

# HEALTH LITERACY LEVEL OF A PROVINCE AND FACTORS AFFECTING IT

## BİR İLİN SAĞLIK OKURYAZARLIK DÜZEYİ VE ONU ETKİLEYEN FAKTÖRLER

 Ahmet Timur<sup>1</sup>  Salih Metin<sup>1</sup>

<sup>1</sup>Bursa Provincial Health Directorate Public Hospitals Services Presidency, Bursa Turkey

### ABSTRACT

**Objective:** In this study, it was aimed to determine the level of health literacy and related factors in Bursa.

**Methods:** It was determined by the simple random sampling method from the population of the Family Physicians in Bursa and the 17 districts of Bursa were weighted according to their populations, and the districts where less than 50 questionnaires would be applied were excluded from the scope of the study. In June-July 2018, 2200 people were surveyed, 188 surveys were excluded from the research due to inadequacies in the data and a total of 2012 surveys were evaluated. Results: As a result of the logistic regression analysis of the factors age, education, health status, income level and reading habits were found to be associated with having sufficient health literacy level. Accordingly, adequate level of health literacy; in individuals aged 15-44, 1.25 times compared to individuals aged 45 and over, 1.36 times more than those with a high school or higher education, secondary school and below, 1.81 times more than those with good health and poor health, it was observed that it was 1.32 times higher in those with a good income level than those with a low income level and 1.45 times more in those with a habit of reading books than in those without a habit of reading.

**Conclusion:** In our health literacy study conducted in Bursa province, we showed the relationship between age, education status, income level, education level, reading habits and health literacy. Health literacy; a concept that has been put forward for the last twenty years for health service delivery, is known to be effective in a wide process ranging from cost-effective patient-physician satisfaction, where it can change the results of health service expectations. In order to protect the society without the need for rehabilitation without getting sick for a total welfare, screening and education activities should increasingly continue.

**Keywords:** health literacy, health education, public health, family medicine, health promotion

### ÖZET

**Amaç:** Bu çalışmada Bursa ilinde sağlık okuryazarlığı düzeyi ve ilişkili faktörlerin belirlenmesi amaçlanmıştır.

**Yöntem:** Bursa ili Aile Hekimleri popülasyonundan basit tesadüfi örnekleme yöntemi ile belirlenmiş ve Bursa'nın 17 ilçesi nüfuslarına göre ağırlıklandırılmış ve 50'den az anket uygulanacağı ilçeler kapsam dışı bırakılmıştır. Çalışmada Haziran-Temmuz 2018 döneminde 2200 kişiye anket yapılmış, 188 anket verilerdeki yetersizlik nedeniyle araştırma dışı bırakılmış ve toplam 2012 anket değerlendirilmiştir.

**Bulgular:** Yaş, eğitim, sağlık durumu, gelir düzeyi ve kitap okuma alışkanlığı faktörlerinin lojistik regresyon analizi sonucunda yeterli sağlık okuryazarlığı düzeyine sahip olma ile ilişkili olduğu bulunmuştur. Buna göre sağlık okuryazarlığının; 15-44 yaş arası bireylerde 45 yaş ve üzeri bireylere göre 1,25 kat, lise ve üzeri eğitim düzeyine sahiplerin, ortaokul ve altı eğitim düzeyine sahip bireylere göre 1,36 kat, sağlıklı olanlarda sağlıklı olmayan bireylere göre 1,81 kat, gelir düzeyi iyi olanlarda gelir düzeyi düşük olanlara göre 1,32 kat, kitap okuma alışkanlığı olanlarda olmayanlara göre 1,45 kat daha fazla olduğu belirlendi.

**Sonuç:** Bursa ilinde gerçekleştirdiğimiz sağlık okuryazarlığı çalışmamızda yaş, eğitim durumu, gelir düzeyi, eğitim düzeyi, okuma alışkanlığı ve sağlık okuryazarlığı ilişkisini ortaya koyduk. Sağlık okuryazarlığı; sağlık hizmeti sunumu için son yirmi yıldır ortaya atılan bir kavramın, sağlık hizmeti beklentilerinin sonuçlarını değiştirebileceği, maliyet-etkin hasta-hekim memnuniyetine kadar uzanan geniş bir süreçte etkili olduğu bilinmektedir. Toplumsal bir refah için hastalanmadan rehabilitasyona ihtiyaç duymadan toplumu korumak için tarama ve eğitim faaliyetleri artarak devam etmelidir.

