Original Article

HEALTH SCIENCES
MEDICINE

DOI: 10.32322/jhsm.1073138
J Health Sci Med 2022; 5(2): 693-697

Evaluation of the health literacy level of the patients who applied to a tertiary hospital family medicine clinic

Emin Pala

University of Health Sciences, Ümraniye Training and Research Hospital, Hamidiye Medical Faculty, Department of Family Medicine, İstanbul, Turkey

Cite this article as: Pala E. Evaluation of the health literacy level of the patients who applied to a tertiary hospital family medicine clinic. J Health Sci Med 2022; 5(2): 693-697.

ABSTRACT

Aim: This study aimed to reveal the level of health literacy of the patients who applied to the family medicine clinic of a tertiary hospital in Turkey and its relationship with demographic parameters.

Material and Method: This study is a cross-sectional descriptive study. Study conducted in the family medicine clinic of an education hospital. Demographic characteristics and health literacy levels of the participants such as age, gender, marital status, educational status, professions, and financial status were noted. The health literacy levels of the participants were determined by using the Turkish Health Literacy Scale-32.

Results: A total of 443 participants were included in the study. the median age of the participants was 36. The median health literacy of the participants was 33.9 (25th and 75th quartiles: 29.2-40.8). The health literacy index of 57 (12.9%) participants were inadequate 139 (31.4%) participants was problematic, 147 (33.2%) participants were sufficient, and 100 (22.6%) participants was excellent. There was a statistically significant, negative, and weak correlation between age and health literacy index. (r=-0.200, p=0.01, Spearman correlation test).

Conclusion: Low health literacy is an important public health problem. Health literacy can be considered a priority policy issue. Legal arrangements can be made to carry out activities for health literacy.

Keywords: Health education, public policy, health literacy

INTRODUCTION

Although health literacy was first defined in 1974, the content and definition of this concept has changed over time (1,2). Currently, the World Health Organization describes health literacy as "the level of access, understanding and use of relevant information resources in order to make decisions on health services, protect, maintain and improve health, and improve the quality of life". On the other hand, the American Medical Association, describes health literacy as “individuals being able to read health-related messages, read and understand medicine boxes, and understand and do what is said by healthcare professionals” (2).

The first large-scale research in Turkey was carried out by the Health and Social Service Workers Union in 2014 (3). Another validity study in our country is the “Reliability and Validity Study of Health Literacy Scales in Turkey” conducted in 2016 with a large team under the editorship of Okyay and Abacıgil (4), with the contribution of Turkish Ministry of Health. In this study, health literacy scales for Turkish society were defined and validated. After the publication of this study, researchers in Turkey used these scales to evaluate and discuss the health literacy of the Turkish population in different cohorts (5).

In our study, we aimed to reveal the level of health literacy of the patients who applied to the family medicine clinic of a tertiary hospital in Turkey and its relationship with demographic parameters.

MATERIAL AND METHOD

This study approved by Clinical Research Ethics Committee of Ümraniye Training and Research Hospital (Date: 30.09.2021, Decision no: B.10.1.TKH.4.34.H.GP.0.01/285). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Corresponding Author: Emin Pala, eminpala72@gmail.com
Received: 14.02.2022 **Accepted:** 09.03.2022

It was planned as a cross-sectional descriptive study and conducted in the Ümraniye Training and Research Hospital Family Medicine Clinic. In this center, there are an average of 150 patient applications per day in 3 family medicine units. The study group consisted of individuals over the age of 18 who applied to the Family Health Center between October 10, 2021, and November 25, 2021, to receive health services, had no communication problems and could speak and understand Turkish, and agreed to participate in the study. Prior to the research application, the permission of the local clinical research ethics committee was obtained. Sampling was done every day of the week in order to increase the representativeness of the study group. To ensure random sampling, every four patients after the first randomly selected participant were offered to participate in the study.

Study form and informed consent form were prepared for the study. The informed consent form was signed by the participants who agreed to participate in the study. The study form was prepared to determine the demographic characteristics and health literacy levels of the participants such as age, gender, professions, educational status, marital status, and financial status. Educational status was recorded as primary and non-educated, secondary school, vocational high school, high school, university, master's degree, and doctorate. According to their professions, they were grouped as housewife, student, retired, tradesman, worker, self-employed, farmer and other. Participants were divided into subgroups according to their financial status as income more than expenses, income less than expenses and equal to income expenses.

