Investigation of the Relationship between Health Literacy Levels and Health Perceptions of Primary School Teachers

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Abstract

Background: Teachers have a unifying function between school-age children and the health system, education system and health issues. For this reason, teachers' HL levels and their perception of health are important for themselves and the students they bring into the society owing to their field of study.
Objectives: This descriptive study was conducted to determine the relationship between primary school teachers' health literacy levels and their health perception.
Methodology: The sample consisted of 619 primary school teachers. The study was carried out between February 18, 2021 and March 15, 2021 with teachers working in a provincial centre in Turkey. An Introductory Information Form, HL Scale and Health Perception Scale were used to collect data. For data analysis, t-test, variance analysis and Pearson's correlation analysis were used. Ethics committee permission was obtained for data collection.
Results: In the study, the total mean score of the teachers' health literacy scale was 108.20 ± 12.36, and the total mean score of their health perception scale was 54.01 ± 7.26. A moderately significant positive correlation was found between the health literacy scale mean score and the health perception scale mean score of the teachers ($r = 0.431$, $p = 0.000$).
Conclusions: It is recommended to extend the studies on health literacy levels and health perceptions of teachers and provide training that is in line with the results obtained.

Key Words: Health literacy, health perception, primary school teachers.

Introduction

Teachers' health literacy (HL) is defined as 'the capacity of teachers to obtain, interpret and understand basic health knowledge and services, and their authority to use such knowledge and services in a way that improves the learning of health concepts and skills of school students'. (Dost & Uner, 2020; Lamanauskas, 2018). HL, which is the ability to access, understand and apply information that helps to protect and improve health, strengthens the participation of the society in health services and is a must-have trait to reduce the cost and increase the efficiency of health services

(Bohlman et al. 2004). At the same time, individuals' perception of their health is very important in protecting and improving health. Health perception affects health behaviours and health responsibility. Studies on HL among teachers are limited. Researchers have found that teachers' HL is quite low (Deniz et al., 2020; Lamanauskas & Armoniene, 2012; Yilmazel & Cetinkaya, 2016). Studies are not available on the perception of health among teachers. In the studies conducted so far, researchers stated that there is a relationship between HL level and perception of health (Cimen & Temel, 2017; Deniz et al., 2020; Toci et al., 2013) and that as

individuals' perception level of health decreases, their level of HL also decreases (Cimen & Temel, 2017). Teachers have a unifying function between school-age children and the health system, education system and health issues. Therefore, their HL and health adequacy are the main components that ensure health education at school. Taking planned measures and initiatives to protect and improve child and adolescent health is of great importance in laying the foundation for a healthy society in the future. For this reason, teachers' HL levels (Dost & Üner, 2020) and their perception of health are important for themselves and the students they bring into the society owing to their field of study.

This study was performed to determine the relationship between the HL levels and health perception of primary school teachers.

Research Questions: 1. Is there a relationship between primary school teachers' HL levels and their perception of health?

Methodology

Type of Study: This is a descriptive study.

Place and Time of Study: The study was carried out between February 18, 2021 and March 15, 2021 with teachers working in a provincial centre in Turkey.

Study Sample: The universe of the study consisted of 3380 teachers. As a result of sample size calculation from known population, the minimum number of teachers was calculated to be 346. A total of 619 primary school teachers who agreed to participate in the study constituted the sample of the study.

Data Collection Tools: An Introductory Information Form, HL Scale and Health Perception Scale were used to collect data.

Introductory Information Form: The form, which was created by the researchers by reviewing the literature, consists of 15 questions on socio-demographic characteristics, habits, and health behaviours.

Health Literacy Survey (HLS): The 47-item HLS-EU (Health Literacy Survey in Europe) questionnaire developed by Sorensen was later simplified and validated by Toçi, Bruzari and Sorensen (Sorensen et al., 2012; Toçi et al., 2013). The validity and reliability study in our country was conducted by Aras and Bayik-Temel in 2015. The lowest score that can be obtained is 25 and the

highest score is 125 points. The scale is a 5-point Likert type scale. All items of the scale are positively worded and there are no reverse worded items. Low scores indicate that the HL status is inadequate and problematic, while high scores indicate sufficient and excellent. The higher the score obtained, the higher the HL level of the individual. The item–total score correlation values of the scale are between 20 and 72 (p=0.01). The Cronbach's alpha value is 92, and the alpha values of the subscales are between 62 and 79 (Toçi et al., 2013). The Chronbach's alpha value of the scale in this study is 0.92.

Perception of Health Scale (PHS): The scale was developed in 2007 by Diamond et al., and its validity and reliability study was performed by Kadioglu and Yildiz (2012) for our country (Diamond et al., 2007; Kadioglu & Yildiz, 2012). It is a 5-point Likert-type scale consisting of 15 items. The scale has four sub-dimensions:centre of control, self-awareness, certainty, importance of health (Kadioglu & Yildiz, 2012). A minimum of 15 points and a maximum of 75 points can be obtained from the scale. In this study, the Chronbach's alpha value of the scale is 0.75.

