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Determining the Health Literacy Levels of University Students: A Cross-Sectional Study

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ABSTRACT

Objective: The aim of this study is to determine the health literacy level of university students and to identify whether it varies based on certain variables. **Materials and Methods:** This study was conducted with vocational school students in Balıkesir. The simple random sampling method was used to determine the study group, and 190 individuals who agreed to participate in the study were included. The data were analyzed using descriptive statistics, t-tests, one-way ANOVA, and Tukey tests. **Results:** According to the statistical analysis results, it was found that 20.53% of the students participating in the study had an insufficient level of health literacy, 36.84% had a problematic-limited level of health literacy, and that health literacy level showed a significant difference based on students' departments, the place where the families live, mother's education level, father's education level, area of access to health information, and what they do first when experiencing a health problem. **Conclusion:** The research found that more than half of the students had a low level of health literacy. **Keywords:** Health, Health Literacy, University Student.

Üniversite Öğrencilerinin Sağlık Okuryazarlığı Düzeyinin Belirlenmesi: Kesitsel Bir Çalışma

ÖZ

Amaç: Bu çalışmanın amacı üniversite öğrencilerinin sağlık okuryazarlığı düzeyini belirlemek ve bazı değişkenler açısından farklılaşp farklılaşmadığını tespit etmektir. **Gereç ve Yöntem:** Bu çalışma, Balıkesir'de bir meslek yüksekokulu öğrencileri ile gerçekleştirilmiştir. Çalışma grubunun belirlenmesinde basit tesadüfi örnekleme yöntemi kullanılmış olup, çalışmaya katılmayı kabul eden 190 kişi dahil edilmiştir. Veriler, tanımlayıcı istatistikler, t testi, tek yönlü varyans (ANOVA) testi ve Tukey testleri kullanılarak analiz edilmiştir. **Bulgular:** İstatistiksel analiz sonuçlarına göre, araştırmaya katılan öğrencilerin %20,53'ünün yetersiz sağlık okuryazarlığı düzeyine sahip olduğu, %36,84'ünün sorunlu-sınırlı sağlık okuryazarlığı düzeyine sahip olduğu ve sağlık okuryazarlığının öğrencilerin bölümleri, ailelerin yaşadığı yer, annenin eğitim seviyesi, babanın eğitim seviyesi, sağlık bilgisine erişim alanı ve sağlık problemi yaşadıklarında ilk ne yaptıklarına göre anlamlı bir farklılık gösterdiği ortaya konulmuştur. **Sonuç:** Araştırma sonucunda öğrencilerin yarısından fazlasının sağlık okuryazarlığı düzeyinin düşük olduğu tespit edilmiştir.

Anahtar Kelimeler: Sağlık, Sağlık Okuryazarlığı, Üniversite Öğrencileri.

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INTRODUCTION

Literacy is a concept that encompasses reading, writing, as well as the comprehension and interpretation of written material (Passamai et al., 2012). When addressing the concept of literacy within the healthcare field, health literacy can be defined as the ability to understand both verbal and written information related to health (Cevik & Kayabek, 2022). Health literacy is a significant concept because, it reflects individuals' ability to comprehend and interpret health-related information (World Health Organization [WHO], 2021). According to Parker (2009), health literacy is the understanding of health information, which is dependent on individuals' personal abilities and skills. Although there are various definitions of health literacy, it is generally described as the ability to easily access health-related information, comprehend it, and effectively utilize that information (Stormacq et al., 2023). Health literacy enhances individuals' capacity to make informed decisions about their health by improving their understanding of health-related issues. (Baker et al., 2002). Additionally, health literacy enables individuals to make informed decisions and take appropriate actions when seeking healthcare services, as well as following up with correct practices after receiving care. It also empowers them to stay updated with advancements in health-related topics (Sorensen et al., 2013).

