.euro.who.int/__data/assets/pdf_file/0004/404851/MNH_FactSheet_ENG.pdf)
- Erol N, Kılıç C, Ulusoy, M, Keçeci M, Şimsek Z. Türkiye Ruh Sağlığı Profili Raporu. Sağlık Bakanlığı Temel Sağlık Hizmetleri Genel Müdürlüğü. 1. Baskı. Ankara: 1998.
- Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Pollitt P. "Mental health literacy": a survey of the public's ability to recognise mental disorders and their beliefs about the effectiveness of treatment. *Med J Aust*. 1997;166:182-6.
- Göktaş S, Işıklı B, Önsüz MF, Yenilmez Ç, Metintaş S. Ruh Sağlığı Okuryazarlığı (Mental health literacy). *Türk Dünyası Uygulama ve Araştırma Merkezi Halk Sağlığı Dergisi*. 2018;3:68-75.
- Li H. Mental health literacy, stigma, and early intervention. *Asian J Psychiatr*. 2012;5:209-10.
- Jung H, von Sternberg K, Davis K. Expanding a measure of mental health literacy: Development and validation of a multicomponent mental health literacy measure. *Psychiatry Res*. 2016;243:278-86.
- Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand*. 1983;67:361-70.
- Aydemir Ö, Guvenir T, Kuey L, Kultur S. Validity and reliability of Turkish version of hospital anxiety and depression scale. *Turk Psikiyatri Derg*. 1997;8:280-7.
- Göktaş S, Işıklı B, Önsüz MF, Yenilmez Ç, Metintaş S. Ruh Sağlığı Okuryazarlığı Ölçeği'nin Türkçe geçerlilik ve güvenilirliğinin değerlendirilmesi. *Konuralp Tıp Dergisi*. 2019;11:424-31.
- Wei Y, McGrath PJ, Hayden J, Kutcher S. Mental health literacy measures evaluating knowledge, attitudes and help-seeking: a scoping review. *BMC Psychiatry*. 2015;15:291.
- Furnham A, Hamid A. Mental health literacy in non-western countries: A review of the recent literature. *Mental Health Review Journal*. 2014;19:84-98.
- Pehlivan Ş, Tokur Kesgi NM, Uymaz P. Psychological distress and mental health literacy in university students. *Perspect Psychiatr Care*. 2021;57:1433-41.
- Öztaş B, Aydoğan A. Sağlık profesyonellerinin ruh sağlığı okuryazarlık düzeylerinin belirlenmesi. *J Psy Nurs*. 2021;12:198-204.
- Kristina SA, Mardea NA, Ramadhani F, Aliyah H. Mental Health Literacy among University Students in Yogyakarta. *International Medical Journal*. 2020;25:2243-9.
- Gorczyński P, Sims-Schouten W, Wilson C. Evaluating mental health literacy and help-seeking behaviours in UK university students: a country wide study. *Journal of Public Mental Health*. 2020;19:311-9.
- Farrer L, Leach L, Griffiths KM, Christensen H, Jorm AF. Age differences in mental health literacy. *BMC Public Health*. 2008;8:125.
- Reavley NJ, Morgan AJ, Jorm AF. Development of scales to assess mental health literacy relating to recognition of and interventions for depression, anxiety disorders and schizophrenia/psychosis. *Aust N Z J Psychiatry*. 2014;48:61-9.
- Kim YS, Lee HY, Lee MH, Simms T, Park BH. Mental health literacy in Korean older adults: A cross-sectional survey. *J Psychiatr Ment Health Nurs*. 2017;24:523-33.
- Piper SE, Bailey PE, Lam LT, Kneebone II. Predictors of mental health literacy in older people. *Arch Gerontol Geriatr*. 2018;79:52-6.
- Furnham A, Annis J, Cleridou K. Gender differences in the mental health literacy of young people. *Int J Adolesc Med Health*. 2014;26:283-92.
- Poon SH, Wang FQ, Goh J, Chan YH, Lim L. Mental Health Literacy in Cancer Outpatients in Singapore. *East Asian Arch Psychiatry*. 2019;29:91-4.