**Anahtar Sözcükler:** sağlık okuryazarlığı, sağlık eğitimi, halk sağlığı, aile hekimliği, sağlığın teşviki ve geliştirilmesi

### INTRODUCTION

The acceleration of scientific and technological developments in our century has brought with it developments in the field of medicine as well as in the field of engineering and architecture. Having detailed knowledge in a field; Today, where specialization is respected, the medical discipline is divided into different specialties in many fields. The rapid increase in the branches of specialization has raised the questions of which of these services and at what level the society without medical knowledge will benefit. Even the search for answers to these questions paved the way for the birth of branches such as public health and family

medicine (1). Considering that people's expectations from health services are increasing and the expected life expectancy is getting longer, it is important to determine how the expectation of the society, which has health service expectation, from health services changes. It has been observed that the expenditures for health care services are lower in countries where the first contact to the health care service, where the referral chain is established, starts from the primary care level(1). "Health Literacy" (HL), which emerged as a concept that includes many factors such as the access to health of the society without medical knowledge, the expectation from health, the stage of the

**Corresponding author:** Salih Metin, Family Medicine Specialist, Bursa Provincial Health Directorate Public Hospitals Services Presidency, Bursa, Turkey.

**Telephone:** +905073593269

**E-mail:** slhmtm@hotmail.com

**ORCID:** <https://orcid.org/0000-0003-1582-7900>

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disease applied to the health institution, how much the physician understands the information about the disease, and compliance with the treatment given. WHO defined it as “the ability of an individual to access, understand and use health information for the protection and maintenance of health” (2).

Studies show that people with high general education levels also have high levels of health literacy, and individuals with low health literacy have lower health levels (3, 4). People with low health literacy get sick more often and receive more hospital treatment, and sufficient success is not achieved in the treatment of diseases (2-4). In order to improve health levels in our society, health literacy levels must be increased to higher levels.

At this stage, one of the first things to be done is to determine the health literacy level of the society and to determine the general factors affecting the health literacy level. In this study, it was aimed to determine the level of health literacy and related factors in Bursa.

## MATERIALS AND METHODS

The sample size for this cross-sectional study was calculated as 2015 people with the formula  $n = (Nt^2 pq) / (d^2 (N-1) + t^2 pq)$ . N: Population of individuals over the age of 15 living in Bursa (2,638,896 people, data were obtained from KDS). p: adequate health literacy level of 30%. d: 2% tolerance is taken. The individuals to be included in the study were selected randomly from the populations of the Family Physicians in Bursa using USES with the approval of the Bursa Public Health Presidency. It was determined by the sampling method, weighting was made for 17 districts of Bursa according to their populations, and the districts where less than 50 surveys would be applied were excluded from the scope of the study. In June-July 2018, 2200 people were surveyed, 188 surveys were excluded from the research due to inadequacies in the data, and a total of 2012 surveys were evaluated. A questionnaire consisting of 2 parts was used as a data collection tool in the study. The first part consists of socio-demographic variables, and the second part consists of the Turkish Health Literacy Scale-32 (TSOY-32).

The scale is the Turkish version of the European Health Literacy Scale developed by the European Health Literacy Research Consortium (HLS-EU CONSORTIUM, 2012) based on the conceptual framework. The scale was developed to evaluate the health literacy of individuals aged fifteen and over who are literate. Turkey Health Literacy Scale-32 (TSOY-32), T.R. It was prepared in 2016 in cooperation with the Ministry of Health, General Directorate of Health Promotion, Department of Health Promotion and Adnan Menderes University Faculty of

Medicine, Department of Public Health. The validity and reliability study of the scale was carried out by Okyay and Abacıgil (2016) (5). In the evaluation of the scale; The indices are standardized to be between 0 and 50. The following formula was used for this.

