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ORIGINAL ARTICLE

Medicine Science International Medical Journal

Medicine Science 2022;11(3):1118-24

Health literacy levels of patients who applied to a district outpatient clinic in Malatya city center and related factors

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Received 02 December 2021; Accepted 05 July 2022
Available online 20.07.2022 with doi: 10.5455/medscience.2021.12.389

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Abstract

This research was carried out to determine the health literacy levels and the factors affecting to the knowledge level of the patients of a district outpatient clinic at the city center of Malatya. It is a descriptive cross-sectional study where the data is obtained from a socio-demographic data set and Turkish Health Literacy Questionnaire -32 (THLQ-32). The data analysis was performed using SPSS 22.0 statistical software. The Kolmogorov-Smirnov normality test was used to determine whether the quantitative data is normally distributed. With the observation of the data not showing a normal distribution Mann Whitney U and Kruskal Wallis variance analysis were used for the statistical analysis. Chi-squared test is used to determine whether there is a statistically significant difference within the qualitative data for a significance level of $p<0.05$. 49.9% of the patients were male and 50.1% were female. The mean age is 35.94±13.8 years. 24% of the patients had completed secondary school or below while 40.4% had completed higher education. The average index score of the patients according to THLQ-32 is 15.85±11.07. According to THLQ-32 health literacy categories 78.1% of the patients identified as "inadequate", 14% as "limited-problematic", 6.3% as "adequate" and 1.6% as "excellent". We conclude that there is a significant correlation ($p<0.05$) between gender, marital status, age and education level with health literacy levels respectively. On the other hand there is no statistically significant correlation ($p>0.05$) among patients with chronic illnesses and their health literacy levels.

Keywords: Health literacy, outpatient clinic, adults

Introduction

Health care processes consider humans as the primary subject so that the unplanned interruptions or mistakes may have adverse effects on service users which in extreme cases even lead to death. These effects differentiates health services from other services and heightens its importance [1].

Understanding of information and instructions on his own health problems in the process of receiving a health service, making right decisions and appropriate use of health services are all closely related with functional health literacy levels [2].

Individuals with a high level of health literacy who are able to understand and analyze information about health services can understand the instructions of the drugs given to them for their treatment and become conscious users. From this point of view health literacy is to have necessary health information in order to protect health and to reach sustainable healthcare level [3].

Active participation of patients in health care processes has positive effects on the selection of the most appropriate treatment method, on the management of the side effects of the treatment, on the improvement of health care service quality, on efficient source allocation and on patient safety [4]. The concept of health care literacy which is increasingly important nowadays can briefly be expressed as the comprehension and interpretation of medical information and act accordingly whenever it is necessary. Health literacy is a holistic concept that is not limited to the understanding of medical information but includes the ability to express the health condition, to have knowledge on illness, the treatment adherence and the appropriate and efficient use of health care services [5].

The introduction of health literacy concept goes back to 1970s [6]. Early definitions of health literacy focused on the skills and abilities of individuals to gain access, to understand and use information. In 1993, health literacy was defined in terms of

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accessing, understanding and using information to promote and maintain good health by Nutbeam and Wise. And this definition forms a basis for various other definitions [7]. According to WHO, health literacy is defined as "the ability of an individual to access, understand and use information in order to maintain and improve good health" [8].

The factors such as paying more attention to preventive health services, the increase in individual maintainance of personal well-being, the general low level of health literacy throughout the society, the limited or poor reflection of health related information to society and increase in health expenditures have increased the importance of health literacy [9]. Although health literacy seems to be a non-essential element that is considered as independent from other factors and non-interactive, the recent researches show that health literacy is actually a factor that directly effects health such as age, income, unemploymenti education level and race.

This research was carried out to determine the health literacy levels and related factors of patients who applied to a district outpatient clinic located in the downtown of Malatya.