The level of health literacy is considered a crucial concept as it contributes to the proper utilization of healthcare services, which in turn leads to a reduction in healthcare expenditures (Marinucci et al., 2023). This is because it has been observed that low health literacy increases the cost of provided healthcare services (Bailey et al., 2014). Individuals with higher health literacy have been found to better understand and evaluate treatment options for themselves and their loved ones, leading to improved health outcomes (Parker & Gazmararjan, 2003). Furthermore, health literacy not only affects the understanding and interpretation of health-related information but also influences communication with healthcare professionals. Individuals with high health literacy are shown to better comprehend the information provided by healthcare workers (Shaw et al., 2009).

Research has revealed that individuals with low health literacy levels lack knowledge about treatment protocols (Kondilis et al., 2006; Eichler et al., 2009; Kobayashi et al., 2014) and proper medication usage when they become ill, leading to the incorrect use of medications and insufficient skills in accessing and utilizing healthcare services (Berkman et al., 2011). Similarly, inadequate health literacy has been found to hinder individuals from using medications correctly, which subsequently results in the development of various health problems (Budnitz & Layde, 2007).

Experts emphasize that health literacy should be a critical educational objective, and measures should be implemented from an early age to enhance individuals'

health literacy (Paakkari & Okan, 2019). Since the health-related behaviors and attitudes of university students' impact both their future lives and society, it is crucial for them to possess sufficient health literacy (Mullan et al., 2017).

The aim of this study is to determine the health literacy level of university students and to identify whether it varies based on certain variables.

MATERIALS AND METHODS

Study design

The population of the study consists of students from a Vocational School at Balikesir University. According to the information obtained from the Council of Higher Education's website, the number of registered students at the school is 411 (Council of Higher Education [CoHE], 09 January 2025, <https://yokatlas.yok.gov.tr/onlisans-univ.php?u=1015>). It was determined that during the 2024-2025 academic year, fall semester, 228 students were registered for courses at the vocational school, based on the data collected.

The sample size was calculated using the formula proposed by Barlett, Kortliij, and Chadwick (2001), which is commonly used for quantitative research with a known population.

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

$$n_0 = \frac{t^2 \cdot x(p) \cdot (q)}{d^2}$$

N: Population size

n: Sample size

p: The occurrence frequency of the event being studied (probability of occurrence)

q: The non-occurrence frequency of the event being studied (probability of non-occurrence)

t: The theoretical value found according to the t-table at a specific significance level (for a significance level of 0.05, the value is 1.96)

d: The sample error accepted by the researcher based on the occurrence frequency of the event (0.05).

In the study, $p = q = 0.5$ was assumed, with a confidence interval of 0.95 and a margin of error of 0.05. Based on these values, the sample size for the study was calculated to be 144 students, and the study was completed with the participation of 193 out of the 228 students in the population. Upon reviewing the surveys, it was found that 3 surveys contained missing information, so a total of 190 surveys were subjected to statistical analysis.

Data collection

The surveys were administered to students selected through simple random sampling, both face-to-face and electronically.

Data collection tools

This research is a quantitative study conducted using survey method. The "Personal Information Form" and

“Turkey Health Literacy Scale (TSOY-32)” were used as data collections tools in this study.

Personal information form: In the first section, the personal information form administered to participants includes 9 questions such as the participants' gender, age, place of residence, mother's education level, father's education level, field of study, chronic illness status, the source from which they first accessed health information, and the first action they took when experiencing a health issue.

Turkey Health Literacy Scale (TSOY-32): The Turkey Health Literacy Scale (TSOY-32),” developed by Okyay and others (2016), was used in the study. The Turkey Health Literacy Scale in the second section consists of 32 Likert-type statements. The scale consists of two dimensions: "Treatment and service dimension" and "Disease prevention and health promotion dimension". Both dimensions consist of the sub-dimensions “Accessing information, understanding information, evaluating information, using and applying information”. The statements used for scoring the scale are rated as follows: "0: no idea, 1: very difficult, 2: difficult, 3: easy, 4: very easy." The scores are calculated based on this rating system. When evaluating the scale, the scores are categorized within the range of 0-50, and the following formula has been applied. The index represents the average of each answered question.

$$\text{Index} = (\text{average} - 1) \times (50/3)$$

The results obtained from the scoring based on the specified formula correspond to the following health literacy levels:

0-25 points: inadequate health literacy,

25-33 points: limited health literacy,

33-42 points: sufficient health literacy,

42-50 points: excellent health literacy.