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

In this formula, the index refers to the index calculated specifically for the individual, and the average refers to the average of each item answered by a person. After this calculation, 0 indicates the lowest health literacy and 50 the highest health literacy.

The index obtained was classified into four categories. Health literacy according to the following scoring, (0-25) points: insufficient health literacy (>25-33): problematic – limited health literacy (>33-42): adequate health literacy (>42-50): defined as excellent health literacy

Descriptive data in the analyzes were given as percentile and mean  $\pm$  standard deviation (SD) or mean (95% Confidence Interval). Chi-square test was used to compare categorical data, and  $p < 0.05$  value was considered statistically significant. Logistic regression analysis was performed for the factors found significant in the pairwise comparison; gender, age, marital status, income status, education level, health status and reading habits were included in the model. The data were evaluated with the SPSS 20.0 program.

While performing the logistic regression analysis, the groups were included in the analysis as follows;

Inadequate health literacy and Problem-limited health literacy “Inadequate level of health literacy”; Adequate and Excellent health literacy groups are also grouped as “Adequate health literacy level”.

Participants were asked about their health status as bad, not bad, good, fairly good, and excellent. In comparison, 5-point Likert answers were evaluated as “bad” and “good”, “good” and “excellent” answers were evaluated as “good”. Income status was questioned as income less than expense, income equal to expense, and income more than expense, and during the comparisons, individuals whose income is more than their expenses and whose income is equal to their expenses are evaluated as “good income”, and individuals whose income is less than their expenses “income level is bad”.

When evaluating the habit of reading books, those who say that they never read a book are grouped as “no reading habit”, and those who answer that they read occasionally and often, are grouped as “have a habit of reading books”.

In order to determine the education level, the answers to the likert-type question asked from literate to university and above were grouped as “secondary school and below” and “high school and above”.

Age groups are grouped as “15-44 years” and “45 and over”.

Ethical approval was obtained for the study from the Clinical Research Ethics Committee of the University of Health Sciences Bursa Yüksek İhtisas Training and Research Hospital (2011-KAEK-25 2018/06-22).

## RESULTS

The average age of the 2012 people who participated in the research was  $39.62 \pm 14.02$ , 64.1% of them were female and 28.2% of them were high school graduates. 15.4% of the research group is young age group (15-24); The rate of those aged 25-64 is 78.3% and the rate of those aged 65 and over is 6.2%. 72.3% of the participants are married, 24.2% have primary school or below, 60.4% have high school or higher education. Housewives constitute 27.8% of the research group and workers constitute 19.2%. While 89.8% of the participants have health insurance, 64% of them have income equal to or more than their expenses. The socio-demographic characteristics of the participants are shown in Table 1.

31.1% of the individuals participating in the research reside in Osmangazi. The distribution of the participants according to the districts they reside in is shown in Table 2.

The general health literacy score was found to be 29.9 (95% CI: 29.6-30.3) in the evaluation made using the TSOY-32 Scale. While the overall score of the “treatment and service” dimension is higher than the overall score of the scale, the overall score of the “protection from diseases and health promotion” dimension is lower than the overall score of the scale. The dimension of “accessing health-related information” has the highest score, and the dimension of “evaluating information about health” has the lowest score (Table 3).

In general, 37% of the study group had a “sufficient or excellent level of health literacy”, while this situation was 46.3% in the “Treatment and service” dimension and 36.2% in the “protection from diseases and health promotion” dimension. For the same evaluation, the dimension of “Accessing information about health” has the highest rates and the dimension of “evaluating information about health” has the lowest rates (Table 4, Figure 1).

When the individuals participating in the research were examined according to the districts they resided in, it was seen that the district with the highest adequate level of health literacy was İnegöl with 47.0%, and the district with

the highest level of insufficient health literacy was Gürsu with 75.9%. The comparison of HL levels by districts is shown in Table 5.

