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RESEARCH ARTICLE

An Examination of the Health Literacy Level of Patients Presenting at the Psychiatry Clinic

Celaleddin TURGUT[1], Muhammed Mustafa BEYOĞLU[2] Avşar DURUR[1]

[1] Kahramanmaras Sutcu Imam University, Faculty of Medicine, Department of Psychiatry. Kahramanmaras,TURKEY

[2] Onikisubat District Health Directorate, Kahramanmaras, TURKEY

Abstract

Introduction: To determine the level of health literacy of patients presenting at the Psychiatry Polyclinic.
Method: Data for this cross-sectional study were obtained with the Adult Health Literacy Scale (AHLS) and a descriptive questionnaire. In the statistical evaluations, descriptive statistics, the Independent Samples t-test, Chi-square analysis, ANOVA, and non-parametric tests were used.
Results: The mean AHLS score was determined to be 11.20 for females and 13.78 for males, with a statistically significant difference between the genders ($p<0.05$). When the study subjects were separated into age groups, the AHLS scores were found to be statistically significantly higher in the 20-29 years group than in the ≥50 years age group, and in the 30-39 years group than in the ≥60 years group ($p<0.01$). The subjects with a profession and a higher level of education (high school/university) were determined to have a statistically significantly higher AHLS score ($p<0.05$). Those with a chronic disease had a significantly lower AHLS score than those without (11.20 vs. 12.97) ($p<0.01$). In patients with neurotic disorders, the AHLS scores were found to be statistically significantly high ($p<0.05$).
Conclusion: The results of this study demonstrated that the level of health literacy of patients presenting at the Psychiatry Polyclinic was lower in females, those with no occupation, a low level of education (illiterate/primary school), advanced age (≥50 years) and chronic disease, and those with mood or psychotic disorders, compared to the other subjects.
Key Words:, Chronic disease, health literacy, psychiatric disorders

Özet

Giriş: Psikiyatri polikliniğine başvuran bireylerin sağlık okuryazarlık düzeyini belirlemek.

Yöntem: Kesitsel tipte olan çalışmamız için veriler, Yetişkin Sağlık Okuryazarlık Ölçeği (YSOÖ) ve tanımlayıcı anket ile elde edilmiştir. İstatistiki değerlendirmede tanımlayıcı istatistikler, bağımsız t testi, ki kare analizi, ANOVA ve nonparametrik testler kullanılmıştır.

Bulgular: Araştırmada kadın bireylerin ortalaması 11.20, erkeklerin 13.78 bulunmuş olup anlamlı farklılık mevcuttur ($p<0.05$). Bireyler yaş gruplarına ayrılarak kıyaslama yapıldığında 20-29 yaş grubunda olanların, 50 yaş ve üstü yaş gruplarında olanlara ve 30-39 yaş grubunda olanların 60 yaş ve üstü yaş grubuna oranla YSOÖ daha yüksek saptandı ve anlamlı farklılık içermektedir($p<0.01$). Meslek sahibi olan ve eğitim düzeyi yüksek olan (lise ve üniversite mezunu) bireylerin YSOÖ yüksek bulunmuş olup anlamlı farklılık mevcuttur ($p<0.05$). Kronik hastalığı olan ve olmayan bireylerin YSOÖ ortalaması sırasıyla; 11,20 ve 12,97' dir. İki grup arasında anlamlı farklılık mevcuttur. ($p<0.01$). Nevrotik bozukluk hastalarında YSOÖ puanları daha yüksek bulunmuş olup anlamlı farklılık mevcuttur ($p<0.05$).

Sonuç: Araştırmamız psikiyatri polikliniğine başvuran bireylerin, kadın cinsiyet, herhangi bir meslek sahibi olmayanlar, eğitim düzeyi düşük olanlar (okuryazar değil veya ilkokul mezunu) ve ileri yaşta (≥50 yaş) ve kronik hastalığı, duygudurum ve psikotik bozukluğu olanların diğer bireylere oranla sağlık okuryazarlık (SOY) düzeyinin düşük olduğunu saptamıştır.

