UKR Journal of Multidisciplinary Studies (UKRJMS)

OPEN ACCESS

Volume 1, Issue 2, 2025 Journal homepage: https://ukrpublisher.com/ukrjms/ ISSN: 3049-432X (Online)
Email: submit.ukrpublisher@gmail.com

What Affects the Health Literacy in our Patients?

Seyda Bilican[1]; Serpil Demirag[2]

[1] MD, Resident (Orcid: 0009-0003-6908-1849); [2] MD, PhD, Professor (Orcid: 0000-0001-8353-2843)

[1, 2] Adnan Menderes University School of Medicine, Department of Family Medicine, Aydin, Turkiye

***Corresponding Author: Prof. Dr. Serpil Demirag**

DOI: *10.5281/zenodo.15825821*

ABSTRACT

Aim: *Health literacy is an important public health indicator that encompasses an individual's ability to understand and evaluate medical information and to exhibit appropriate behaviors accordingly. Inadequate health literacy significantly increases the burden of chronic diseases and health expenditures in the community. This study aimed to investigate the level of health literacy among adults applying to family medicine outpatient clinics of a university and to determine its relationship with the factors affecting it.*

Method: *The universe of our cross-sectional study consists of individuals aged 18 and over who consecutively applied to our units over a six-month period. Data were collected using a questionnaire consisting of 42 questions and the Health Literacy Scale-Short Form (HLS-SF) consisting of 12 questions. Statistical analyses were performed using SPSS version 25.0 software package.*

Results: *Our study was conducted with 247 participants, 50.2% (s=124) of whom were women. The mean index score of the participants was 31.42±7.99. When the total scores obtained from the HLS-SF were compared with sociodemographic variables, health literacy was found to be significantly higher in individuals who were under 45 years of age, who did not have children, who lived in urban areas, who had 12 years or more of education, and whose income was higher than their expenses. Health literacy level was found to be higher in individuals who did not have chronic diseases, who had adult vaccination, who read the package inserts of the medicines they used.*

Conclusion: *The findings of the study show that health literacy plays a determining role in individuals' health behaviors and disease management. In order to strengthen the health of the society and ensure health promotion, the factors affecting the level of health literacy should be taken into consideration and studies should be planned accordingly.*

Keyword: health literacy, family doctors, education

Article History

Original Research Article

Received: 29-06-2025

Accepted: 04-07-2025

Published: 07-07-2025

Citation: Seyda Bilican; Serpil Demirag 2025 What Affects the Health Literacy in our Patients? UKR Journal of Multidisciplinary Studies (UKRJMS) 1(2),18-23

(This article contains a part of the author's thesis. Presented at the 24th International Eastern Mediterranean Family Medicine Congress.)

INTRODUCTION

Health literacy (HL) is an important public health indicator that covers individuals' ability to access, understand, evaluate and use health-related information. The rising importance of preventive health services, inadequate access to health information and increasing health expenditures have made health literacy a critical issue (Nutbeam, 2000).

Inadequate health literacy causes individuals not to interpret health information correctly, not to benefit from health services effectively and not to adapt during the treatment process. Individuals with low health literacy seem to make unnecessary hospital admissions, increase the number of examinations and prolong hospitalization (Freedman et al., 2009). In addition, negative habits such as unhealthy diet, tobacco use and sedentary life are more common in this group. This leads to both an increase in health problems at the individual level and an increase in the burden of chronic diseases and health expenditures in the community (Kann et al., 2007).

