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Original Article

Evaluation of the Relationship between Health Literacy and Rational Drug Use in Patients Admitting to a Family Health Center

Aile Sağlığı Merkezine Başvuran Hastalarda Sağlık Okuryazarlığı ve Akılcı İlaç Kullanımının İlişkisinin Değerlendirilmesi

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ABSTRACT

Objective: This study aimed to demonstrate that problems encountered in protecting individuals' health status, accessing healthcare services, participating in the treatment process, and using the correct medicine in the right amount and at the right time may be related to the level of health literacy.

Material and Methods: This cross-sectional study was conducted with 300 volunteers who applied to Yenibey no. 2 Family Health Center in Seyhan district, Adana province, between June 1, 2023 and July 31, 2023, after obtaining ethical approval. The first part of the data collection form consisted of 31 questions, the first 6 of which covered sociodemographic data. The remaining questions were designed to measure medication use habits related to rational drug use and the effects of health literacy. The second part contained the 32-item Türkiye Health Literacy Survey.

Results: Among the 300 participants who applied to Yenibey No. 2 Family Health Center in Seyhan, Adana, the mean general health literacy score was 28.5±7.7 points, with approximately 64% having inadequate or problematic/limited health literacy levels. Low health literacy was strongly and statistically significantly associated (p=0.001-0.013) with irrational drug use behaviors, including self-medication without consulting a physician (25% frequently, 68% occasionally), using medicines based on suggestions from relatives/friends/neighbors, frequently keeping a continuous medicine stock at home (34%), and frequently requesting specific medicines to be prescribed during doctor visits. Higher education level, higher income, and having SGK or private insurance were significantly associated with better health literacy, whereas female gender, presence of chronic diseases, irregular follow-up, and more than 14 outpatient visits per year were linked to lower health literacy scores.

Conclusion: In conclusion, targeted educational and awareness-raising interventions aimed at improving health literacy particularly focusing on low-education and low-income groups, women, and individuals with chronic diseases can enhance rational drug use practices and reduce the burden on the healthcare system. This study once again underscores the critical importance of primary care physicians' roles in patient education and guidance in regions such as Adana.

Keywords: Health literacy, family medicine, rational drug use

ÖZ

Giriş: Bu çalışma, bireylerin sağlık durumlarını koruma, sağlık hizmetlerine erişim, tedavi sürecine katılım ve doğru ilacı doğru miktarda ve doğru zamanda kullanma konularında karşılaştıkları sorunların sağlık okuryazarlığı düzeyiyle ilişkili olabileceğini göstermeyi amaçlamıştır. Gereç ve Yöntemler Bu kesitsel çalışma, etik kurul onayı alındıktan sonra, 1 Haziran 2023 ile 31 Temmuz 2023 tarihleri arasında Adana ili Seyhan ilçesi Yenibey 2 no'lu Aile Sağlığı Merkezi'ne başvuran 300 gönüllü ile gerçekleştirilmiştir. Veri toplama formunun ilk bölümü 31 sorudan oluşmakta olup, bunlardan ilk 6'sı sosyodemografik verileri kapsamaktadır. Kalan sorular, akılcı ilaç kullanımıyla ilgili ilaç kullanım alışkanlıklarını ve sağlık okuryazarlığının etkilerini ölçmek üzere tasarlanmıştır. İkinci bölüm ise 32 maddelik Türkiye Sağlık Okuryazarlığı Anketi'ni içermektedir.