Participants were asked to rank the three sources of information they found most reliable about health. The most reliable source was the health worker with 81.3%, the second most reliable source was radio/TV with 38.8%, and the written media was the third with 25.5%. While 22.8% of the participants stated that they never read a book, 57.1% stated that they read a book occasionally.

Adequate health literacy level was found to be 36.3% for women and 38.2% for men, and there was no statistically significant difference between the groups ( $p > 0.05$ ). Comparison of health literacy levels by gender is shown in Table 6. Among the individuals participating in the research, the ratio of married individuals with sufficient HL level was 34.0%, while this rate was 44.9% in single individuals ( $p < 0.05$ ). The relationship between the marital status of the participants and their HL levels is shown in Table 6. When the education levels of the participants were compared with the HL levels, the group with high school and higher education level had a sufficient level of SCI at the rate of 42.9%, while this rate was found as 27.9% in the individuals with secondary school and below education level. The difference is statistically significant ( $p < 0.05$ ). The comparison of education level and HL level is shown in Table 6. It was observed that as the frequency of reading books increased, the HL levels of the individuals also increased. Those who say they never read a book have an adequate level of SFL of 24.5%, while this rate is 37.1% for those who say they read occasionally, and 50.9% for those who say they read often. The difference between the groups was significant ( $p < 0.05$ ). The relationship between the frequency of reading books and the levels of HL of the participants is shown in Table 6.

When the health status data obtained according to the self-reports of the individuals and HL levels were compared (Table 6) it was found that 42.9% of those who said that their health status was good, those who had a sufficient level of HL, and 24.4% of those who said that they were bad. The difference is significant ( $p < 0.05$ ). While 41.1% of those declaring their income level is good, the rate of those with sufficient HL is 30.5%, the difference is significant ( $p < 0.05$ ). The relationship between income status and HL levels is shown in Table 6. When the ages of the individuals participating in the study were compared with their HL levels, it was seen that the rate of those with sufficient HL level in the group consisting of 45 and older people was 28.2%, and this rate was 41.6% in the 15-44 age group ( $p < 0.05$ ). The comparison of age groups and HL levels is shown in Table 6.

**Table 1:** Socio-demographic characteristics of the research group (n=2012)

	Number	Percentage
<b>Gender</b>		
Female	1289	64.1
Male	723	35.9
<b>Age groups</b>		
15-24	309	15.4
25-34	491	24.4
35-44	520	25.8
45-54	381	18.9
55-64	186	9.2
65+	125	6.2
<b>Marital status</b>		
Married	1455	72.3
Single	557	27.7
<b>Education status</b>		
Primary school and below	487	24.2
Middle School	309	15.4
High school	568	28.2
Vocational school	183	9.1
University	465	23.1
<b>Profession</b>		
Housewife	559	27.8
Employee	387	19.2
Officer	341	16.9
Retired	218	10.8
Student	159	7.9
Self-employment	129	6.4
Farmer	23	1.1
Other	124	6.2
<b>Social security</b>		
Social security institution	1661	82.6
Other	74	3.7
No	277	13.8
<b>Financial status</b>		
Income less than expenses	783	38.9
Income equal to expenses	1002	49.8
Income more than expenses	227	11.3

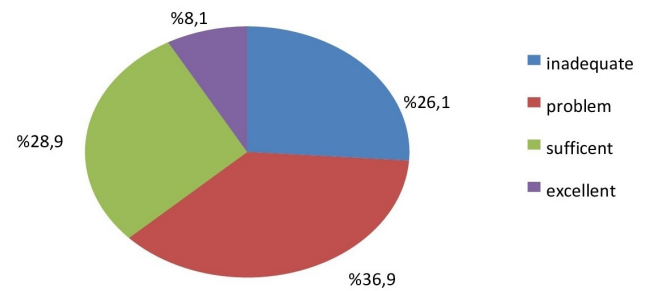


Figure-1: Health Literacy percentage distribution

**Table 2:** Districts of residence of the individuals participating in the study

Districts	Number	Percentage
Osmangazi	626	31.1
Yıldırım	496	24.7
Nilüfer	286	14.2
İnegöl	181	9.0
Gemlik	84	4.2
Mustafakemalpaşa	83	4.1
Orhangazi	69	3.4
Mudanya	67	3.3
Karacabey	66	3.3
Gürsu	54	2.7
<b>Total</b>	<b>2012</b>	<b>100.0</b>