Statistical analysis

The data obtained from the application were analyzed using the SPSS 24 (Statistical Package for the Social Sciences), and the results were presented in tables.

Research hypotheses

The hypotheses determined in the study are as follows:

H1: The health literacy level of university students differs by gender.

H2: The health literacy level of university students differs by age.

H3: The health literacy level of university students differs according to the where their families live.

H4: The health literacy level of university students differs by the mother's education level.

H5: The health literacy level of university students differs by the father's education level.

H6: The health literacy level of university students differs according to their departments.

H7: The health literacy level of university students differs by the first source of health information they access.

H8: The health literacy level of university students differs according to the presence of chronic diseases.

H9: The health literacy level of university students differs by what they do first when experiencing a health problem.

Ethical approval

Ethical approval for data collection was obtained from the Balikesir University Social, Human, and Administrative Sciences Ethics Committee with decision number 2024/12-55, dated December 30, 2024.

In addition, surveys were administered after obtaining permission from the institution where the research was conducted. The participants were notified that the gathered data would be exclusively used for research purposes, that their identities would be kept confidential, and that they had the right to withdraw from the study at any point. Verbal agreement was secured from the participants.

RESULTS

Reliability analysis and normality test

Cronbach's alpha coefficient

In this section of the research, the data obtained from the Cronbach's Alpha statistic are presented to test the reliability of the survey administered to the participants. The Cronbach's Alpha coefficient for the content validity of the TSOY-32 scale and its subdimensions is provided in the table below (Okyay et al.,2016).

Table 1 demonstrates that the survey administered to the participants and its subdimensions have a high degree of reliability.

Table 1. Results of Cronbach's alpha statistic.

| | Cronbah's Alpha | Item number |
|---|-----------------|-------------|
| TSOY-32 | 0.920 | 32 |
| Treatment and service dimension | 0.853 | 16 |
| Prevention of illness and health promotion dimension | 0.873 | 16 |

Normality analysis

The Kolmogorov-Smirnov test was applied to determine whether the data distribution is normal, and it was found that the data follows a normal distribution.

Additionally, the skewness and kurtosis values of the data were calculated and presented in Table 2.

Table 2. Results of normality analysis.

| | Skewness | Kurtosis | Result |
|-----------------|----------|----------|------------------------------|
| Health Literacy | -0.735 | 0.912 | Data is normally distributed |

When Table 2 is examined, the skewness and kurtosis values fall between -1 and +1, indicating that the data follows a normal distribution. Based on the normal distribution of the data, parametric tests were deemed

appropriate, and thus, mean, standard deviation, t-test, ANOVA test, and post hoc tests were applied to the data.

Table 3. Participants' Turkey Health Literacy Scale-32 index evaluations.

| TSOY-32 Index | n | % |
|---|-----|-------|
| Low health literacy (0-25 point) | 39 | 20.53 |
| Problematic-limited health literacy (26-33 point) | 70 | 36.84 |
| Adequate health literacy (34-42 point) | 38 | 20.00 |
| High level health literacy (43-50 point) | 43 | 22.63 |
| Total | 190 | 100 |

n: Count, %: Column percentage

It was determined that 20.53% of the students participating in the study had insufficient health literacy, 36.84% had problematic-limited health

literacy, 20% had adequate health literacy, and 22% had excellent health literacy (Table 3).