Bulgular: Adana Seyhan Yenibey no. 2 Aile Sağlığı Merkezi'ne başvuran 300 katılımcının genel sağlık okuryazarlığı ortalaması 28,5±7,7 puan olup, yaklaşık %64'ü yetersiz veya sorunlu/sınırlı düzeydedir. Düşük sağlık okuryazarlığı düzeyi, doktora danışmadan kendi başına ilaç kullanma (%25 sık, %68 ara sıra), çevreden öneriyle ilaç alma, evde sürekli ilaç stoğu bulundurma (%34 sık), doktordan kendi isteğiyle ilaç

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ÖZ

yazdırma talebinde bulunma gibi irrasyonel ilaç kullanım davranışlarıyla güçlü ve istatistiksel olarak anlamlı ilişki göstermektedir (p=0.001-0.013). Daha yüksek eğitim, gelir düzeyi ve SGK/özel sigorta varlığı sağlık okuryazarlığını artırırken; kadın cinsiyet, kronik hastalık, düzensiz takip ve yılda 14'ten fazla poliklinik ziyareti düşük sağlık okuryazarlığı ile ilişkilidir.

Sonuç: Sonuç olarak, özellikle düşük eğitimli ve düşük gelirli gruplara, kadınlara ve kronik hastalıkları olan bireylere odaklanan, sağlık okuryazarlığını geliştirmeyi amaçlayan hedefli eğitim ve farkındalık artırma müdahaleleri, akılcı ilaç kullanım uygulamalarını artırabilir ve sağlık sistemine olan yükü azaltabilir. Bu çalışma, Adana gibi bölgelerde birinci basamak hekimlerinin hasta eğitimi ve rehberliğindeki rollerinin kritik önemini bir kez daha vurgulamaktadır.

Anahtar Kelimeler: Sağlık okur yazarlığı, aile hekimliği, akılcı ilaç kullanımı

INTRODUCTION

In our country, the Ministry of Health defines health literacy as the cognitive and social skills that determine individuals' ability and motivation to access, understand, and use information in a way that promotes and maintains good health (1).

The World Health Organization broadly defines health literacy as the ability of individuals to gain access to, understand, and use information in ways that promote and maintain good health for themselves, their families, and their communities (2).

Undoubtedly, individuals' health literacy depends on the education system of the society they live in, the healthcare system, the healthcare environment they are in, their families, jobs, local social and cultural factors, and their own social skills (3). Low levels of health literacy reduce adherence to treatment and lead to insufficient knowledge about the disease. This can negatively affect disease management (3,4). Lack of knowledge and low awareness about preventive health services cause delayed presentations (5). In patients with chronic diseases, it leads to disruptions in follow-up and treatment, thereby threatening public health (6).

Medicines are extremely important for the prevention and treatment of diseases in both individuals and society. In recent years, treatments for many previously untreatable diseases have been developed, along with newer and more reliable medicines. These advancements and easier access to healthcare services have led to an increase in demand for and consumption of medicines. Additionally, negative factors such as stress, smoking, alcohol, environmental pollution, and consumption of unhealthy foods impair public health, leading to the emergence of new diseases and an increase in healthcare expenditures. Because of the rise in resource use and the negative impact on human health, rational use of these medicines is essential (7,8).

In our country, approximately 35% of total healthcare expenditures consist of medicine costs. Furthermore, it is estimated worldwide that more than half of medicines are prescribed or used unnecessarily (7,9,10).

In rational medicine use, in addition to the responsibilities of the patient and physician, pharmacies, relatives of the patient, medicine manufacturers, responsible authorities, and the media also bear responsibility. There are many factors influencing irrational medicine use. Lack of education, sociocultural characteristics, individuals' misconceptions, and certain administrative problems are the main factors affecting this situation (11).

Health is an important part of every individual's life, and it is vital for everyone to make informed decisions regarding their health. Health literacy helps individuals manage their own health, prevent diseases, achieve early diagnosis, and receive treatment, while also having a significant impact on the sustainability and cost of healthcare systems (12).

Health literacy improves individuals' quality of life and enables them to remain healthy for longer periods. It eliminates health inequalities among individuals and facilitates easier communication and understanding with healthcare workers. This, in turn, involves the individual in the diagnosis and treatment process, leading to more accurate decisions (13).

This study aimed to demonstrate that problems encountered in protecting individuals' health status, accessing healthcare services, participating in the treatment process, and using the correct medicine in the right amount and at the right time may be related to the level of health literacy.