Materials and Methods

Survey Model

This research is a descriptive-cross-sectional study which was conducted to determine the health literacy levels of the patients who applied to the district outpatient clinic located in the downtown of Malatya.

Population and sample of the survey

The population of the research is patients of age over 18 at Battalgazi district outpatient clinic located in the downtown of Malatya. The number of people for the sample of the research is determined by using the formula N=t2 x p x q/d 2 as 384 - in cases where the number of daily physical examinations is not known p and q values are taken as 50%. Research sample was composed of randomly selected 10 patients each day from who applied to the district outpatient clinic from August to September 2019, and a questionnaire was applied to those who gave their consent to fill out the questionnaire. Questionnaire forms of 5 people who left a large part of it unanswered were not taken into consideration.

Data Collection

A questionnaire form consisting of two parts was used to collect the data where in the first part there are 7 questions on sociodemographic status of the participants and in the second part there is Health Literacy Scale (THLS-32) which consists of 32 items in 5-point Likert scale. The questions transformed into a unified scale from 0 to 50 by using the formula Index=(mean-1) x(50/3), where 0 represents the lowest and 50 the highest health literacy score following the Health Literacy Survey for European Region prepared by the World Health Organization. The "index" represents the calculated specific index, "mean" is the average of all the items marked by each individual in different questions, "1" is the average minimum possible value, "3" is the average range, and "50" is chosen from the new metric.

The indexes were categorized in four groups: inadequate (0–25), problematic-limited (26–33), sufficient (34–42) and excellent (43–50). The internal consistency of this scale has a Cronbach alpha of 0.927.

Analysis of the Data

Statistical analysis of the data was carried out using thw SPSS 22.0. The quantitative variables used for the analysis are the measures of central tendency which include the mean, median, and mode, while measures of variability include standard deviation, variance, minimum and maximum variables. We have used non parametric Kolmogorov Smirnov normality test for the distribution of the data and then Chi-squared, Mann Whitney U, Kruskal Wallis and one way Anova variance analysis tests. Differences among groups were evaluated by Kruskal Wallis and one way Anova tests followed by post hoc tests Tukey test and Dunn Q test respectively where p value is taken as 0.05.

Ethics Approval

The ethics approval for the research "Health literacy levels and related factors of patients who applied to a district outpatient clinic located in the downtown of Malatya" was given by Inonu University Health Sciences Non-Interventional Clinical Research Ethics Committee on 30.07.2019 with document number 2019/301. In addition the permission to do clinical research at the outpatient clinic was taken from Malatya Training and Research Hospital on 22.03.2019.

Limitations

As with the majority of the survey studies this research is subject to similar limitations of a survey study and we assume that the patients answered the questions honestly.

Results

Socio-demographic characteristics of the patients are presented in Table 1. 49.9% of the patients were male and 50.1% were female. The mean age is 35.94±13.8 years and 40.1% is below 30, 40.6% is between 30-49 and 19.3% is over 50.

Among this particular group 56.7% are married and 43.% are single. 40.4% of the patients had completed higher education, 35.6% high school, 16.6% secondary school and 7.4% primary school. 16.2% of the group are houswifes, 13.2% are workers, 29.0% are active or retired government employee, 25.1% are self employed or unemployed and 15.8% are students of higher education. 26.7% of the patients stated that they have chronical illnesses. The first choice of nearly half of the patients for a treatment have been public hospital and 22.2% of patients' first choice have been the family physicians.

The health literacy general index score average was calculated as 15.85 (95% CI 14.74-6.97). In the treatment service sub-dimension, the mean index score was calculated as 14.85 (95% CI 13.72-15.96), and the mean of disease prevention and health promotion sub-dimension was calculated as 16.50 (95% CI 14.91 - 17.65). In the treatment and service sub-dimension and in the scope of disease prevention and health promotion, the sub-dimensions of "evaluating information" are determined as the highest average. The mean was calculated as 18.93 (95% CI 17.46-20.40) and 18.94 (95% CI 17.40-20.36) respectively. The other sub-index scores were smaller than these averages (Table 2).