In order to understand and develop the concept of health literacy correctly, the basic factors should be well known. Factors determining health literacy are considered in two main groups: individual and systemic. Individual factors include literacy ability, gender, age, ethnicity, cognitive abilities, motivation, emotional and physical state, living space, marital status, and experiences with health services, social media using habits, personal health status and socioeconomic status in society. Systemic factors include factors such as access to healthcare services, characteristics of the healthcare system, communication skills of healthcare professionals and the time pressure they face (Gözlü, 2019; Levin-Zamir et al., 2016). Disease experience is one of the most affecting factor on health literacy. Chronic disease management requires patient cooperation with the healthcare system and self-care skills. The duration and severity of the disease and the complexity of the treatment process directly affect the individual's competence in this regard. Especially in diseases such as diabetes, active participation of individuals in the treatment process and effective communication with healthcare professionals are important for positive outcomes (Avcı et al., 2019). The role of healthcare professionals is of critical importance in increasing the health literacy of the society. Effective and simple communication with patients both facilitates access to information and directly increases health literacy (Balcik et al, 2014). Preparation of understandable written medical materials also supports this process. Health literacy has become a strategic area that directly affects public health due to increasing chronic disease burden, increasing demand for health information and unequal service access. Therefore, improving health literacy should be an integral part of all health policies (Nielsen-Bohlman et al, 2004; Aygun et al, 2020).

In this study, it was aimed to determine the level of health literacy in patients admitted to our units, its relationship with the factors affecting it and to raise awareness about health literacy in the participants.

MATERIALS AND METHOD

The population of our cross-sectional analytical study included of individuals who consecutively applied to the offices of our department in a six-month-period. The study was voluntary based and 18 years and older patients were encountered into the study. The 42-question questionnaire and the Health Literacy Scale-Short Form were used as data collection tools. Many factors such as sociodemographic characteristics of individuals, healthy lifestyle habits, personal and family members' health status, and health services utilization preferences, sources of access to health information, patient-physician communication, rational drug use, vaccination and preventive health care service utilization were questioned in the questionnaire. The Health Literacy Scale-Short-Form consisting of 12 four-point Likert-type statements was used to determine the health literacy levels of the participants. The scale, originally named “Short-Form Health Literacy Instrument”, was developed by Duong et al. in 2019. The validity and reliability study was conducted by Sevil Karahan Yılmaz and Günay Eskici in 2021. The Cronbach's alpha value (general internal consistency coefficient) of the scale was found to be 0.856. Scale items were scored between 1 and 4 points. The formula (Index = (Mean-1)x50/3) is used in the evaluation of the scale. The mean is calculated by dividing the total scale score by the number of scale items. The index value obtained with the formula varies between 0-50. The higher score indicates better health literacy (Karahan Yılmaz et al, 2020). Necessary permissions were obtained. Statistical analysis of the data was evaluated using the SPSS package program. A value of $p<0.05$ was considered statistically significant in the data obtained.

RESULTS

Our study was conducted with 247 participants, 70.0% (s=173) of whom were under 45 years of age, 50.2% (s=124) were female, and 53.4% were single (s=132). The mean age of the participants was 36.9±16.3 years. The mean index score of the participants was 31.42±7.99 on the HLS-SF scale. When the total scores obtained from the HLS-SF were compared with sociodemographic variables, health literacy was found to be significantly higher in individuals who were under 45 years of age, who did not have children, who lived in urban areas, who had 12 years or more of education, and whose income was higher than their expenses. There was no significance in the total scores obtained from the HLS-SF Scale according to gender, marital status and smoking status. In terms of smoking status, 21.1% (p=52) of the participants were active smokers. The educational level of smokers was significantly lower. A strong negative correlation was observed between the number of children, amount of cigarette consumption, number of current illnesses and the HLS-SF Index ($p<0.001$).

Table 1. Mean Scores of HLS-SF According to Sociodemographic Characteristics

Variables		Number	HLS-SF Index Score (Ort.±SS)	P
Age	Under 45 years	173	33,54±7,19	**<0,001**
	45 years and over	74	26,46±7,59	
Gender	Female	124	31,45±8,26	0,953
	Male	123	31,39±7,72	
Marital Status	Married	115	30,67±8,04	0,172
	Single	132	32,07±7,90	
Presence of Children	No	126	33,39±7,49	**<0,001**
	Yes	121	29,37±8,01	
Place of Living	Rural	159	30,34±8,04	**0,004**
	Urban	88	33,36±7,53	
Education Level	≤ 12 years	80	26,84±7,75	**<0,001**
	> 12 years	167	33,61±7,14	

It was determined that 65.2% of the participants (n=161) did not have chronic diseases. The health literacy level of individuals with chronic diseases was found to be lower (p<0.001). In particular, those with cardiovascular disease had lower health literacy than those without this disease (p=0.003). Participants who had health care personnel in their households had a higher score on the HLS-SF. However, the difference was not statistically significant (p=0.060). Similarly, the presence of chronic disease in a family member (p=0.371) did not show a significant difference.