Data Collection: The study data were collected by sharing an online questionnaire link. After the data collection tools of the research were prepared through Google Forms and the teachers were informed by the researchers, they were shared over the teachers' social media groups. The confidentiality of the teachers' responses was ensured, and they were only viewed on Google Forms via e-mail defined in the name of the researchers.

Data Analysis: The (SPSS) 22.00 package software was used to evaluate the data. In this study, number, percentage, and mean values were used in descriptive statistics. Shapiro–Wilk test was performed to analyse if the data followed normal distribution. Among the parametric tests, t-test and one-way analysis of variance were used to compare the groups with normal distribution. Pearson's correlation analysis was performed to analyse the relationship between the mean scores on the HL scale and those on PHS.

Ethical Considerations: To conduct the study, permission was obtained from the Clinical Research Ethics Committee (Date: 04.01.2021, No: 21/01/25), relevant institutions and individuals participating in the study.

Results

In this study, it was determined that 55.7% of the teachers were in the age group of 22–30 years; 60.3% were women, 57% were married, 90.1% had a bachelor's degree, 71.7% had a moderate-income level and 43.8% had children (Table 1). It was determined that 9.4% of the teachers who participated in the study had chronic disease, 25.2% smoked, 7.3% used alcohol, 24.4% exercised, 62.4% had a proper diet, 62.4% slept regularly, 77.2% had visited a health institution in the last year and 55.7% accessed information about health via the Internet (Table 2).

In the study, the total mean score of the teachers on the HL scale was 108.20 ± 12.36, and the total mean score on the PHS was 54.01 ± 7.26 (Table 3). For the teachers who participated in the study, no significant difference was found between the total mean scores on the HL Scale and the PHS in terms of age, sex, marital status, educational status, income status, having a child, presence of chronic illness, smoking status, alcohol use status, exercise status and having a proper diet status (Table 4).

A moderately significant positive correlation was found between the HL scale mean score and the PHS mean score of the teachers (r=0.431, p=0.000).

Table 1. Distribution of the teachers' demographic characteristics (n = 619)

Characteristics	n	%
Age (32.27 +7.92)		
22-30	345	55.7
31-63	274	44.3
Gender		
Female	373	60.3
Male	246	39.7
Marital Status		
Married	353	57.0
Single	266	43.0
Education Status		
Licence	558	90.1
Master's	61	9.9
Income Status		
Good	126	20.4
Middle	444	71.7
Bad	49	7.9
Having a Child		
Yes	271	43.8
No	348	56.2

Table 2. Distribution of the characteristics of the teachers (n = 619)

Characteristics	n	%
Chronic Disease Presence		
Yes	58	9.4
No	561	90.6
Smoking Status		
Yes	156	25.2
No	463	74.8
Alcohol Use		
Yes	45	7.3
No	574	92.7
Exercise Status		
Yes	151	24.4
No	574	92.7
Regular Nutrition Status		
Yes	386	62.4
No	233	37.6
Regular Sleeping Status		
Yes	386	62.4
No	233	37.6
The Status of Going to a Healthcare Institution in the Last Year		
Yes	478	77.2
No	141	22.8
Health Personnel Among Family Members		
Yes	179	28.9
No	440	71.1
Where to get Health Information		
Internet	345	55.7
Health Personnel	274	44.3

Table 3. Teachers' health literacy scale and perception of health scale mean scores

Scales	Min	Max	X̄	SD
Access to Information	14	25	22.00	2.88
Understanding Information	16	35	30.42	3.73
Appraisal / Evaluation	16	40	34.83	4.60
Application / Use	9	25	20.80	3.39
Health Literacy Scale Mean Scores	66	125	108.20	12.39
Center of control	5	25	18.12	3.60
Certainly	4	20	12.81	3.29
Importance of health	4	15	11.76	1.93
Self-awareness	4	15	11.31	2.09
Perception of Health Scale Mean Scores	30	75	54.01	7.26

Table 4. Comparison of the health literacy scale and perception of health scale mean scores according to the characteristics of the teachers

Characteristics		Health Literacy Scale Mean Scores	Perception of Health Scale Mean Scores
		X̄ ± SD	X̄ ± SD
Age	22-30	108,13 ± 12.58	53.85 ± 7.28
	31-63	108.29 ± 12.17	54.21 ± 7.24
		t:-.156 p=.876	t:-.608 p=.544
Gender	Female	108.27 ± 12.55	43.85 ± 5.19
	Male	108.10 ± 12.16	44.10 ± 5.53
		t: .174 p=.862	t: .440 p=.660
Marital Status	Married	107.98 ± 12.00	54.35 ± 7.34
	Single	108.51 ± 12.90	53.57 ± 7.13
		t:-527 p=.598	t:1.323 p=.186
Education	License	108.47 ± 12.43	53.94 ± 7.30
	Master's	105.73 ± 11.82	54.63 ± 6.88
		t: .632 p=.101	t:-.706 p=.481
Income status	Good	108.68 ± 12.40	53.69 ± 6.30
	Mıddle	107.79 ± 12.41	54.12 ± 7.63
	Bad	110.77 ± 12.09	53.85 ± 6.05
		F:1.397 p=.248	F: .181 =.835