As a result of the logistic regression analysis of the factors (gender, marital status, age, education, health status, income level and reading habits) that are thought to be related to having an adequate level of health literacy; age, education, health status, income level and reading habits were found to be associated with having sufficient health literacy level. Accordingly, adequate level of health

literacy; In individuals aged 15-44, 1.25 times compared to individuals aged 45 and over, 1.36 times more than those with high school and above education, secondary school and below, 1.81 times among those with good health and poor health, It was observed that it was 1.32 times higher in those with a good income level than those with a low income level, and 1.45 times more in those with a habit of reading books than in those without a habit of reading. The logistic regression analysis of the factors affecting the “Adequate Health Literacy Level” in the participants in the research group is shown in Table 7.

**Table 3.** Mean and 95% confidence interval values of the index scores of the matrix components

Dimension	Average Score	95% CI	
		Lower	Upper
General	29.9	29.6	30.3
Treatment and services	31.2	30.8	31.6
Access to information	32.7	32.2	33.2
Understanding information	31.4	31.0	31.8
Evaluating information	27.2	26.7	27.4
Using/applying knowledge	33.6	33.2	34.1
Disease prevention and health promotion	28.6	28.2	31.6
Access to information	30.1	29.6	30.6
Understanding information	30.2	29.7	30.7
Evaluating information	26.5	25.9	27.0
Using/applying knowledge	27.8	27.3	28.2
Access to health information	31.4	31.0	31.8
Understanding health-related information	30.8	30.4	31.2
Evaluating health-related information	26.8	26.4	27.3
Using/applying health-related knowledge	30.7	30.3	31.1

HL levels of 33% of the participants were found to be

**Table 4.** Frequency distribution of HL categories in matrix components

Dimension	Health Literacy Frequency							
	Inadequate		Problem		Sufficient		Excellent	
	n	%	n	%	n	%	n	%
<b>General</b>	525	26.1	743	36.9	581	28.9	163	8.1
Treatment and services	467	23.2	612	30.4	705	35.0	228	11.3
Access to information	524	26.0	209	10.4	958	47.6	321	16.0
Understanding information	586	29.1	269	13.4	904	44.9	253	12.6
Evaluating information	934	46.4	300	14.9	668	33.2	110	5.5
Using/applying knowledge	459	22.8	240	11.9	944	46.9	369	18.3
Disease prevention and health promotion	689	34.2	595	29.6	576	28.6	152	7.6
Access to information	661	32.9	296	14.7	852	42.3	203	10.1
Understanding information	667	33.2	291	14.5	849	42.2	205	10.2
Evaluating information	984	48.9	252	12.5	632	31.4	144	7.2
Using/applying knowledge	942	46.8	247	12.3	667	33.2	156	7.8
Access to health information	509	25.3	462	23.0	793	39.4	248	12.3
Understanding health-related information	538	26.7	516	25.6	752	37.4	206	10.2
Evaluating health-related information	919	45.7	441	21.9	560	27.8	92	4.6
Using/applying health-related knowledge	577	28.7	489	24.3	766	38.1	180	8.9



sufficient. As a result of the chi-square test, there was no significant difference in SFL levels between women and men, but it was observed that SFL levels increased as education level, health level, frequency of reading books and income level increased. According to the logistic regression analysis, adequate health literacy level; in individuals aged 15-44, 1.25 times compared to individuals

**Table 5.** Health literacy level by districts

Districts	Health literacy level			
	Insufficient		Sufficient	
	Number	Percentage	Number	Percentage
İnegöl	96	53.0	85	47.0
Karacabey	36	54.5	30	45.5
Yıldırım	279	56.2	217	43.8
Mustafakemalpaşa	47	56.6	36	43.4
Osmangazi	424	67.7	202	32.3
Gemlik	57	67.9	27	32.1
Orhangazi	47	68.1	22	31.9
Nilüfer	195	68.2	91	31.8
Mudanya	46	68.7	21	31.3
Gürsu	41	75.9	13	24.1