Table 1. Socio-demographic characteristics

Characteristics	n	%
Gender (n=379)		
Male	189	49.9
Female	190	50.1
Age (n=379)		
18-29	152	40.1
30-49	154	40.6
50 and over	73	19.3
Marital status (n=379)		
Marreid	215	56.7
Single (including widoved.divorced)	164	43.3
Education level(n=379)		
Primary school	28	7.4
Secondary school	63	16.6
High school	135	35.6
Higher education	153	40.4
Vocation (n=379)		
Houswife	64	16.9
Worker	50	13.2
Officer. Retired	88	29.0
Student	60	15.8
Self-employed or unemployed	95	25.1
Presence of chronical disease		
Yes	101	26.7
No	278	73.3
First focus of reference in healthcare		
Family medicine	84	22.2
Public hospital	187	49.3
University hospital	45	11.9
Private hospitals and Clinics	63	16.6
Total	84	22.2

The categories for the Turkey Health Literacy Scale (TSI) presented in Table 3. This survey of 379 persons found that 78.1% had inadequate, 14.0% limited-problematic, 6.3% adequate and 1.6% excellent health literacy.

Table 2. THLL sub-dimension index score averages of the participants

Dimention	Mean	95% Confidency interval	
General	15.85	14.74	16.97
Treatment and Service	14.85	13.72	15.96
Access to information	14.71	13.37	16.04
Understanding information	14.97	13.74	16.20
Evaluating Information	18.93	17.46	20.40
Applying Knowledge	10.77	09.77	11.83
Disease Prevention and Health Promotion	16.50	14.91	17.65
Access information	14.71	13.37	16.04
Understanding information	14.97	13.74	16.20
Evaluating information	18.94	17.40	20.36
Applying knowledge	10.77	09.77	11.83

In Table 4, we see that 79.4% of men and 76.8% of women had inadequate health literacy levels. Similarly, the percentages of men and women in the adequate and excellent categories were observed to be equal to a total of 7.9% where p=0.933. Health literacy levels differ with respect to age (p=0.010). 83.7% of the group of ages between 18 and 29 and 64.5% of ages over 50 had inadequate health literacy. The percentage of the group of age over 50 at the excellent health literacy category is more than the percentage of the other age groups at this level.

Table 3. Distribution of participants by health literacy categories

Health Literacy (HL)	n	%
Inadequate HL	297	78.1
Limited-Problematic HL	53	14.0
Adaquate HL	24	6.3
Excellent HL	6	1.6

We see a puzzling negative correlation between the education level and health literacy level (p=0.0001). 46.4% of primary education graduates, 73.9% of high school graduates and 92.8% of higher education graduates had inadequate health literacy. When we have analyzed this negative correlation in depth we have seen that the higher education graduates were relatively young.

72.6% of married and 85.9% of singles had inadequate health literacy. On the other hand 10.5% of married and only 4.3% of singles had adequate or excellent health literacy (p=0.022).

The health literacy levels of patients with chronic illnesses do not differ significantly from the health literacy levels of patients without chronic illnesses (p=0.366). 74.3% of patients with chronic illnesses and 79.5% of patients without chronic illnesses had inadequate health literacy. In both of the groups adequate health literacy level is low. There is no significant difference in health literacy levels with respect to the choice of treatment place (p=0.054). 70.2% of patients those who prefer going to a public hospital in the first choice and 90.5% of patients those who prefer going to family physician had inadequate health literacy.

The mean health literacy score for men and women were 14.58 but the dispersion values were slightly different. The mean and median scores of the age categories were significantly different from each other. The mean, standard deviation and median values of the age group 18-29 were 14.80±10.03 and 13.54 respectively. Similarly, the mean, standard deviation and median values of the age group over 50 were 22.03±11.38 and 21.87 respectively (Table 5).