Table 4. Index mean scores of students' health literacy scale subdimensions.

| | Min-Max | Mean±SD |
|---|----------|-------------|
| General | 11.50-50 | 32.4±8.95 |
| Treatment and Service Dimension | 5.32-50 | 35.52±9.97 |
| Accessing information | 0-50 | 38.62±8.32 |
| Understanding information | 0-50 | 33.39±9.32 |
| Evaluating information | 2.33-50 | 32.22±10.30 |
| Using and applying information | 0-50 | 37.16±9.25 |
| Prevention of Illness and Health Promotion Dimension | 3.33-50 | 36.14±8.52 |
| Accessing information | 0-50 | 37.48±9.33 |
| Understanding information | 0-50 | 35.77±8.78 |
| Evaluating information | 0-50 | 33.05±11.97 |
| Using and applying information | 0-50 | 32.98±10.35 |

SD: Standard deviation.

Table 4 shows the index mean scores of the TSOY-32 Health Literacy Scale. It can be observed that the highest mean score of students is found in the "Accessing Health Information" statements under the "Treatment and Services" dimension (38.62±8.32).

The lowest mean score, on the other hand, is found in the "Evaluating Health Information" statements, also within the "Treatment and Services" dimension (32.22±10.30).

Table 5. Index evaluations of health literacy level by students' department.

| Department | TSOY-32 Evaluations | | | | | | | | | |
|-------------------------------|---------------------|-------|-------------------------------------|-------|--------------------------|-------|----------------------------|-------|-------|-----|
| | Low health literacy | | Problematic-limited health literacy | | Adequate health literacy | | High level health literacy | | Total | |
| | n | % | n | % | n | % | n | % | n | % |
| Health Institution Management | 8 | 14.3 | 22 | 39.3 | 10 | 17.8 | 16 | 28.5 | 56 | 100 |
| Tourism and Hotel Management | 6 | 16.7 | 12 | 33.3 | 10 | 27.8 | 8 | 22.2 | 36 | 100 |
| Foreign Trade | 3 | 9.7 | 11 | 35.5 | 7 | 22.6 | 10 | 32.2 | 31 | 100 |
| Electricity | 16 | 40.0 | 15 | 37.5 | 5 | 12.5 | 4 | 10.0 | 40 | 100 |
| Cooking | 6 | 22.2 | 10 | 37.1 | 6 | 22.2 | 5 | 18.5 | 27 | 100 |
| Total | 39 | 20.53 | 70 | 36.84 | 38 | 20.00 | 43 | 22.63 | 190 | 100 |

n: Count, %: Column percentage

In Table 5, the TSOY-32 index evaluations of the students department they are enrolled in, are presented. When the index evaluations are examined, it is observed that 28.5% of the students in the Health Institutions Management program, 22.2% of the

students in the Tourism and Hotel Management program, 32.2% of the students in the Foreign Trade program, 10% of the students in the Electrical program, and 18.5% of the students in the Cooking program have excellent health literacy levels.

Table 6. Test results of research hypotheses.