MATERIAL and METHODS

This cross-sectional study was conducted with 300 volunteers who applied to Yenibey No. 2 Family Health Center in Seyhan district, Adana province, between June 1, 2023 and July 31, 2023, after obtaining ethical approval. Ethical approval for the study was obtained from the Clinical Research Ethics Committee of Adana Training and Research Hospital, University of Health Sciences, with decision number: 2597 date: 25.05.2023). The study was conducted in accordance with the Declaration of Helsinki.

The study population consisted of 10,000 individuals registered at the family health center. The sample size was calculated as 263 using the Epi Info statistical program, based on 90% power and a 0.05 alpha confidence level/margin of error.

The first part of the data collection form consisted of 31 questions, the first 6 of which covered sociodemographic data. The remaining questions were designed to measure medication use habits related to rational drug use and the effects of health literacy. The second part contained the 32-item Türkiye Health Literacy Survey (TSOY-32). TSOY-32 is a 32-item Likert-type scale developed by Okyay and

Abacıgil (14) in 2016, based on the principles and conceptual framework of the European Health Literacy Survey. It is a valid and reliable instrument that enables the assessment of health literacy levels. The scale is scored using the following formula, yielding scores between 0 and 50: index = (arithmetic mean -1) × (50/3)

Using the above formula, overall health literacy and subscale scores were calculated. The values obtained from the formula calculation, ranging between 0 and 50, were evaluated in four separate levels. This classification is as follows:

0-25 points: Inadequate health literacy

26-33 points: Problematic/limited health literacy

34-42 points: Sufficient health literacy

43-50 points: Excellent health literacy

Statistical Analysis

When evaluating the findings obtained in the study, IBM SPSS Statistics 22 software was used for statistical analyses. Continuous parameters obtained in the study were presented as mean and standard deviation, while categorical variables were expressed as numbers and percentages. The conformity of the parameters to normal distribution was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. In the evaluation of the study data, in addition to descriptive statistical methods (mean, standard deviation, frequency), the Kruskal-Wallis test was used for intergroup comparisons of quantitative data that did not show normal distribution. For comparisons between two groups of parameters that did not follow a normal distribution, the Mann-Whitney U test was applied. For comparisons of qualitative data, the chi-square test, Fisher's exact chi-square test, and Monte Carlo Exact chi-square test correction were used. Statistical significance was evaluated at the $p<0.05$ level.

RESULTS

The mean age of the participants was 42.09±13.63 years (minimum 18, maximum 74). Among the volunteers who participated in the study, 67.3% (n=202) were female and 32.7% (n=98) were male. The sociodemographic characteristics of the participants are summarized in Table 1.

Participants were asked which healthcare facility they first consulted when they became ill. 217 participants (72.3%) reported that they first preferred the family health center. The mean number of outpatient visits in the last year was 14.8 ± 8.7 (median 13, min–max: 1-46). 163 participants (54.3%) had 14 or fewer healthcare visits in the last year (Table 2).

The mean ± SD, median, and min-max values of the subscale scores obtained from the TSOY-32 questionnaire are presented in Table 3. The overall health literacy score mean was determined to be 28.5.

A significant relationship was found between participants' use of medicines based on recommendations from relatives, friends, or neighbors and their health literacy levels. Those who never used medicines based on environmental suggestions had significantly higher health literacy scores (p=0.013) (Table 4). However, no statistically significant difference was found between advising medicines to others and health literacy scores (p=0.456) (Table 4).

A statistically significant difference was detected between keeping a medicine stock at home and health literacy levels. Participants who frequently kept a continuous stock at home had significantly lower health literacy levels compared to others (p=0.001) (Table 4).

When participants who requested medicines on their own initiative during doctor visits were compared, significant results were obtained. Those who frequently demanded medicines had significantly lower health literacy scores compared to others (p=0.003) (Table 4).