Anahtar kelimeler: Sağlık okuryazarlığı, kronik hastalıklar, psikiyatrik bozukluklar

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Corresponder Author: Celaleddin TURGUT Kahramanmaras Sutcu Imam University Faculty of Medicine, Department of Psychiatry. Kahramanmaras/TURKEY. e-mail: celaleddinturgut@gmail.com

INTRODUCTION

Health literacy (HL) is defined by the World Health Organisation (WHO) as "the capability of a person to access, understand and use health information to protect and maintain healthy well-being" (1). This is explained by the basic reading, writing and comprehension skills necessary to directly obtain the services provided by healthcare centres (2).

Health literacy encompasses the ability of an individual to present at a healthcare facility, to know which centre to go to when they need help, to be able to undertake the necessary procedures, to know their rights, to use medication correctly, to take the correct decisions in the management of their disease, to be able to use medical devices correctly at home, and to be able to evaluate different treatment options (3). As a result of these definitions, HL has been classified in 3 forms as functional, communicative and critical. Functional HL requires reading and writing skills, communicative HL includes the ability to acquire and use information, and to apply the acquired information to the current situation with cognitive and social skills, and critical HL includes the critical analysis, evaluation and implementation of health-related information (4).

When the duration of current physical examinations is considered, it can be seen to be of great importance that there is correct understanding and implementation of the information given in the short period of communication between patient and doctor. It has been reported that patients with an insufficient level of HL experience communication problems at a level that will affect their health (2). A sufficient level of HL has been associated with an improved quality of life and reduced healthcare expenses (5).

The aim of this study was to examine the HL level of patients presenting at the Psychiatry Polyclinic of a university hospital, to determine the deficiencies of patients with a low level, and to eliminate this deficiency by increasing general medical knowledge, providing information about treatments, and increasing patient-physician compatibility, thereby reducing complications, unnecessary hospital presentations and healthcare costs, and ensuring the rational and correct use of drugs.

MATERIAL and METHODS

This cross-sectional, descriptive and analytical study included a total of 192 patients who presented at the Psychiatry Polyclinic.

The research data were collected using the Adult Health Literacy Scale (AHLS) and a 9-item sociodemographic form prepared by the researchers with the benefit of a literature scan.

The AHLS comprises a total of 23 questions, 22 related to health knowledge and medication use and 1 related to the names and locations of organs. The questions are in the form of 13 yes/no questions, 4 “filling the gap” questions, 4 multiple choice questions, and 2 matching-type questions. The total points of the scale range from 0-23, with higher points indicating a higher level of health literacy. Validity and reliability studies of the AHLS have been conducted, with a Cronbach alpha coefficient of 0.77, and test-retest reliability coefficient of 0.97 (6).

Before the study, the necessary approval and permission was obtained from the Ethics Committee of KSU Medical Faculty. Data were collected between February 2020 and March 2020.

Statistical Analysis

Data obtained in the study were analyzed statistically using SPSS vn. 25 software. Descriptive statistical analyses, the Independent t-test, Chi-square analysis, One-Way variance analysis (ANOVA) and non-parametric tests were used in the evaluations of the data. A value of $p<0.05$ was accepted as statistically significant.

RESULTS

Evaluation was made of a total of 192 subjects, comprising 64.1% females and 35.9% males with a mean age of 44.62±15 years (range, 18-77 years). Of the total study sample, 72.9% were married. Educational status was determined as illiterate in 18.8%, primary school (5 years) in 30.4%, middle school (8 years) in 14.1%, high school (11 years) in 19.9%, and university (13+ years) in 16.8%. Income level was stated as income less than expenses by 51.6%, and income equal to or more than expenses by 48.4%. Employment status was stated as unemployed by 66.7%, and employed by 33.3%. Of the whole study sample, 59.4% had a chronic disease (Table 1).