The mean score of married ones was 16.14 and of singles was 13.54(p=0.008). The mean and median scores at the education status category were as follows: 25.74±12,53 and 27.60 for primary school graduates, 10.59±8.36 and 8.85 for higher school graduates (p=0.001). The mean scores at the presence of chronic illness were as follows: 17.18 for chronic patients and 13.80 for patients without a chronic illness (p=0.836). The median scores at the choice of treatment center were as follows: 18.48 for patients those who prefer going to a public hospital, 8.85 for patients those who prefer going to a university hospital, 12.50 for for patients those who prefer going to a private hospital or a private clinic (p=0.007). With the use of post hoc Dunn Q test we have seen that differing groups in this category were university hospital and private hospitals or private clinics (Table 5).

Table 4. Distribution of the HL Categories of the Participants by some sociodemographic characteristics

Characteristics	HL Categories							
	Inadequate		Limited-Problematic		Adaquate		Excellent	
	n	%	n	%	n	%	n	%
Gender (n=379)								
Male	150	79.4	24	12.7	12	6.3	3	1.6
Female	140	76.8	29	15.3	12	6.3	3	1.6
			Chi-Square Test	χ=0.628	FD=3	p=0.933		
Age group (n=379)								
18-29	127	83.7	18	11.6	6	4.0	1	0.7
30-49	120	79.5	22	14.6	7	4.6	2	1.3
50 and over [a]	49	64.5	13	17.1	11	14.5	3	3.9
			Chi-Square Test	χ=16.917	FD=4(b)	p=0.002		
Marital status (n=379)								
Married	156	72.6	36	16.7	18	8.4	5	2.3
Single (includes widowed.vorced...)	140	85.9	17	9.8	6	3.7	1	0.6
			Chi-Square Test	χ=9.65	FD=3	=0.022		
Education level (n=379)								
Primary school	13	46.4	6	21.4	6	21.4	3	10.7
Secondary school	41	65.1	13	20.6	8	12.7	1	1.6
High school	100	73.9	25	18.7	8	6.0	2	1.5
Higher educationa	142	92.8	9	5.9	2	1.3	0	0.0
			Chi-Square Test	χ=45.580	FD=4[c]	p=0.0001		
Presence of chronical disease (n=379)								
Yes	75	74.3	14	13.9	10	9.9	2	2.0
No	221	79.5	39	14.0	14	5.0	4	1.4
			Chi-Square Test	χ=3.168	FD=3	p=0.366		
First focus of reference in healthcare (n=379)								
Family medicine	59	70.2	18	21.4	6	7.1	1	1.2
Public hospital	142	75.9	29	15.5	13	7.0	3	2.2
University hospital	38	84.4	4	8.9	2	4.4	1	2.2
Private hospitals and Clinics	57	90.5	2	3.2	3	4.8	1	1.6
			Chi-Square Test	χ=12.881	FD=6[b]	p=0.05		

[a] The group that makes the difference in Post Hoc Chi-Square analysis
[b] "Adequate" and "excellent" categories were combined.
[c] The first two rows and the last two columns have been combined.

Table 5. Distribution of the participants' health literacy scale scores by some socioeconomic characteristics