No significant difference was found between Covid-19 vaccination status, vaccination status of their children, and the scores of the HLS-SF (p>0.05). However, the health literacy level of individuals who received adult vaccination was significantly higher than those who did not (p=0.001).

When participants had a health problem, 33.6% (p=83) of them preferred public hospitals as their first choice. The score of those who preferred public hospitals was found to be lower (p=0.024). The health literacy level of those who applied for prescribing medication or disease follow-up was also lower (p=0.024).

The first preferred source for accessing medical information was the internet with a rate of 38.1% (s=94). In addition, the health literacy levels of those who searched on the internet before coming to the examination were found to be higher than those who did not (p<0.001).

Hearing the concept of health literacy, not feeling the need for help while reading health materials and reading drug package inserts were the factors that increased the level of health literacy. There was no significance between the use of over-the-counter medication and health literacy, but those who obtained medication from pharmacies had higher scores, while those who obtained medication from neighbors or relatives had lower scores (p=0.003; p=0.002). The use of over-the-counter medication was more common in individuals with higher education level.

The total of 39.7% of the participants (n=98) reported using traditional and complementary medicine (T&CM) methods. No significant difference was found between the use of T&CM methods and health literacy (p=0.067).

DISCUSSION

In our study, the participants reflected a moderate level of health literacy. This finding reveals the importance of examining the related factors and planning interventions for the factors that are open to improvement. In our study, health literacy was found to be lower in individuals with high school education or less, those living in rural areas, participants who were not actively working and those with chronic diseases.

In our study, the health literacy level of individuals under 45 years of age was found to be higher. This result is consistent with the findings reported in the literature (Coman et al., 2022; Vrane et al., 2013). Reasons such as decline in cognitive abilities, difference in education level and difficulties in accessing digital information may be effective in this situation. Gender and marital status did not have a determining effect on health literacy. These factors alone may not be effective. It suggests that education, social roles and living conditions are intervening variables (Wu et al., 2017).

As the level of education increased, the level of health literacy also increased significantly. Similarly, it has been shown in the literature that individuals with longer education are more successful in health-related

decision-making processes (Vandenbosch et al., 2016; İşler AO, 2019). In a study conducted in Asian countries, a high level of HL was reported to be parallel to a high level of education (Konfino et al., 2009).

In this study, the HLS-SF score of smokers was lower than that of non-smokers, but the difference was not statistically significant. In the study conducted by Liu et al. in which the relationships between health literacy, health status and health behaviors were examined, it was observed that smoking and alcohol use were associated with low health literacy level (Liu et al., 2015).

As the number of chronic diseases increased, there was a decrease in the HL scores. This result can be explained by reasons such as difficulty in accessing health information, complex management of the disease and low education level. The research conducted in Bosnia and Herzegovina supports our study. In this study, having three or more chronic diseases was associated with a 1.95 times increase in the likelihood of inadequate health literacy (Todorovic et al., 2019).

In our study, although the HLS-SF score of those who had health personnel in their households was higher than those who did not, the difference was not significant. In Alagöz's study, the scores of those with health personnel were significantly higher (Alagöz, 2023). Households with health personnel provide easier access to reliable information and health services. Information transfer and guidance within the family positively affect individuals' health literacy and health behaviors.