| Gender | n | % | \bar{X} | t | p |
|---|----------|----------|-----------------------------|----------|---|
| Female | 100 | 52.6 | 34.91 | 1.867 | 0.063 |
| Male | 90 | 47.4 | 33.50 | | |
| Age | n | % | \bar{X} | F | p |
| 18-20 | 142 | 74.8 | 32.87 | 4.382 | 0.065 |
| 21-23 | 34 | 17.9 | 30.34 | | |
| 24-26 | 9 | 4.7 | 34.63 | | |
| 27+ | 5 | 2.6 | 33.19 | | |
| The place where the family lives | n | % | \bar{X} | F | p Tukey |
| Village | 26 | 14.1 | 30.29 | 6.74 | 0.001* 3>1 |
| District | 63 | 34.1 | 33.86 | | |
| City | 96 | 51.8 | 38.97 | | |
| Mother's education level | n | % | \bar{X} | F | p Tukey |
| Illiterate | 7 | 3.7 | 30.72 | 6.98 | 0.005* 2>1 3>1 4>2 |
| Primary school | 53 | 28.0 | 35.28 | | |
| Secondary school | 66 | 34.7 | 41.68 | | |
| High school | 50 | 26.3 | 38.73 | | |
| Associate's degree | 5 | 2.6 | 35.14 | | |
| Bachelor's degree | 8 | 4.2 | 35.57 | | |
| Postgraduate education | 1 | 0.5 | 33.12 | | |
| Father's education level | n | % | \bar{X} | F | p Tukey |
| Illiterate | 5 | 2.7 | 31.72 | 5.43 | 0.000* 4>2 |
| Primary school | 38 | 20.0 | 35.95 | | |
| Secondary school | 59 | 31.0 | 38.59 | | |
| High school | 66 | 34.8 | 42.91 | | |
| Associate's degree | 4 | 2.1 | 30.43 | | |
| Bachelor's degree | 18 | 9.4 | 37.21 | | |
| Postgraduate education | 0 | 0 | 00.00 | | |
| Department | n | % | \bar{X} | F | p Tukey |
| Health Institution Management | 57 | 30.0 | 47.49 | 44.89 | 0.001* 1>2 1>4 1>5 3>2 3>4 3>5 |
| Tourism and Hotel Management | 35 | 18.4 | 37.13 | | |
| Foreign Trade | 33 | 17.3 | 48.29 | | |
| Electricity | 39 | 20.5 | 27.19 | | |
| Cooking | 26 | 13.8 | 30.38 | | |
| | | | | | |
| Chronic disease | n | % | \bar{X} | t | p |
| Yes | 26 | 13.7 | 33.39 | 3.44 | 0.061 |
| No | 164 | 86.3 | 35.47 | | |
| Where they access health information | n | % | \bar{X} | F | p Tukey |
| Internet | 92 | 48.4 | 33.72 | 3.68 | 0.002* 4>3 4>1 |
| Tv-Newspaper-Magazine | 1 | 0.5 | 28.35 | | |
| Social Media | 20 | 10.5 | 27.43 | | |
| Healthcare personnel | 77 | 40.5 | 38.62 | | |
| What they do first when they experience a health problem | n | % | \bar{X} | F | p Tukey |
| I would ask for help from my family and friends. | 55 | 28.9 | 36.65 | 3.97 | 0.002* 3>2 3>4 |
| I would wait to heal without doing anything | 29 | 15.3 | 33.28 | | |
| I would go to a healthcare facility | 77 | 40.5 | 40.37 | | |
| I would try to understand the problem by searching the symptoms on the internet | | | | | |

n: Count, **%:** Column percentage, **\bar{X} ,** Mean, **t:** T test, **F:** ANOVA test, **p<0.05***

According to the results, 100 female students (52.6%) and 90 male students (47.4%) participated in the

study. 142 individuals are in the age range of 18-20. In this sample, 96 individuals live in the city.

When examining the educational levels of the participants' mothers, it is observed that 66 individuals (34.7%) have completed secondary school. When examining the educational levels of the participants' fathers, it is observed that 66 individuals (34.8%) have completed high school.

When examining the programs the participants are enrolled in, it was found that 57 individuals (30.0%) are students of Health Institutions Management, 35 individuals (18.4%) are students of Tourism and Hotel Management, 33 individuals (17.3%) are students of Foreign Trade, 39 individuals (20.5%) are students of Electrical and Energy, and 26 individuals (13.8%) are students of Cooking.

It was found that 26 participants (13.7%) reported having a chronic illness, while 164 participants (86.3%) stated they did not have a chronic illness.

When examining where the participants first accessed health information, it was found that 92 students (48.4%) reported using the internet, 1 student (0.5%) cited TV-newspapers-magazines, 20 students (10.5%) mentioned social media, and 77 students (40.5%) stated health personnel as their source.

When asked what they do first when experiencing a health problem, 55 participants (28.9%) responded that they would ask for help from family or friends, 29 participants (15.3%) said they would do nothing and wait for recovery, 77 participants (40.5%) stated they would visit a healthcare facility, and 29 participants (15.3%) said they would search for symptoms online to understand the problem.