**Table 7.** Logistic regression analysis of the factors affecting the

"Adequate Health Literacy Level" in the participants in the research group

Factors	Odds Ratio	%95 CI	p value
<b>Gender</b>			
Female	1	0.89-1.32	0.397
Male	1.09		
<b>Marriial status</b>			
Married	1	0.97-1.49	0.81
Single	1.21		
<b>Age groups</b>			
45 age and over	1	1.09-1.56	0.042
15-44 age group	1.25		
<b>Education</b>			
Middle school and below	1	1.09-1.69	0.005
High school and over	1.36		
<b>Health status</b>			
Bad	1	1.45-2.26	0.001
Good	1.81		
<b>Financial status</b>			
Bad	1	1.08-1.61	0.005
Good	1.32		
<b>Habits of reading</b>			
No	1	1.12-1.88	0.004
Yes	1.45		

aged 45 and over, 1.36 times more than those with high school and above education, secondary school and below, 1.81 times among those with good health and poor health, it was observed that it was 1.32 times higher in those with a good income level than those with a low income level, and 1.45 times more in those with a habit of reading books than in those without a habit of reading. The rate of those with sufficient HL level was found to be higher among singles

than those who were married, but this difference was found to be insignificant in the logistic regression analysis. According to the districts of residence, it was determined that the people with sufficient HL level lived mostly in İnegöl with 47.0%, while those with insufficient HL level lived in Gürsu with a maximum of 75.9%.

**Table 6:** Health literacy levels by gender

	Health literacy level				Total		X <sup>2</sup> and p value
	Insufficient		Sufficient		n	%	
	n	%	n	%			
Male	447	61.8	276	38.2	723	100.0	X <sup>2</sup> =0.693
Female	821	63.7	468	36.3	1289	100.0	P=0.405
Married	961	66.0	494	34.0	1455	100.0	X <sup>2</sup> =20.654
Single	307	55.1	250	44.9	557	100.0	P=0.001
Middle school and below	574	72.1	222	27.9	796	100.0	X <sup>2</sup> =46.685
High school and above	694	57.1	522	42.9	1216	100.0	P=0.001
Never read a book	346	75.5	112	24.5	458	100.0	X <sup>2</sup> =64.341
Occasionally read a book	723	62.9	426	37.1	1149	100.0	P=0.001
Often read a book	199	49.1	206	50.9	405	100.0	
Health status good	781	57.1	587	42.9	1368	100.0	X <sup>2</sup> =64.548
Health status bad	487	75.6	157	24.4	644	100.0	P=0.001
Financial status good	724	58.9	505	41.1	1229	100.0	X <sup>2</sup> =22.915
Financial status bad	544	69.5	239	30.5	783	100.0	P=0.001
15-44 age groups	771	58.4	549	41.6	1320	100.0	X <sup>2</sup> =35.042
45 and over age	497	71.8	195	28.2	692	100.0	P=0.001

## DISCUSSION

Health literacy has an effective role in many steps of health service delivery, from the expectations of societies from health service delivery, the level of service they use to their compliance with diagnosis and treatment processes. In our study, adequate and excellent health literacy level was found to be 37% in Bursa. In a study on the determination of health literacy in Turkey, adequate and excellent health literacy level was reported as 35.4% (6). Again, in a study conducted on university students from our country, the level of adequate and excellent health literacy was reported as 42.4% (7). When the world literature is reviewed, it has been reported that health literacy is generally low, regardless of the level of development (8). In the study to measure the level of health literacy including eight European countries, the country with the lowest adequate and excellent health literacy was Bulgaria with 37.9%, Spain 41.7%, Austria 43.6%, Germany 53.7%, Greece 55.2%, Poland 55.4%, Ireland 60%, 71.4% The highest rate was reported in the Netherlands with (8). It is clear that we have to go a long way in terms of health literacy in Turkey.