In our study, the first institution that participants applied to for their health problems was the state hospitals. Those who preferred the state hospital had lower scores on the HLS-SF. Family health centers were most preferred, but there was no significant difference in health literacy with institution preference (Güven, 2016). In our study, the high rate of those who applied to state hospitals indicates an increase in burden and cost in the health system due to the fact that problems that can be solved in primary care are directed to higher levels.

Individuals who applied to the health institution more than 10 times a year had a lower level of HL. In the study conducted by Rasu et al. it was shown that the level of health literacy decreased as the number of visits to physicians increased (Rasu et al., 2015). This may be associated with more frequent use of the health system, especially by individuals with chronic diseases and lack of information.

In our study, a significant proportion of the participants conducted health-related research on the internet before consulting a doctor, and these individuals had higher scores on the HLS-SF. This may be due to the higher education and digital literacy skills of younger participants. A similar trend was observed in Teken's study, but the difference was not statistically significant (Teken, 2023). Individuals who turned to digital resources had higher levels of HL. This may be explained by the technology use skills of young and educated individuals.

Although there is no direct significant relationship between the use of over-the-counter medicines and health literacy level, individuals who obtain medicines from pharmacies have higher levels of HL, while those who obtain medicines through neighbors or acquaintances have lower levels of HL. In a study conducted in Portugal, the rate of self-medication was found to be 26.2%. Individuals who used over-the-counter medication reported that they took medication mostly on the recommendation of the pharmacist and secondly by their own choice (Martins et al., 2002). This finding shows that the reliability of the information source may affect health behaviors.

Individuals who received immunization in adulthood had significantly higher levels of education and HL. This may be related to the level of awareness of individuals about adult immunization (Lorini et al., 2018).

CONCLUSION

The findings of the study revealed that health literacy was significantly affected by sociodemographic and health-related factors. Individuals with low health literacy seemed to have difficulty in adapting to the treatment process and were more passive in disease management.

The findings of the study show that health literacy plays a determinant role in individuals' health behaviors, treatment adherence, disease management and preventive health behaviors. Strategies to improve health literacy should be addressed beyond the individual level. They should include holistic approaches to the health system, education policies and social inequalities.

FINANCIAL SUPPORT AND SPONSORSHIP

There is no sponsor in this study (design, methods, subject recruitment, data collection, or analysis and preparation of the paper).

CONFLICTS OF INTEREST

No conflict of interest was declared by the authors.