The health literacy levels of the participants were determined by using the Turkish Health Literacy Scale-32 (TSOY-32) (4). In the light of the experiences gained in the Health Literacy Scale Development Workshop and the study of Reliability and Validity Study of Health Literacy Scales in Turkey, a change was made in the conceptual framework for the new likert scale. In Turkey, it was decided to combine the dimensions of "protection from diseases" and "promotion of health" of the conceptual framework and evaluate them together. For this purpose, a 32-item likert scale was developed by using the items suggested in the workshop. Unlike the original scale, TSOY-32 is structured as a 2X4 matrix by taking two basic dimensions, not three. Accordingly, the matrix consists of eight components: two dimensions (Treatment and service and prevention of diseases/health promotion) and four processes (accessing health-related information, understanding health-related information, evaluating health-related information, using/applying health-related information).

The interview participants were interviewed by a trained research assistant in the family medicine clinic, who read aloud the scale questions and answer options. Globally, health literacy indexes are standardized to be between 0 and 50. By using the index=(mean-1) x (50/3) formula, the index value was ensured to be between 0 and 50. Participants group as inadequate, problematic, sufficient, and excellent according to health literacy index. A score of 0-25 from the scale is defined as inadequate, a score of 25-33 is defined as problematic, a score of 33-42 is defined as sufficient, and a score of 42-50 is defined as excellent health literacy (4).

Jamovi version 0.9.6 program was used for statistical analysis. Categorical data were shown as n and percentage. Numerical data are shown with medians and quartiles of 25 and 75. Normality was evaluated with the Shapiro-Wilk test. The relationship between categorical data and health literacy was evaluated using the chi square test. The relationship between age and health literacy was evaluated using Spearman correlation. Values of 0.5 and above were used for the significant p value.

RESULTS

A total of 443 participants were included in the study. The median age of the participants was 36 (25^{th} and 75^{th} quartiles: 25-45). Two hundred and twenty-five (57.6%) of the participants were female. The median health literacy of the participants was 33.9 (25^{th} and 75th quartiles: 29.2-40.8). The health literacy index of 57 (12.9%) participants was inadequate and 100 (22.6%) participants were excellent. The demographic and descriptive characteristics of the participants and the health literacy index distribution are shown in **Table 1**. The health literacy index distribution is shown in **Figure 1**.

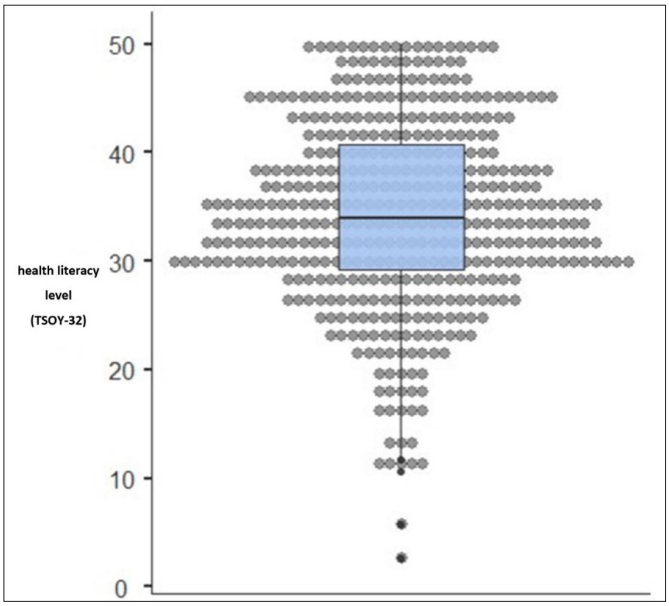

Figure 1. The health literacy index distribution (box plot and stacked data)