DISCUSSION

Of the participants, 25% reported frequent and 68.3% occasional self-medication without consulting a physician. The most commonly used drug groups were analgesics (89%), cold remedies (58.3%), antipyretics (46.7%), and antibiotics (23.3%). Literature reports self-medication rates ranging from 42.9% to 75.6% (15-19). These variations may stem from regional socioeconomic and cultural differences. Over-the-

Table 1. Sociodemographic data

Parameter	All participants (n=300) n (%)
Gender	
Female	202 (67.3)
Male	98 (32.7)
Marital status	
Married	235 (78.3)
Single	65 (21.7)
Education level	
Literate	15 (5.0)
Primary school	82 (27.3)
Middle school	46 (15.3)
High school	67 (22.3)
University and above	90 (30.0)
Social security	
SGK	226 (75.3)
Green card	53 (17.7)
Private insurance	7 (2.3)
None	14 (4.7)
Income level	
Minimum wage or below	140 (46.7)
Between 1-2 minimum wages	91 (30.3)
Two minimum wages or above	69 (23.0)

counter availability, leftover medications at home, and prior illness experiences are key facilitators of this behavior.

Higher education levels were significantly associated with reduced self-medication without physician consultation, consistent with findings by İşler (19) and Akici et al. (20). Higher education appears to promote greater adherence to rational drug use principles.

The rate of using medications based on suggestions from relatives, friends, or neighbors was 22.7% [İşler 24.3% (19), Özkan 25.6% (21), Pınar 8% (16), Karataş 14.8% (22)]. This practice contradicts rational drug use principles, and its relationship with education level shows mixed results in the literature (negative correlation in İşler (19), reduction in Özkan et al. (21), no association in Pınar et al. (16).

Table 2. Data on first consultation place and number of visits

Parameter	All participants (n=300) n (%)
First healthcare facility consulted when ill	
Family health center	217 (72.3)
Hospital	83 (27.7)
Number of visits in the last year	
14 visits or fewer	163 (54.3)
More than 14 visits	137 (45.7)
Number of visits in the last year	
Mean ± standard deviation	14.8±8.7
Median	13
Minimum-maximum	1-46

Early discontinuation of prescribed treatment was reported by 37% (frequent) and 42.7% (occasional), with main reasons including perceived improvement, fear of excess medication, and forgetfulness (17,19,21). This behavior was more common among females, younger individuals, and those with lower education. These findings may be explained by women's limited social awareness and younger individuals' poorer adherence despite knowledge. Such irrational patterns can contribute to severe outcomes, as evidenced by a retrospective single-center analysis in an intensive care unit setting where acute drug intoxications (primarily analgesics and antidepressants) and drug misuse led to prolonged stays, mechanical ventilation needs, and notably higher mortality (11.5% in drug use cases vs. 0.6% in intoxications), underscoring the public health risks of improper drug handling (23).

Prospectus reading was frequent in 57.7% of participants; this habit was significantly higher among those under 40.5 years and university graduates (İşler 86.1%) (19), (Pınar 72%) (16). Education and younger age appear to enhance information-seeking behavior.

Home stockpiling of medications was frequent in 34.3% and occasional in 57.7%, while approximately 65% reported requesting medications on their own initiative during doctor visits 16,19,22). Stockpiling was more common among women, whereas self-requested prescriptions were significantly lower among university graduates. The more flexible patient-physician interaction in family health centers may contribute to these higher rates.

Antibiotic use for non-specific viral symptoms was frequent in 19.3% and occasional in 27%, with significantly higher rates among those with lower education (22). This pattern aligns with regional observations of irrational antibiotic prescribing