Characteristics	Index score mean and median		Test
	Mean ±SD	Median (Min-Max)	
Gender (n=379)			
Male	15.70±11.05	14.58(0.00-46.88)	p=0.781
Female	16.00±11.11	14.58(0.00-48.44)	(Mann Whitney U)
Age group (n=379)			
18-29	14.80±10.03	13.54(0.00-45.31)	p=0.001
30-49	13.77±10.94	10.99(0.00-46.88)	(Kruskal Wallis)
50 and overa	22.03±11.38	21.87(0.00-48.44)	
Marital status (n=379)			
Married	17.27±11.54	16.14(0.00-48.44)	p=0.008
Single (including widowed, divorced)	13.99±10.16	13.54(0.00-45.31)	(Mann Whitney U)
Educational level (n=379)			
Primary school[b]	25.74±12.53	27.60(5.73-48.44)	
Secondary school[b]	20.96±10.54	21.35(0.00-45.31)	p=0.001
High school[b]	17.36±10.84	16.66(0.00-46.88)	(One Way Anova)
Higher education[b]	10.59±8.36	8.85(0.00-34.38	
Presence of chronical disease (n=379)			
Yes	17.59±11.64	17.18(0.00-46.88)	P=0.836
No	15.22±10.81	13.80(0.00-48.44)	(Mann Whitney U)
First focus of reference in healthcare (n=379)			
Family medicine	18.46±10.27	18.48(0.00-48.44)	
Public hospital	16.20±12.28	16.21(0.00-46.88)	p=0.007
University hospital[c]	13.21±8.85	8.85(0.00-46.88)	(Kruskal Wallis)
Private hospitals and Clinics[c]	13.16±9.87	12.50(0.00-40.10)	

[a] The group that made the difference (Post Hoc Dunn Q test)
[b] Group that makes the difference (Post Hoc Tukey test)
[c] Group that made the difference (Post Hoc Dunn Q test)

Discussion

The comparison of the scores of this study with the scores of Turkish Health literacy survey shows that the participants in this survey are approximately 6% younger on average than the participants in the Turkish Health literacy survey [10]. We conclude that the recipients of Battalgazi district outpatient clinic are young people; indeed 80.7% of participants of the survey were below the age 50. When we compare the marital status of the participants of this study we saw that the number of married participants was less than the married participants of Turkish Health literacy survey by 15%. Furthermore, the number of graduates up to high school in this study were less than the number of high school graduates of the participants in the Turkish Health literacy survey by 11%. On the contrary, the number of higher education graduates were higher by 11%. Likewise, the number of the graduates up to high school in this study was less by 6% than the number of the graduates up to high school of the participants in the study on Turkish Health literacy done by Tanrıöver et al. with the use of European Health Literacy Scale (HLS-EU). And the number of higher education graduates were higher by 6% [11].

Having a chronic illness has a significant impact on health literacy. 26.7% of the participants of this study have a chronic illness whereas in the Turkey Health Literacy research the percentage of chronic patients who use regular medication was 22%. In 2008 Güler et al. Did a research on academicians where 14.3% have a chronic illness [12].

49.3% of the patients first choice for a treatment have been public hospital, 22.2% of the patients' first choice have been the family physicians. In 2022, a similar research which have been conducted on the academic staff of Bitlis Eren University, the percentage for the first choice of treatment was the public hospitals by 53.7% and the family physicians by 21% [13]. In 2018, Özdemir did a research on patients of a family physicians center to determine their health literacy levels and he also found that 52.3% of the patients' first choice for a treatment had been a public hospital [14]. This is quite reasonable since the public hospitals are better equipped compared to the family physicians centers.

The health literacy general index score average was calculated as 15.85±11.07. In the treatment service sub-dimension, the mean index score was calculated as 14.85 ±11.48, and the mean of disease prevention and health promotion sub-dimension was calculated as 16.50±11.48. The scores in Turkey Health Literacy Scale survey in the above dimensions were 29.5, 30.1 and 29.1 respectively [10]. The differences in these scores seems to be originated from the specific group of the participated in this survey. Compared to Europe, it is seen that health literacy in our country is lower in general and in sub-dimension averages [11].

When we have compared the distribution of health literacy levels with some other similar researches we have seen that there were quite big differences in percentages. This survey of 379 persons found that 78.1% had inadequate, 14.0% limited-problematic, 6.3% adequate and 1.6% excellent health literacy.