According to the obtained results in table 6, no significant relationship was found between gender and health literacy level, and therefore, H1 hypothesis is rejected. In addition, it was found that there was no significant difference in health literacy levels based on age and accordingly, the H2 hypothesis is rejected. Upon examining table 6, the analysis revealed a significant difference in health literacy levels based on where students' families live, thus the H3 hypothesis is accepted. To determine which groups exhibited this difference, a Tukey test was conducted. The test results indicated that students whose families live in the city had higher health literacy levels compared to those whose families live in village.

According to the results of the analysis, a significant difference in health literacy levels based on mothers' education level was found, and thus, the H4 hypothesis is accepted. In order to identify which groups showed this difference, a Tukey Test was conducted. The results of the Tukey Test revealed that students whose mothers had primary or secondary school education had higher health literacy levels than students whose mothers were illiterate, and students whose mothers had a high school education had higher health literacy levels than students whose mothers had an elementary school education.

Again, according to the results in table 6, a significant difference was found between students' health literacy levels and their fathers' education level, and

therefore, the H5 hypothesis is accepted. The results of the Tukey Test revealed that students whose fathers had a high school education had higher health literacy levels than students whose fathers had an elementary school education.

When the analysis results were examined, a significant difference in health literacy levels was found based on department, and thus, the H6 hypothesis is accepted. To identify which groups the difference was found between, the Tukey Test was applied. According to the results, students enrolled in the Health Institutions Management and Foreign Trade programs had higher health literacy levels compared to students enrolled in other programs.

According to the results of the analysis, a significant difference in health literacy levels based on the source of health information was found, and thus, the H7 hypothesis is accepted. The results show that students who accessed health information through healthcare professionals had higher health literacy levels compared to students who accessed health information through the internet and social media.

When the table 6 is examined, no significant difference in health literacy levels was found between students with chronic diseases and those without. Therefore, the H8 hypothesis is rejected.

The analysis results indicate that health literacy levels significantly differ based on the first action students take when faced with a health problem. The test results revealed that participants who sought help from a health institution when experiencing a health problem had higher health literacy levels compared to those who waited for improvement without doing anything or tried to understand the problem by searching symptoms on the internet. Thus, the H9 hypothesis is accepted.

DISCUSSION

This research was conducted to determine the health literacy level of vocational school students and to identify whether health literacy differs based on certain variables and to reveal the health literacy level index evaluations according to their departments. It was found that 20.53% of the students who participated in the research had inadequate health literacy, while 36.84% had problematic-limited health literacy. In research conducted by Soykan and Şengül (2021) with 286 students at a vocational school, it was determined that 9.60% of the students had inadequate health literacy, while 28.30% had problematic-limited health literacy. In the nationwide research conducted by Okyay and others (2016), only 5.8% of participants had excellent health literacy. Overall, research conducted with different groups has revealed that the health literacy levels of participants are generally low (Durmaz et al., 2016; May et al., 2018).

It is observed that the highest average score of students is related to the statements under the "Accessing Health Information" category in the

"Treatment and Services" dimension (38.62 ± 8.32). The lowest average score is related to the statements under the "Evaluating Health Information" category within the same dimension (32.22 ± 10.30). When examining other studies in the literature, similar findings are observed. For instance, in the research conducted by Arıkan (2020) and Gamsızkan and Sungur (2020) with university students, it was also found that the lowest average score was associated with the "evaluation of information" category. In the study by Uysal and Yıldız (2021), the health literacy level was found to be adequate, except for the "evaluation sub-dimension" in the treatment and services dimension.

The TSOY-32 index evaluations according to the department of the students participating in the research are presented. Upon examining the index evaluations, it was found that 28.5% of the students in the Health Institutions Management program had excellent health literacy levels, and that the health literacy levels of students differed according to the program they were studying. In the study conducted by Şahinöz and others (2018) with 344 students at a faculty of health sciences, it was also revealed that health literacy levels varied by department. However, in the study conducted by Okur and others (2021) with vocational school students, no significant difference was found between the academic program and health literacy levels. Similarly, in the research conducted by Yılmaz and Günel (2020) no significant difference was found between the students' health literacy and their departments.