Table 3. Health literacy subscale scores

Parameter	Mean ± SD	Median	Min-max
Overall health literacy score	28.5±7.7	28.7	10.9-44.3
Treatment and services	31.1±7.7	32.3	10.4-45.8
Accessing information	30.7±9.5	33.3	4.2-50
Understanding information	34.1±8.7	33.3	8.3-50
Appraising information	21.4±9.3	20.8	4.2-45.8
Applying information	38.1±8.7	37.5	4.2-50
Disease prevention and health promotion	25.8±8.5	26.0	4.2-43.8
Accessing information	27.9±10.5	33.3	4.2-50
Understanding information	27.6±11.1	29.2	4.2-50
Appraising information	22.8±9.9	20.8	0-45.8
Applying information	25.2±8.0	25.0	4.2-45.8
Health-related information			
Accessing information	29.3±9.1	31.3	6.3-47.9
Understanding information	30.9±9.2	31.3	10.4-47.9
Appraising information	22.1±8.7	22.9	2.1-41.7
Applying information	31.6±7.1	31.3	8.3-47.9
SD: Standard deviation			

Table 4. Comparison of health literacy scores according to medication use behaviors		
Parameter	**Health literacy score (Mean ± SD)**	**p**
Using medicines without consulting a doctor		
Yes, frequently	24.8±8.1	0.001
Yes, rarely	29.7±7.3	
No, never	29.6±6.3	
Using medicines based on suggestions from surroundings		
Yes, frequently	24.0±7.3	0.013
Yes, rarely	26.8±8.7	
No, never	29.2±7.4	
Advising medicines to others		
Yes, frequently	27.0±7.7	0.456
Yes, rarely	28.4±8.0	
No, never	28.8±7.6	
Would you like medicines to be sold outside pharmacies?		
No	28.2±7.7	0.255
No opinion	28.5±9.3	
Yes	30.5±7.4	
Do you think it is correct that antibiotics are not sold without prescription?		
No	28.5±9.1	0.041
No opinion	23.7±6.8	
Yes	28.8±7.4	
Do you buy medicines to keep at home?		
Yes, frequently	25.4±7.9	0.001
Yes, rarely	30.1±7.1	
No, never	29.7±7.7	
Do you request medicines to be prescribed at your own request when visiting a doctor?		
Never	30.7±6.9	0.003
Sometimes	29.1±7.6	
Frequently	26.4±8.0	
SD: Standard deviation		

and patient demands in dental and surgical settings, where education and awareness interventions are emphasized to curb resistance (24). This reflects broader gaps in public health knowledge.

Study Limitation

The overall mean TSOY-32 score was 28.5±7.7, with 31.3% inadequate, 33% problematic/limited, 31.3% sufficient, and 4.3% excellent health literacy (HL) levels. These results align with other Turkish studies using the same scale, inadequate + limited often 60-70% (14,25,26). The lowest subscale score was in "appraising information," indicating greater difficulty in critically evaluating information compared to accessing, understanding, or applying it (14,25,26). This challenge is further compounded by poor readability of Turkish online health resources; for instance, an evaluation of 50 Turkish migraine websites found that none were "easy" to read, with ~75% classified as "difficult" or "very difficult," often requiring high-school or college-level skills highlighting systemic barriers to effective patient information access and HL in Türkiye (27).

Associations between HL and sociodemographic variables showed: younger age (<40.5 years) was linked to higher HL scores (16,19). Females had significantly lower HL scores than males but aligning with some Turkish studies by Mut (26) and İşler (19).

University-level or higher education, higher income, and SGK/private insurance coverage were associated with significantly higher HL Özkan et al. (21), Mut (26). Similarly, in a local Adana-based study on Type 2 diabetes patients at an Akkapı Family Health Center, higher education and income levels were significantly linked to better glycemic control (lower HbA1c), underscoring the role of socioeconomic factors in chronic disease management and potentially in HL-related behaviors (28).

Participants with chronic diseases, multiple chronic conditions, or irregular follow-up had significantly lower HL (21). Low HL is known to increase chronic disease prevalence and complications.

Those preferring family health centers as their first consultation point and those with more than 14 outpatient visits in the past year had significantly lower HL (21). This pattern is consistent with local Adana-based retrospective analyses of family medicine clinic records, where high patient volumes, chronic disease burden, and socioeconomic factors were prominent in primary care settings, potentially contributing to lower HL and increased healthcare utilization (29).