In the survey conducted by Tanrıöver et al. the general health literacy index score was 30.4 and 24.5% had inadequate, 40.1% limited-problematic, 27.8% adequate and 7.6% excellent health literacy [11]. In the validity and reliability study of the Turkish Health Literacy scales conducted by the Turkish Ministry of Health, the sample average was found to be "limited-problematic" with the score 29.5, which does not comply with the data of this study [10]. In the survey conducted by Özdemir, the general health literacy index score was 33.97±7.23 and 12.8% had inadequate, 35.4% limited-problematic, 39.2% adequate and 12.6% excellent health literacy [14].

The most significant difference with respect to the health literacy was in the percentage of the inadequate level which was as high as 78.1%.

In 2020, a research was done on health literacy levels of teachers working in the province of Malatya; 49.6% of the group had insufficient or problematic health literacy and 50.4% of them had adequate or excellent health literacy [15]. In the survey conducted by Özdemir (2018), 58.7% of the participants had adequate health literacy [14]. In a study conducted in Poland in 2020, more than half of the elderly have limited health literacy (50.4%), and 11.6% have insufficient health literacy [16]. In a study conducted in Hungary with 186 participants in 2019, 46.1% of the participants were found to have a limited level of health literacy [17]. These differences between countries may be related to the health system, health education and population sample of the surveys.

When the results of this study were compared with the results of other studies in gender, presence of a chronic illness and the first choice of medical center for a treatment subdimensions there weren't much difference in the health literacy levels. But there was a difference in health literacy percentages with respect to age groups($p=0.010$) especially in the age group of over 50 where inadequate health literacy percentage was 64.5.

The percentage of health literacy level of singles who had inadequate health literacy was higher than that of married ones ($p=0.022$). In this study, as the education level rises, the rate of those with sufficient health literacy decreases. For example, while the rate of primary school graduates with sufficient health literacy level is 32.2% (including the excellent category), only 1.3% of those with higher education have sufficient health literacy level. This shows that the factor effecting the level of health literacy is age. Because young people have higher education and most of the elderly are primary school graduates.

In a similar research carried out in Lithuania in 2012, the graduates of higher education had lower health literacy level where 28.8% had adequate, 42% inadequate and 29.2% problematic [18].

In evaluating the health literacy levels scores were classified as inadequate, problematic, adequate and excellent. Then comparisons were made with mean and median values. When the results of this study were compared with the results of other studies we found differences in the health literacy scores of general index score, age categories and education status ($p<0.05$) but there wasn't any significant difference in gender, marital status, presence of chronic illness and in the first choice medical center for treatment dimensions ($p>0.05$).

In 2018, Malatyalı and Biçer carried out a similar research on university students in Sivas where the health literacy level of

female participants were much more higher than males when compared with our survey results [19]. In the research carried out by Durusu et al. İt was concluded that age, income, educational status of parents and marital status had effects on health literacy levels [11]. This result may be due to population sample and sample size. The research carried out by Şen at Manisa Şehzadeler Education and Research Community Health Center had similar scores in health literacy levels of age groups [20]. According to the research results carried out by Demirli in Edirne, there is a meaningful correlation in age, education level, number of children and income dimensions with health literacy level but not for the gender dimension [21].

Acoording to the statistical analysis of this survey mean index score of the participants at the age category of under 30 is lower than the mean index score of the participants at the age category of over 50. Health literacy level of elderly participants had been slightly better. This shows that those who benefit more from health services improve their health literacy levels.

According to the researches carried out by Demirli [21] in Edirne on randomly selected participants and İnkaya and Tüzer [22] in Kocaeli on university students as age increases the level of health literacy also increase which is coherent with our findings. They found that there is a weak relationship with the scale score and age [22].

In this study, the index score of the married participants was found to be significantly different from the median score of the unmarried participants. This variable differs from the result of a research carried out by Kendilci, who had investigated the level of health literacy, on academics in Bitlis in 2021 [13]. This may be due to the fact that the education and age group distributions are not similar.