Table 1. The demographic and descriptive characteristics of the participants and the health literacy index distribution

n=443	n	%
Gender		
Male	188	42.4
Female	255	57.6
Marital status		
Married	285	64.3
Single	158	35.7
Educational Status		
Primary and non-educated	98	22.1
Secondary school	83	18.7
Vocational high School	23	5.2
High school	144	32.5
University	82	18.5
Master's degree	10	2.3
Doctorate	3	0.7
Professions		
Housewives	114	25.7
Students	48	10.8
Retirees	22	5
Artisans	13	2.9
Workers	106	23.9
Freelancers	41	9.3
Farmers	4	0.9
Others	56	12.6
Financial status		
Income less than expense	180	40.6
Income equivalent	217	49
Income more than expense	46	10.4
Health literacy index		
Inadequate	57	12.9
Problematic	139	31.4
Sufficient	147	33.2
Excellent	100	22.6

Data of the comparison of categorical data and health literacy index are presented in **Table 2**. The relationship between health literacy index and categorical data by using univariant tests. The difference between the categorical groups was not statistically significant. Except for financial status, there was no statistically significant relationship between the categorical groups and the health literacy index. The p values were 0.136, 0.097, 0.161, 0.664, and 0.042 for gender, marital status, educational status, professions, and financial status, respectively (chi square test). There was a statistically significant, negative, and weak correlation between age and health literacy index. (r=-0.200, p=0.01, Spearman correlation test).

DISCUSSION

Health literacy, which is one of the emerging current public health problems all over the world, is gaining importance in Turkey as well. Regarding the subject, health care in Turkey as well as in developed countries. Studies that reveal the situation regarding literacy and the factors affecting it have begun to be carried out in Turkey as well (5).

In this study we evaluated level of health literacy of the patients who applied to the family medicine clinic of a tertiary hospital in Turkey. The results of our study revealed that 44.3% of our cohort had inadequate or problematic health literacy levels. The health literacy median score in the study was determined as 33.9. To the

Table 2. The comparison of health literacy index and categorical data

n=443	Inadequate n=57	Problematic n=139	Sufficient n=147	Excellent n=100	P*	Median (25th -75th percentiles)	P**
Gender					0.429		0.136
Male	23 (12.2%)	66 (35.1%)	62 (33%)	37 (19.7%)		33.3 (28.8-39.7)	
Female	34 (13.3%)	73 (28.6%)	85 (33.3%)	63 (24.7%)		34.4 (29.7-41.8)	
Marital status					0.095		0.097
Married	37 (13%)	100 (35.1%)	85 (29.8%)	63 (22.1%)		33.3 (28.6-40.3)	
Single	20 (12.7%)	39 (24.7%)	62 (39.2%)	37 (23.4%)		35.1 (29.9-41.8)	
Educational Status					0.123		0.161
Primary and non-educated	16 (16.3%)	30 (30.6%)	32 (32.7%)	20 (20.4%)		33.3 (27.6-39.3)	
Secondary school	16 (19.3%)	26 (31.3%)	20 (24.1%)	21 (25.3%)		32.8 (27.9-42.0)	
Vocational high School	0	10 (43.5%)	9 (39.1%)	4 (17.4%)		34.9 (31.1-37.5)	
High school	19 (13.2%)	40 (27.8%)	49 (34%)	36 (25%)		34.1 (29.7-42)	
University	4 (4.9%)	28 (34.1%)	32 (39%)	18 (22%)		34.9 (30.1-40.5)	
Master's degree	2 (20%)	4 (40%)	3 (30%)	1 (10%)		30.5 (28.5-34.1)	
Doctorate	0	1 (33.3%)	2 (67%9	0		34.4 (32.3-37)	
Professions					0.080		0.664
Housewives	15 (13.2%)	40 (35.1%)	33 (28.9%)	26 (22.8%)		33.3 (29.6-41)	
Students	7 (14.6%)	6 (12.5%)	20 (41.7%)	15 (33.1%)		37.8 (32.7-43.7)	
Retirees	3 (13.6%)	9 (40.9%)	4 (18.2%)	6 (27.3%)		34.4 (29.3-41)	
Artisans	4 (30.8%)	8 (61.5%)	0	1 (7.7%)		29.2 (24.4-30.2)	
Workers	15 (14.2%)	24 (22.6%)	43 (40.6%)	24 (22.6%)		32.3 (29-39.6)	
Freelancers	3 (7.3%)	13 (31.7%)	14 (34.1%)	11 (26.8%)		34.4 (29.2-42.7)	
Farmers	2 (50%)	1 (25%)	1 (25%)	0		26 (23-29.8)	
Others	6 (10.7%)	19 (33.9%)	22 (39.3%)	9 (16.1%)		33.8 (30.1-39.2)	
Financial status					0.157		0.042
Income less than expense	29 (16.1%)	58 (32.2%)	60 (33.3%)	33 (18.3%)		33.3 (28.1-39.3)	
Income equivalent	24 (11.1%)	71 (32.7%)	66 (30.4%)	56 (25.8%)		34.4 (29.2-39.3)	
Income more than expense	4 (8.7%)	10 (21.7%)	21 (45.7%)	11 (23.9%)		35.2 (31.9-39.1)	