Irrational behaviors including self-medication without consultation, using medications based on others' advice, home stockpiling, self-requested prescriptions, not reading prospectuses, and early treatment discontinuation were all significantly associated with lower HL scores. Local evidence from Çukurova-region studies further supports the link between low awareness, patient demands, and irrational antibiotic/drug use patterns (24).These findings confirm that higher HL promotes rational drug use and support the limited existing literature on this relationship.

CONCLUSION

In conclusion, this study highlights the critical role of HL in rational drug use and underscores the need for targeted interventions to improve HL levels, particularly among individuals with lower education, lower income, and women. Regional data from Adana-based institutions reinforce the urgency of patient education and rational prescribing practices to address these issues locally (24).

Ethics

Ethics Committee Approval: Ethical approval for the study was obtained from the Clinical Research Ethics Committee of Adana Training and Research Hospital, University of Health Sciences, with decision number: 2597 date: 25.05.2023).

Informed Consent: This study is a retrospective study.

Footnotes

This article was prepared based on the thesis study titled "Evaluation of the Relationship between Health Literacy and Rational Drug Use in Patients Admitting to a Family Health Center" with thesis number 842298.

Authorship Contributions

Surgical and Medical Practices: F.Ö., Concept: F.Ö., M.T., Design: F.Ö., M.T., Data Collection or Processing: F.Ö., Analysis or Interpretation: F.Ö., M.T., Literature Search: F.Ö., M.T., Writing: F.Ö., M.T.

Conflict of Interest: No conflict of interest was declared by the authors.

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REFERENCES

1. T.C. Sağlık Bakanlığı. E-kütüphane - sağlığın teşviki ve geliştirilmesi sözlüğü. Available from: https://ekutuphane.saglik.gov.tr/Yayin/439. 2023.
2. WHO. Available from: Health literacy. https://www.who.int/teams/health-promotion/enhanced-wellbeing/ninth-global-conference/health-literacy. 2025.
3. Nielsen-Bohlman L, Panzer AM, Kindig DA. Health literacy. National academies press. 2004. doi: 10.17226/10883.
4. 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(6):552-7.
5. Davis TC, Michielutte R, Askov EN, Williams M V, Weiss BD. Practical assessment of adult literacy in health care. Health Education & Behavior. 1998;25(5):613-24. doi: 10.1177/109019819802500508.
6. Hester EJ, Stevens-Ratchford R. Health literacy and the role of the speech-language pathologist. Am J Speech Lang Pathol. 2009;18(2):180-91. doi: 10.1044/1058-0360(2009/08-0005).
7. Özata M, Arslan ş, Mete M. Rasyonel ilaç kullanımının hasta güvenliğine etkileri: hekimlerin rasyonel ilaç kullanımına etki eden faktörlerin belirlenmesi. SUSBED. 2008;20:529-42.
8. Passmore PR, Kailis SG. In pursuit of rational drug use and effective drug management: clinical and public health pharmacy viewpoint. Asia Pac J Public Health. 1994;7(4):236-41. doi: 10.1177/101053959400700408.
9. Uçman T, Uysal N. Yetişkin bireylerde akılcı ilaç kullanımı ve etkileyen faktörlerin belirlenmesi. Bandırma Onyedi Eylül Üniversitesi Sağlık Bilimleri ve Araştırmaları Dergisi. 2021;3(2):126-33. doi: 10.46413/boneyusbad.859525.
10. Aydın B, Gelal A. Akılcı ilaç kullanımı: yaygınlaştırılması ve tıp eğitiminin rolü. Dokuz Eylül Üniversitesi Tıp Fakültesi Dergisi. 2012;26(1):57-63.
11. Ambwani S, Mathur AK. Rational drug use. Health Administrator. 2006;19(1):5-7.
12. CDC. What is health literacy? Available from: https://www.cdc.gov/health-literacy/php/about/index.html. 2024.
13. Aygun O, Cerim S. The relationship between general health behaviors and general health literacy levels in the Turkish population. Health Promot Int. 2021;36(5):1275-89. doi: 10.1093/heapro/daaa151.
14. Okyay P, Abacıgil F. Türkiye sağlık okuryazarlığı ölçekleri güvenirlilik ve geçerlilik çalışması. Ankara: T.C. Sağlık Bakanlığı. 2016.
15. Gezer MY. Bir fabrikada çalışan işçilerin sağlık okuryazarlıklarının belirlenmesi. Gaziantep: Sanko Üniversitesi Hemşirelik Fakültesi; 2020.
16. Pınar N, Karataş Y, Ünal İ. Adana ilindeki insanların ilaç kullanım alışkanlıkları. TAF Prev Med Bull. 2013;12(6):636-69.
17. Baybek H, Bulut D, Çakır A. Muğla Üniversitesi idari personelinin ilaç kullanma alışkanlıklarının belirlenmesi. ILKE. 2005;15:53-67.
18. Uskun E, Uskun SB, Ozturk M, Kisioglu AN. Sağlık ocağına başvuru öncesi ilaç kullanımı. STED. 2004;13(12):451-4.
19. 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.
20. Akici A, Kalaça S, Uğurlu MU, Toklu HZ, Iskender E, Oktay S. Patient knowledge about drugs prescribed at primary healthcare facilities. Pharmacoepidemiol Drug Saf. 2004;13(12):871-6. doi: 10.1002/pds.1020.