Table 1. Sociodemographic features

		n	%
Gender			
	Woman	123	64.1
	Man	69	35.9
Marital Status			
	Married	52	27.1
	Single	140	72.9
Education			
	Illiterate	36	18.8
	Primary Education (5 years)	58	30.2
	Secondary Education (8 years)	27	14.1
	High School (11 years)	38	19.8
	Unıversty	32	16.7
Economical Situation			
	Less than its income	99	51.6
	Income equal to its expense	80	41.7
	More than income	13	6.8
Occupation			
	Unemployed	128	66.7
	Public Officer	15	7.8
	Worker	15	7.8
	Other	34	17.7

The Independent Samples t-test was applied to compare the mean AHLS points according to gender and ge groups. The mean AHLS points of males were found to be statistically significantly higher than those of females (p<0.05) (Table 2).

Table 2. Comparison of mean AHLS scores according to the gender and age groups of the participants

	n	Mean (SD)	p
Gender			
Woman	123	11.2(4.8)	
Man	69	13.7(4.2)	<0.001 *
Age Groups			
20-29 y (1)	47	14.2(4.1)	
30-39 y (2)	27	14.1(3.9)	<0.001**
40-49 y (3)	39	11.8(4.8)	1>4
50-59 y (4)	40	11.4(4.6)	1>5
=>60y (5)	39	9.2(4.4)	2>5

*Indepent T test. ** One- way ANOVA statistics were used. Bonferroni correction was made in pairwise comparisons. Statistical significance was accepted as p<0.005.

One-Way variance analysis was applied to compare the mean AHLS points of the subjects according to age groups. A statistically significant difference was determined between the age groups in respect of the AHLS mean points (p<0.05). According to the Bonferroni paired comparisons post hoc test applied to determine from which group the difference originated, a statistically significant difference was determined between the 20-29 years group and the 50-59 years group (p=0.038) and the ≥60 years group (p<0.01). A statistically significant difference was determined between the 30-39 years group and the ≥60 years group (p<0.01), but not with the other age groups (p>0.05) (Table 2).

Table 3. Comparison of AHLS score medians by education level

	n	Median	Min.	Max.	P-value
Education					
Illiterate (1)	36	7	0	16	
Primary Education (2)	58	11	3	18	<0.001* 2>1 3>1
Sekondary Education (3)	27	12	6	19	4>1 5>1 4>2
High School (4)	38	15.5	3	22	5>2 5>3
Unıversty (5)	33	17	7	22	

The Kruskal Wallis test was applied to compare the median AHLS points according to educational level. There was determined to be a statistically significant difference in the median AHLS points accoring to the educational level of the study participants (p<0.05). As the education level increased, so the median AHLS points increased. Bonferroni correction was applied to determine from which group the difference originated. No significant difference was found in the comparison of the median AHLS points between those with a primary school and middle school education level, those with middle school and high school level and those with high school and university level (p>0.05). A statistically significant difference was determined in the

comparisons of all the other groups with each other ($p<0.05$). The comparisons of the median AHLS points according to educational level are shown in Table 3.

Chi-square analysis was applied to investigate the relationship between gender and education levels. Illiteracy was determined in 27.9% of the females and 2.9% of the males. Educational level of high school and above was determined in 25.4% of females and 56.6% of males. The educational level of males was found to be statistically significantly higher ($p<0.01$). Chi-square analysis was also applied to test the relationship between gender and occupation. The unemployment rate was determined to be 87.8% for females and 29% for males. The employment rate of males was determined to be statistically significantly higher than that of females ($p<0.01$).