In this study, the level of health literacy was found to be higher in those with low educational status than those with higher education. Normally it is expected to be a positive correlation between the education level and health literacy level. There are two researches that have been carried out on the sample of Turkey which supports this expectation as the education level increases the health literacy level also increases [10,11]. However, in the research carried out by Değerli and Tüfekçi in Isparta in 2018, they have found similar correlation with th efindings of our research between the education level and the health literacy level [23]. This may be due to the fact that in that research the participants were chosen from patients of a district outpatient clinic.

In a society those who have chronic illness are expected to have a high level of health literacy. Opposed to this fact, in this survey results there was no significant correlation between presence of a chronic illness and the health literacy level. In 2008, Güler et al. [25] have carried out a research on university students and in 2019 Bakan et al. [26] have carried out another research on randomly selected participants and both have stated that the presence of a chronic illness have no effect on the level of health literacy which was in accordance with our results.

Finally, the health literacy level of the participants who prefer going to a family physician center was higher than those who prefer going to a university hospital for treatment. Since there is no sufficient study on this dimension it may not be right to come to a conclusion. Likewise, there is a research carried out by Değer and Zoroğlu in Bingöl in 2021 in which they have investigated the level of health literacy of patients with cancer and they have also reached a similar conclusion regarding the choice of medical center for treatment and its correlation with health literacy level [24].

Conclusion

This study put forth that pregnant women with GDM had higher risk for anxiety and depression before elective C/S. The rate of probable depression and anxiety disorder were 34%, 21%, respectively. Psychomotor agitation, restless, less laughing and less seeing funny things, and being less cheerful were the predominant anxiety and depressive symptoms. It is recommended to provide psychological support to decrease anxiety and depressive symptoms for individuals with GDM to prevent postoperative complications.

Conflict of interests
The authors declare that there is no conflict of interest in the study.

Financial Disclosure
The authors declare that they have received no financial support for the study.

Ethical approval
The ethics approval for the research "Health literacy levels and related factors of patients who applied to a district outpatient clinic located in the downtown of Malatya" was given by Inonu University Health Sciences Non-Interventional Clinical Research Ethics Committee on 30.07.2019 with document number 2019/301.

References

1. Güven. A. Sağlık okuryazarlığını etkileyen faktörler ve sağlık okuryazarlığı ile hasta güvenliği ilişkisi, Yüksek Lisans Tezi, Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara, 2016.
2. Yılmazel, G. Çetinkaya, F. The importance of health literacy for community health. TAF Prev Med Bull. 2016;15:69-74.
3. Uğurlu, Z. Sağlık kurumlarına başvuran hastaların sağlık okuryazarlığının ve kullanılan eğitim materyallerinin sağlık okuryazarlığına uygunluğunun değerlendirilmesi, Doktora Tezi, Başkent Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara. 2011.
4. Fraenkel, L. Incorporating Patients' Preferences into Medical Decision Making. Med Care Res Rev. 2013;70:80-93.
5. Nutbeam D. Health Promotion Glossary. Health Promot Int. 1998;13:349-64.
6. Akçelik, E. Üniversite Öğrencilerinde Sağlık Okuryazarlığı ve Yaşam Kalitesinin İncelenmesi, Yüksek Lisans Tezi, İstanbul Medipol Üniversitesi Sağlık Bilimleri Enstitüsü Sağlık Yönetimi Anabilim Dalı, İstanbul, 2017.
7. Çopurlar CK, Kartal M. What is Health Literacy? How to measure it? Why is it important? Turkish J Family Med Primary Care. 2016;10:40-7.
8. Nutbeam, D. Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. Health Promot Int. 2000;15:259-67.
9. Sezgin, D. Understanding health literacy. İletişim Dergisi. 2013;18:73-92.
10. Okyay P, Abacıgil F. Türkiye sağlık okuryazarlığı ölçekleri güvenilirlik ve geçerlilik çalışması, T.C. Sağlık Bakanlığı, Ankara, 2016.
11. Durusu Tanrıöver M, Yıldırım HH, Demiray Ready FN, et al. Türkiye sağlık okuryazarlığı araştırması, 1. Baskı, Sağlık-Sen Yayınları, Ankara, 2014; 1-96.
12. Güner AE, Şahin E, Peksu S, et al. Sınıf öğretmenlerinin sağlık okuryazar-lık düzeylerini belirleme, bilgi, tutum, davranış değişikliği ve eğitim ihtiyacını saptama çalışması, Turkey Health Literacy Journal. 2020;1:58-76.
13. Kendilci K. Bitlis Eren Üniversitesi akademik personellerinde sağlık okuryazar-lığı, yaşam kalitesi ve etkileyen faktörlerin incelenmesi, Doktora