21. Özkan S, Ozbay OD, Aksakal N. Bir üniversite hastanesine başvuran hastaların hasta olduklarındaki tutumları ve ilaç kullanım alışkanlıkları. TAF Prev Med Bull. 2005;4(5):223-37.
22. Karataş Y, Dinler B, Erdoğdu T. Çukurova Üniversitesi Tıp Fakültesi Balcalı Hastanesi'ne başvuran hasta ve hasta yakınlarının ilaç kullanım alışkanlıklarının belirlenmesi. Çukurova Üniversitesi Tıp Fakültesi Dergisi. 2012;37(1):1-8.
23. Arslan K, Şahin AS. Evaluation of acute drug intoxications and drug use in the intensive care unit: a retrospective, single-center analysis. Cukurova Anestezi ve Cerrahi Bilimler Dergisi. 2023;6(1):75-83. doi: 10.36516/jocass.1216712.
24. Duyan Yüksel H, Çabuk Aİ. Evaluation of irrational antibiotic use in patients presenting to Çukurova University Faculty of Dentistry. Cukurova Anestezi ve Cerrahi Bilimler Dergisi. 2025;8(2):134-8. doi: 10.36516/jocass.1640039.
25. Tanrıöver MD, Yıldırım HH, Çakır B. Türkiye sağlık okuryazarlığı araştırması. Ankara: Sağlık Sen Yayınları. 2014.
26. Mut H. Aile hekimliği polikliniğine başvuran hastalarda sağlık okuryazarlığı düzeyi ve ilişkili faktörlerin değerlendirilmesi. İzmir: SBU İzmir Tıp Fakültesi. 2017.
27. Günüç AH. Readability and understandability of turkish migraine websites: an evaluation of fifty online resources. Cukurova Anestezi ve Cerrahi Bilimler Dergisi. 2025;8(4):454-8. doi: 10.36516/jocass.1806384.
28. Oymak U, Tunay M. Evaluation of factors affecting glycemic control in type 2 diabetic patients at Akkapi Family Health Center. Dogu Akdeniz Aile Hekimleri Dernegi (DAAHED). 2025. doi: 10.64514/vmsjournal.2025.9.
29. Tan FG, Tunay M. Retrospective analysis of patient records at the Adana City Training and Research Hospital Family Medicine Clinic. Dogu Akdeniz Aile Hekimleri Dernegi (DAAHED). 2025. doi: 10.64514/vmsjournal.2025.4.