Table 4. Comparison of mean AHLS scores according to the occupational status and economical status of individuals.

	n	Mean (SD)	P-value	Bonferroni
Occupation				
Unemployed	128	10.8(4.4)		
Public Officer	15	16.2(2.9)	<0.01*	2>1 4>1
Worker	15	13.6(3.6)		
Other	34	14.4(5)		
Economical Situation				
Less than its income (1)	99	10.8(4.7)		
Income equal to its expense (2)	80	13.1(4.3)	<0.01*	3>1 2>1
More than income (3)	13	16.1(3.7)		

* One- way ANOVA statistics were used. Bonferroni correction was made in pairwise comparisons. Statistical significance was accepted as $p<0.005$.

A total of 47.4% of the study participants had at least one chronic disease. The mean AHLS points were determined to be 11.20±4.562 in the group with a chronic disease, and 12.97±4.864 in those without a chronic disease. To compare the mean AHLS points according to the presence of a chronic disease, the Independent Samples t-test was applied. The results showed a statistically significant difference between the groups ($p<0.01$).

The mean AHLS points of the employed subjects were determined to be higher than those of the subjects who were unemployed. The occupational group with the highest mean points was determined to be clerical workers. One-Way variance analysis was applied to compare the AHLS points according to occupational groups, and the results showed a statistically significant difference ($p<0.01$). According to the Bonferroni test of the post hoc paired comparisons to determine from which group the difference originated, no statistically significant difference was observed between the occupational groups ($p>0.05$). A statistically significant difference was determined between the unemployed group and the clerical workers

and other occupational groups ($p<0.05$) (Table 4).

One-Way variance analysis was applied to compare the mean AHLS points according to income level, and the results showed a statistically significant difference ($p<0.01$). According to the Bonferroni test of the post hoc paired comparisons applied to determine from which group the difference originated, no statistically significant difference was determined between the group with income exceeding expenses and the group with equal income and expenses ($p>0.05$) and statistical significance was determined in the comparisons between the other groups (Table 4).

The patients were separated into 3 groups according to the ICD 10, as those with neurotic disorders (49%), mood disorders (45.3%), and psychotic disorders (5.7%). The Kruskal Wallis test was applied to compare the AHLS points according to the diagnosis groups, and there was seen to be a statistically significant difference ($p<0.05$). Bonferroni correction was applied to determine from which group the difference originated. A statistically significant difference was determined between the neurotic disorders group and the mood and psychotic disorders groups in respect of the AHLS points ($p<0.05$). No statistically significant difference was determined between the mood disorders and psychotic disorders groups ($p>0.05$) (Table 5).

Table 5. Comparison of AHLS score medians according to diagnosis groups

	n	Median	P-value	Bonferroni
Neurotic disorders (1)	94	13,50	<0.05*	1>2 1>3
Mood disorders (2)	87	11		
Psychotic disorders (3)	11	11		

* Kruskal Wallis test used. Bonferroni correction was made in pairwise comparisons. Statistical significance was accepted as $p<0.005$.

DISCUSSION

Although the concept of health literacy (HL) is not new, there has been an increase in studies on the subject in Turkey in recent years. In a large-scale study which included several countries and Turkey, the HL level was reported to be insufficient. An insufficient or problematic HL level has been determined at the rate of 64.6% in studies in Turkey and 47% in studies in Europe (5, 7). In the current study, the AHLS points were compared according to age, gender, occupation, education level, the presence of chronic disease, and psychiatric diagnosis groups.

It has been previously shown that as age increases, so HL increases (5, 7). Age has emerged as one of the factors with the strongest relationship with HL (8). In a study in Germany, 2000 subjects were separated into 4 age groups, and the HL levels of those in the 15-29 years and 30-45 years groups were reported to be higher

than those in the 46-64 years and 65-99 years groups (9). Consistent with these findings in literature, the results of the current study showed that the HL level increased with increasing age, but at older ages, ≥ 50 years, the HL levels were determined to be lower.