Tezi, İnönü Üniversitesi Sağlık Bilimleri Enstitüsü, Malatya, 2022.

14. Özdemir Y. Aile sağlığı merkezlerine başvuran hastaların sağlık okuryazarlık düzeylerinin belirlenmesi: kahramanmaraş ili örneği. Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara, 2018.

15. Deniz S, Öztaş D, Akbaba M. Birinci basamak sağlık hizmetlerinde çalışan sağlık personelinin sağlık okuryazarlığı düzeyi ve etkileyen faktörlerin belirlenmesi, Sakarya Tıp Dergisi. 2018;8:214-28.

16. Kosicka B, Deluga A, Bak J, et al. The level of health literacy of seniors living in eastern region of poland preliminary study. Healthcare. 2020;8:277.

17. Csonka HB, Bánfai B, Jeges S, et al. Health literacy among participants from ne-ighbourhoods with different socio-economic statuses in the southern region of Hungary: a pilot study. BMC Public Health. 2020;20:1-8.

18. Lamanauskas V, Armoniene J. Healthy lifestyle in comprehensive school: Lithu-anian upper secondary school students' position. European J Health Biology Education. 2012;1:53-73.

19. Biçer EB, Malatyalı ili sağlık okuryazarlık düzeyinin belirlenmesi: sivas cumhuriyet üniversitesi örneği. Ankara Sağlık Hizmetleri Dergisi. 2018;17:1-15.

20. Şen Uğur VY. Manisa Şehzadeler Eğitim Araştırma Toplum Sağlığı Merkezi Bölgesinde erişkinlerde sağlık okuryazarlığı düzeyinin belirlenmesi. 2. Uluslararası Lisansüstü Eğitim Kongresi 12 -14 Mayıs 2017, s.422

21. Demirli, P. Bireylerin sağlık okuryazarlığı üzerine bir araştırma: edirne ili ör-neği, Yüksek Lisans Tezi, Trakya Üniversitesi Sosyal Bilimler Enstitüsü, Edirne, 2018.

22. İnkaya, B. Tüzer, H. Bir Üniversitenin sosyal ve sağlık bilimlerinde okuyan öğrencilerin sağlık okuryazarlığı durumunun incelenmesi. Kocaeli Med J .2018;7:124-9.

23. Değerli H, Tüfekçi N. Toplumun sağlık okuryazarlık düzeyinin belirlenmesi. Avrasya Uluslararası Araştırmalar Dergisi. 2018; 6:467-88

24. Değer MS, Zoroğlu G. Birinci basamak sağlık kuruluşuna başvuranlarda sağlık okuryazarlığı ile kanser bilgi yükü ilişkisi. Anadolu Kliniği Tıp Bilimleri Dergisi. 2021;26:108-17

25. Güler G, Güler N, Kocataş S, et al. Bir üniversitede çalışan öğretim elemanla-rının sağlıklı yaşam biçimi davranışları. C.Ü. Hemşirelik Dergisi. 2008;12:18-26.

26. Bakan AB, Yıldız M. 21-64 yaş grubundaki bireylerin sağlık okuryazarlık düzeylerinin belirlenmesine ilişkin bir çalışma. Sağlık ve Toplum. 2019;29:33-40.