* Relationship with health literacy groups and categorical data, **Relationship between health literacy index and categorical data

best of our knowledge, our study is the first study that evaluates the health literacy of patients who applied to the family medicine clinic of a tertiary hospital in Turkey.

Studies on health literacy of countries reveal that there are differences between health literacy levels between countries. Low health literacy is a global public health problem. In a study conducted in the USA, it was revealed that about 80 million adults in the USA have poor health literacy (6). In the study conducted by Sørensen et al.(7), on a total of 8000 people, approximately 1000 people selected from each community, in 8 countries in Europe (Austria, Ireland, Bulgaria, Spain, Poland, Germany, Netherlands, Greece), it was revealed that health literacy differs between countries. In this study, the average general health literacy scores were found to be highest in the Netherlands with 37.06 and Ireland with 35.16, and the lowest in Bulgaria with 30.50 and Austria with 31.95. The general health literacy average score of 8 countries in the study was determined as 33.78 (7). On the other hand, Nakayama et al. (8) reported in their study that a high level of development in a country does not mean that it has a high level of health literacy. In the current study, health literacy levels were found similar to the European health literacy mean values reported in the study of Sørensen et al. (7)

The first large-scale research in Turkey was conducted by the Health and Social Service Workers Union in 2014 (3). As a questionnaire and scoring system evaluating health literacy for the Turkish society has not been established until this date, the Health Literacy Questionnaire-European Union has been translated into Turkish within the scope of this study, and validity tests have been carried out and brought to the Turkish literature. In this study, it was stated that the general health literacy levels of the participants were 64.6% inadequate or problematic and 35.4% sufficient or excellent. In a study conducted in Turkey with emergency service patients using the TSOY-32 scale in 2019, it was determined that 57.9% of the participants had inadequate health literacy levels (9). Berberoğlu et al. (10) evaluated the health literacy level of adult patients who applied to the family health center in their study. As a result of this study, 51.7% of the participants reported that their health literacy was inadequate. Similarly, Gözlü and Kaya (11) showed that 61.3% of the participants in their study at the family health center had inadequate or problematic health literacy levels. In our study, this rate was 44.3%. A plausible explanation for the divergent results from the study of Gözlü and Kaya (11) may be that our cohort was younger. Because there was a negative correlation between the health literacy index and age in both studies. Another plausible explanation may be that our study was conducted after the pandemic and there was intensive information about health during the pandemic period (12).

In the current literature, it has been observed that the level of health literacy decreases with age. In a study by Baker et al. in the United States with 2774 geriatric participants, they showed that as age increases, the level of health literacy decreases (13). Similarly, in other studies conducted with the same scale that we used in our study, a decrease in the level of health literacy was observed with age, as in our study (10,14). This may be related to the fact that young people have easier access to information and better use of technology.

There are conflicting publications in the literature regarding the relationship between health literacy level and education level. In the study of Yakar et al. in which they examined the health literacy levels of patients who applied to a university hospital outpatient clinic and the affecting factors, they reported that there was a relationship between low health literacy level and low education level (15). Ilgaz from Turkey showed that there is a relationship between health literacy and education level in a study with 320 participants (16). In her study, Arendt emphasized with her findings that those with higher education levels may not always have higher health literacy level (17). In our study, as study of Özdemir et al. showed that there is no relationship between education level and health literacy in their study (9). The explanation for not showing a relationship between education level and health literacy may be that people have benefited from resources that will improve health literacy according to their interests, according to their capacities.