In a previous study in Turkey of 4924 subjects, HL levels were found to be lower in females than males (5). In addition, a cross-sectional study in China of 1275 subjects reported a higher HL level in males (10). Nevertheless, there are also studies showing higher HL levels in females (7, 11). In a combined analysis review, no relationship was determined between gender and HL level (8). In the current study, the HL level of males was determined to be statistically significantly higher than that of females. The illiteracy rates in the current study were found to be 27.9% in females and 2.9% in males, and 87.8% of females were unemployed whereas this rate was much lower for males. Thus it can be considered that the high rates of illiteracy and unemployment of the female subjects in this study, together with sociocultural differences, could have affected the HL level.

Studies conducted in Turkey and in Europe have shown that as the educational level increases, so the HL level increases (5, 7). In a study of European HL (HLS-EU), after poverty and social status, education was found to be one of the most important predictors of a low HL level (7). There has also been shown to be a positive correlation between parental educational level and HL level (10). In the current study, the HL level was found to increase with an increasing educational level, which was consistent with findings in literature. The HL level was higher in subjects with a level of education of high school or above. Therefore, a target of reaching a minimum level of education of high school could increase HL levels in the future.

Poverty has been reported to be the strongest predictor of a low HL level (7). There has been shown to be a correlation between high family income level and high HL (12). Similarly, in a study conducted on university students studying in the field of healthcare, the HL level was reported to be higher in those with a high level of family income (13). There has been reported to be a strong correlation between family income and employment (12). In the current study, the income level was examined in 3 groups, and in line with previous findings in literature, the HL level was seen to increase as income level increased. Also consistent with other studies in literature was the finding that the HL level of participants with no occupation was lower. This can be attributed to the higher level of education of

those who were employed and had a higher level of income compared to those who were unemployed with a low level of income.

A previous study conducted on patients with diabetes mellitus and hypertension reported that patients with an insufficient HL level had insufficient information about the disease, did not implement lifestyle changes and had limited self-care skills (14). Another study evaluated patients with heart failure and showed that the HL level was limited in 64% (15). Yakar et al determined a low level of HL in patients with chronic disease, but not to a statistically significant level (16). In the current study, the HL level of patients with a chronic disease was determined to be statistically significantly low. Moreover, illiteracy was determined in 56.2% of the current study patients with chronic disease, and 71.6% were aged >50 years. The low HL level determined in these patients with chronic disease could be attributed to the low education level and older age of these subjects. An insufficient HL level has been shown to be a barrier in the education of individuals with a chronic disease (14). When it is considered that even patients with chronic diseases with sufficient HL levels do not know very important information about their disease, the importance can be seen of increasing the education of individuals with chronic diseases and reaching all layers of society (17).

Mental health education provided to uniersity students has been shown to have an effect on the level of knowledge related to stigmatisation, help-seeking behaviour and mental health diseases. At the end of the education period, the majority could successfully identify symptoms of depression and schizophrenia (15). It has also been determined that the stigma related to mental health diseases can be reduced with educational programs (18). In a studyof patients who presented at a psychiatry clinic, there was determined to be a relationship between patients with psychotic disorders and an insufficient level of HL, while patients with post-traumatic stress diorder and substance abuse were correlated with a higher HL level (19). In contrast, another study of patients with depresson and schizophrenia reported that both groups had a sufficient level of HL (20). In the current study, the HL levels of patients with psychotic disorders and mood disorders were determined to be lower than those of patients with neurotic disorders, although no statistically significant difference was determined between the education levels of these groups. These results were consistent with the findings of previous studies.

In conclusion, the results of this cross-sectional study of patients presenting at the Psychiatry Polyclinic of a university hospital showed that female gender, age of ≥ 50 years, educational level below high school, unemployment, low income level, the presence of a chronic disease, and a diagnosis of mood or psychotic disorder were significant risk factors in respect of low HL. Educational programs to be applied in Turkey should take into consideration variables such as level of education, gender, age, economic status, and chronic diseases. There is also a need for systematic educational programs to be planned related to mental health disorders in which stigmatization creates a significant barrier to seeking help..

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