References

1. 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(3):259–67. 2-
2. Freedman DA, Bess KD, Tucker HA, Boyd DL, Tuchman AM, Wallston KA. Public health literacy defined. Am J Prev Med. 2009;36(5):446–51.
3. Kann L, Telljohann SK, Wooley SF. Health education: Results from the school health policies and programs study 2006. Journal of school health. 2007;77(8):408–34.
4. Gözlü K. A Socıal Determinant Of Health: Health Literacy. Medical Journal of Süleyman Demirel University. 2020;27(1):137–44.
5. Levin-Zamir D, Baron-Epel OB, Cohen V, Elhayany A. The association of health literacy with health behavior, socioeconomic indicators, and self-assessed health from a national adult survey in Israel. J Health Commun. 2016;21(sup2):61–8.
6. Avcı E, Özkan S. Dünyada ve Türkiye'de Sağlık Okuryazarlığı Düzeyi ve Etkileyen Faktörler. Turkiye Klinikleri Public Health-Special Topic. 2019;5(1):16–21.
7. Yalçın Balçık P, Taşkaya S, Şahin B. Sağlık okur-yazarlığı. Health literacy [Internet]. 2014 [a.yer 2023]; Erişim adresi: http://acikerisim.aksaray.edu.tr/xmlui/handle/20.500.12451/1828
8. Nielsen-Bohlman L, Panzer AM, Kindig DA. Health Literacy: A Prescription to End Confusion. National Academies Press; 2004
9. Aygun O, Cerim S. The relationship between general health behaviors and general health literacy levels in the Turkish population. Health Promotion International. 2021;36(5):1275-89
10. Yılmaz SK, Eskici G. Sağlık okuryazarlığı ölçeği-kısa form ve dijital sağlıklı diyet okuryazarlığı ölçeğinin türkçe formunun geçerlik ve güvenirlik çalışması. İzmir Katip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi. 2021;6(3):19–25.
11. Coman MA, Forray AI, Van den Broucke S, Chereches RM. Measuring Health Literacy in Romania: Validation of the HLS-EU-Q16 Survey Questionnaire. Int J Public Health. 2022 Feb 4;67.
12. Jovi -Vrane A, Bjegovi -Mikanovi V, Marinkovi J, Vukovi D. Evaluation of a health literacy screening tool in primary care patients: evidence from Serbia. Health Promot Int. 2014 Dec 1;29(4):601–7.
13. Wu Y, Wang L, Cai Z, Bao L, Ai P, Ai Z. Prevalence and Risk Factors of Low Health Literacy: A Community-Based Study in Shanghai, China. Int J Environ Res Public Health. 2017 Jun 12;14(6):628.
14. Vandenbosch J, Van den Broucke S, Vancorenland S, Avalosse H, Verniest R, Callens M. Health literacy and the use of healthcare services in Belgium. J Epidemiol Community Health (1978). 2016 Oct;70(10):1032–8.
15. İşler AO. 18-65 yaş arası kişilerin sağlık okuryazarlığı düzeylerinin ve sağlık okuryazarlığı düzeylerinin akılcı ilaç kullanımı üzerine etkisinin değerlendirilmesi . [İzmir]: İzmir Katip Çelebi Üniversitesi; 2019.
16. Konfino J, Mejía R, Majdalani MP, Pérez-Stable EJ. [Health literacy in patients attending a University Hospital]. Medicina (B Aires). 2009;69(6):631–4.
17. Liu YB, Liu L, Li YF, Chen YL. Relationship between Health Literacy, Health-Related Behaviors and Health Status: A Survey of Elderly Chinese. Int J Environ Res Public Health. 2015 Aug 18;12(8):9714–25.
18. Todorovic N, Jovic-Vranes A, Djikanovic B, Pilipovic-Broceta N, Vasiljevic N, Lucic-Samardzija V, et al. Assessment of health literacy in the adult population registered to family medicine physicians in the Republic of Srpska, Bosnia and Herzegovina. European Journal of General Practice. 2019 Jan 2;25(1):32–8.
19. Alagöz MC. Aile sağlığı merkezine başvuran 18-65 yaş arası bireylerin sağlık okuryazarlığı düzeyi ve etkileyen faktörler. [İstanbul]: Sağlık Bilimleri Üniversitesi; 2023.
20. Güven A. Sağlık okuryazarlığını etkileyen faktörler ve sağlık okuryazarlığı ile hasta güvenliği ilişkisi. [Ankara]: Hacettepe Üniversitesi; 2016.
21. Rasu RS, Bawa WA, Suminski R, Snella K, Warady B. Health Literacy Impact on National Healthcare Utilization and Expenditure. Int J Health Policy Manag. 2015 Aug 17;4(11):747-

55. doi: 10.15171/ijhpm.2015.151. PMID: 26673335; PMCID: PMC4629700.
22. Teken MT. Bir üniversite hastanesine başvuran hastalarda siberkondri ve sağlık okuryazarlığı düzeylerinin değerlendirilmesi. [Konya]: Necmettin Erbakan Üniversitesi; 2023.
23. Martins AP, Miranda Ada C, Mendes Z, Soares MA, Ferreira P, Nogueira A. Self-medication in a Portuguese urban population: a prevalence study. Pharmacoepidemiol Drug Saf. 2002 Jul-Aug;11(5):409-14. doi: 10.1002/pds.711. PMID: 12271884.
24. Lorini, C., Santomauro, F., ve Donzellini, M. (2018). Health literacy and vaccination: A systematic review. Hum Vaccin Immunother, 14(2), 478–488. doi: 10.1080/21645515.2017.1392423.