In literature studies examining the relationship between health literacy and gender, it has been reported that women have significantly higher health literacy than men (9-11). This may be due to the fact that she interacts more with the health system and is more involved in health-related processes due to the expectation of the woman to care for the sick family members (9). In our literature review, there are also studies showing that gender is not related to health literacy (5, 7, 12). As such, more studies are needed in

larger universes on how effective gender is.

The marital status and health literacy relationship was found to be statistically significant in married individuals in our study. When we look at the world literature examining the relationship between marital status and health literacy, a similar relationship has been reported before (13-15). In this way, our study is similar to the literature. Frequent contact with health on behalf of the burden of being married and the possible diseases of children can be a factor in this regard.

In our study of the relationship between age groups and health literacy, a statistically significant relationship was found between individuals between the ages of 15-44 and those aged 45 years and above. The relationship between age and health literacy, which has been investigated many times in the literature, is an established knowledge that health literacy is high at young ages (14-16). In this way, our study is similar to the literature. The young generation's new name, Z generation, adapting to the internet age quickly, being more curious, doing more research and questioning more may be a factor in this. Contrary to the criticisms about the Z generation, it is pleasing for our country and the world that the high level of health literacy in this group has awakened the prediction that health service delivery can be improved even more.

In our study, we found the relationship between educational status and health literacy to be statistically significant. Although it is logically significant that the health literacy is higher in those with higher education compared to those with lower education, it has been confirmed many times in the literature (13, 14, 17). In today's world, where the reflection of the development in one country to other countries is very rapid, the education curriculum is updated according to the reality of our time, and teaching the importance of adapting to the changing world, asking, questioning and searching for answers can explain the effect of education on the lineage.

The relationship between health status and health literacy was found to be significant in our study. In this way, our study is similar to the literature (14). Although the person's health changes with genetic and environmental factors, it is affected by many variables. All of the processes such as eating healthy, taking care of one's health, feeling physically and mentally healthy, and staying away from things that will impair one's health, interpreting health-related problems in one's own way may all be factors in the relationship between a person's health and a high level of health literacy.

The relationship between financial status and health literacy was found to be significant in our study. Our study is compatible with national and world literature (17, 18). The increase in the financial status may be due to the synergistic combination of many co-effects such as being able to continue the education related to the purchasing power in more elite schools, obtaining materials with financial burdens such as books and magazines more easily, allocating time to health promotion processes because there is no financial concern, rather than the effect it has alone is also likely to originate.

The relationship between reading habits and health literacy was found to be statistically significant in our study. Although few studies have been done in the literature, similar findings have been reported in our study (19, 20). Since the habit of reading books is generally related to the desire to learn and the desire to research, apart from reading adventure or romance novels, the desire to read, learn and research in daily life may also form the basis of health-related teachings and may be related to the high level of health literacy.

As a limitation of our study, we can only determine the province of Bursa as the universe.

## CONCLUSION

In our health literacy study conducted in Bursa province, we showed the relationship between age, education status, income level, education level, reading habit and health literacy. HL, a concept that has been put forward for the last twenty years for health service delivery, is known to be effective in a wide process ranging from cost-effective patient-physician satisfaction, where it can change the results of health service expectations. We think that the increase in our knowledge in health-related processes will contribute to all our searches in today's world where going beyond the established stereotypes and questioning increases the importance of research. Therefore, it is very important for our world to use the limited resources of national and global development in the most appropriate way by considering our unlimited needs. Protective, therapeutic and rehabilitative processes, which are the basic presentation of health, are perhaps the most cost-effective and most effective preventive health services. Here, primary care physicians have a lot of work to do. We have the power to determine the expectations of the society from health. In order to protect the society without the need for rehabilitation without getting sick for a total welfare, screening and education activities should increasingly continue.

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#### Authorship Contributions:

Idea/Concept: SM, AT, Design: SM, AT, Supervision: SM, Data Collection or Processing: AT, Analysis or Interpretation: AT, Literature Search: SM, AT, Writing: SM, Critical Review: SM, AT, References And Fundings: -, Materials: SM, AT.

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