An important limitation of our study was that it was single center study. Multi-center studies are needed for more generalizable results. Another limitation was that our study cohort was relatively young. The relatively young nature of our cohort is another factor limiting the generalizability of our study. Our study can be repeated with more homogeneous groups. On the other hand, our study was carried out during the pandemic period. Current study can be repeated by considering the effects of the health education on society during the pandemic period.

CONCLUSION

Low health literacy is an important public health problem. Health literacy can be considered as a priority policy issue. Legal arrangements can be made to carry out activities for health literacy. In order to increase the level of health literacy of individuals and the society, public service announcements and training programs can be prepared by acting together with other important stakeholders such as the Ministry of Health and the Ministry of Education, non-governmental organizations, academic communities and the media.

ETHICAL DECLARATIONS

Ethics Committee Approval: This study approved by Clinical Research Ethics Committee of Ümraniye Training and Research Hospital (Date: 30.09.2021, Decision no: B.10.1.TKH.4.34.H.GP.0.01/285).

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study had received no financial support.

Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper and that they have approved the final version.

REFERENCES

1. Simonds SK. Health education as social policy. Health Educ Monograph 1974; 2: 1-25.
2. Health literacy: Report of the council on scientific affairs. Ad hoc committee on health literacy for the council on scientific affairs, American Medical Association. JAMA 1999; 281: 552-7.
3. Durusu Tanrıöver M, Yıldırım HH, Demiray Ready FN, Çakır B, Akalın HE. Turkey Health Literacy Survey. Health and Social Workers Union; Ankara, 2014. Available from: http://www.sagliksen.org.tr/cdn/uploads/gallery/pdf/8dcec50aa18c21cdaf86a2b33001a409.pdf
4. Okyay P, Abacıgil F. Turkish Health Literacy scales reliability and validity study 1. Edition. Ankara 2016; 1-104
5. Şantaş G. Health Literacy Studies in Turkey: a content analysis for graduate theses. TFSD 2021; 2: 54-60.
6. Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Crotty K. Low health literacy and health outcomes: an updated systematic review. Ann Intern Med 2011; 155: 97-107.
7. Sørensen K, Pelikan JM, Röthlin F, et al. Health literacy in Europe: Comparative results of the European Health Literacy Survey (HLS-EU). EJPH 2015; 6: 1053-8.
8. Nakayama K, Osaka W, Togari T, et al. Comprehensive health literacy in Japan is lower than in Europe: a validated Japanese-language assessment of health literacy. BMCPH 2015; 15: 505.
9. Özdemir S, Akça HŞ, Algın A, Kokulu K. Health literacy in the emergency department: a cross-sectional descriptive study. Eurasian J Emerg Med 2020; 19: 94-7.
10. Berberoğlu U, Öztürk O, İnci MB, Ekerbiçer HÇ. Evaluation of Health Literacy Status of Individuals aged 18-65 years registered in a Family Health Center. Sakarya Med J 2018; 8: 575-81.
11. GözlüK, Kaya S. Evaluation of health literacy level of patients applied to family health centers: the case of Cankaya district. Ankara Med J 2020; 20: 254-68.
12. Özdemir S, Algın A. How will the health literacy and crowded emergency room be affected after the COVID-19 pandemic? Phnx Med J 2021; 3: 50-50.
13. Baker DW, Gazmararian JA, Sudano J, Patterson M. The association between age and health literacy among elderly persons. J Gerontol B Psychol Sci Soc Sci 2000; 55: 368-74.
14. Durmaz S, Sürücü EE, Özvurmaz S. Mermer fabrikası işçilerinde sağlık okuryazarlığı, sağlık algısı düzeyleri ve ilişkili faktörlerin belirlenmesi. Med Sci 2020; 15: 81–91.
15. Yakar B, Gömleksiz M, Pirinççi E. Bir üniversite hastanesi polikliniğine başvuran hastaların sağlık okuryazarlığı düzeyleri ve etkileyen faktörler. Euras J Fam Med 2019; 8: 27-35.
16. Ilgaz A. Bir Aile Sağlığı Merkezi'ne kayıtlı bireylerde sağlık okuryazarlığı seviyesi ve ilişkili faktörler. Hacettepe Üniversitesi Hemşirelik Fakültesi Derg 2021; 151-9.
17. Arendt JN. Does education cause better health? A panel data analysis using school reform for identification. Economics of Educ Rev 2005; 24: 149-60.