In this study, no significant relationship was found between gender and health literacy levels. The findings of the studies conducted by Tatar (2020) and Ertaş and others (2019) also support the results of this research. However, some studies in the literature have found that female students have higher health literacy levels than male students (Akçilek, 2017; Arıkan, 2020; Çın et al., 2024; Ergün, 2017; Sukys et al., 2017;). On the other hand, some studies have stated that male students have higher health literacy levels than female students (Ateş et al., 2024; Lee et al., 2022).

It has been determined that health literacy levels do not differ according to age. Similarly, in Palabıyık's (2024) study with health sciences faculty students, no significant difference was found between age and health literacy levels.

The analysis revealed a significant difference in students' health literacy levels based on the location of their families; with students whose families live in city having higher health literacy levels than those whose families live in village. While Ergün's (2017) study supports these findings, Biçer and Malatyalı (2018) did not find a significant relationship between place of residence and health literacy.

In the studies by Palabıyık (2024) and Kazak et al. (2021), it was found that as the education level of parents increased, the health literacy levels of

students also increased. Similarly, this research also found that as the education level of both mothers and fathers of university students increased, their health literacy levels increased. Khajouei and Salehi (2017) reported a significant relationship between parental education level and health literacy. However, in the study by Tuğut et al. (2021), no significant relationship was found between the education level of mothers and fathers and health literacy.

The study found that students who accessed health information through health professionals had higher health literacy levels compared to students who accessed health information via the internet and social media. This highlights the importance of obtaining health information through a professional, as it ensures the accuracy of the information and its proper usage. Accessing health information from professionals can lead to more reliable and effective health literacy, as opposed to relying on potentially inaccurate or misleading sources like the internet and social media.

Soykan and Şengül (2021) and Cevik and Kayabek (2022) found that individuals with chronic diseases had higher health literacy index scores. However, in this study, it was determined that university students' health literacy levels did not differ based on whether they had chronic diseases. Similarly, Ateş and others (2024) found that university students with chronic diseases in their families had higher health literacy levels. This suggests that while chronic disease may influence health literacy in some populations, in this specific group of university students, chronic disease status did not have a significant impact on their health literacy levels.

In this study, it was found that participants who sought medical care when they experienced a health problem had a higher health literacy level than those who waited for recovery without doing anything or tried to understand the problem by typing symptoms on the internet. This suggests that students with higher health literacy are better able to assess their health condition and seek medical services from a health institution when needed.

Limitations and Strengths of the Study

The study was conducted only with one vocational school students and students who did not attend class during data collection could not be reached. The research results cannot be generalized to all university students. The main strengths of this study are reaching almost the entire sample and conducting the study with a reliable survey.

CONCLUSION

This study revealed that the health literacy level of vocational school students is generally inadequate and limited. It was also found that students' health literacy levels varied depending on where their families lived, their parents' level of education, their departments, where they accessed health-related information, and what they did first when they

experienced a health problem. While the health literacy levels of students whose families lived in the city were found to be higher, it was found that the health literacy levels of students increased as the level of education of their mothers and fathers increased. The health literacy levels of students who accessed health information from a health professional and students who applied to a health institution when they experienced a health problem were also found to be higher.

An individual's health literacy level directly affects their decisions when facing health problems, service demands, and the effectiveness of patient care, as well as the associated healthcare costs. More work is needed to increase students' knowledge about health literacy. Therefore, health literacy should be included in primary school, high school and university curricula and course content should be arranged accordingly. In addition, social awareness should be created to increase parents' knowledge levels about health literacy, especially in villages and districts. Education and seminars should be planned on where students can access accurate information about health and what to do first when they experience a health problem.

Since this study was conducted with a vocational school student sample, future studies with larger sample sizes are recommended.

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Conflict of Interest

The author declares no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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