Having a Child	Yes	108.25 ± 12.22	54.36 ± 7.39
	No	108.16 ± 12.54	53.74 ± 7.15
		t: .088 p=.930	t:1.044 p=.297
Chronic Disease Presence	Yes	110.29 ± 11.46	54.91 ± 6.84
	No	107.99 ± 12.47	53.92 ± 7.30
		t:1.346 p=.179	t: .989 p=.323
Smoking Status	Yes	109.27 ± 10.80	54.52 ± 6.45
	No	107.84 ± 12.87	53.84 ± 7.51
		t:1.356 p=.214	t:1.092 p=.275
Alcohol Use	Yes	106.35 ± 11.72	54.06 ± 7.25
	No	108.35 ± 12.44	54.01 ± 7.26
		t: .984 p=.298	t: .048 p=.961
Exercise Status	Yes	109.23 ± 12.44	54.12 ± 6.66
	No	107.87 ± 12.37	53.98 ± 7.54
		t:1.167 p=.244	t: .213 p=.831
Regular Nutrition Status	Yes	108.39 ± 12.26	54.17 ± 7.28
	No	107.89 ± 12.63	53.74 ± 7.23
		t: .492 p=.623	t: .717 p=.474

Discussion

In this subject, there are only limited studies involving teachers. In addition, different HL scales were used in those studies. Therefore, the results of the present study were discussed based on the findings of studies conducted in different sample groups and using different HL scales. In this study, the HL level of teachers was 108.20 ± 12.36 In a study conducted with elderly individuals, the HL levels were found to be 87.96 ± 13.89 (Cimen & Temel, 2017). In a study using different HL scales, the general HL level of teachers was found to be 33.36 ± 8.44 (Deniz et al., 2020). In a study performed with primary school teachers, the researchers found that only a very small proportion of the teachers (26.2%) had sufficient levels of HL (Deniz et al., 2020). In a Lithuanian study, it was determined that the teachers' HLwas quite low (Lamanauskas & Armoniene, 2012). Considering that the maximum mean score of the HL scale used in this study is 125, it can be said that the HL level of the participating teachers is at a good level. It is thought that this result was influenced by the awareness-raising in-service trainings, public service advertisements and international informative news aimed at protecting and improving health in the wake of the coronavirus disease - 2019 pandemic. The health perception level of the teachers participating in the present study was 54.01 ± 7.26. In a study involving adults, the researchers reported that the individuals' perception of health was 40.50 ± 7.73 (Dursun et al., 2019). In a study among factory workers, the researchers found that the mean score of the employees' perception of health was 39.84 ± 8.29 (Kolac et al., 2018). Considering that the maximum score that can be obtained from the scale is 75, it is seen that the teachers' perception of health is not at the desired level in this study. The fact that the health perception of a group with a high level of education is not at the desired level indicates the need to provide more health-related information. In addition, problems due to the pandemic may have negatively affected the health of the teachers.

In this study, it was observed that age, sex, education level and income level of the teachers did not affect their level of HL. In previously conducted studies, the researchers found that age, sex, education level and economic situation affected the level of HL (Ugurlu & Akgun, 2019). Similar to this study,

Deniz et al. noted that age and sex did not affect the level of HL among the teachers. In another study involving teachers, the researchers observed that those with a high level of education had higher levels of HL (Yilmazel & Cetinkaya 2015). In this study, the decrease in the level of HL with the increase in the education level could be attributed to the low number of individuals with higher education. In this study, it was determined that male teachers had a higher level of HL than female teachers. Some studies in the literature have also suggested that men had higher HL than women (Almaleh et al., 2017), while other found that women had a higher level of HL than men (Cimen & Temel, 2017). The result obtained from the present study suggests that male teachers attach more importance to their health. In this study, the HL level of teachers with chronic illnesses was found to be higher than those without chronic illnesses. On the other hand, in a study conducted with teachers, the researchers found a higher rate of adequate HL in individuals without chronic disease, but this difference was not significant (Yilmazel & Cetinkaya 2016). In this study, it is an expected result that individuals with chronic diseases had a high level of HL. It was this study that smoking, and alcohol use did not affect the HL level of the teachers. Similar to this study, Yilmazel and Cetinkaya (2015) did not find any difference in the level of HL among the teachers in terms of smoking and alcohol use. In the study conducted by Dolye et al., (2012) while there was a negative correlation between smoking and HL level, no relationship was found in terms of alcohol use. Nonetheless, there are also studies in which alcohol use and smoking were found to be associated with low HL (Jayasinghe et al., 2016; Liu et al., 2015). In this study, it was determined that the teachers' sex, marital status, educational status, presence of chronic illness, smoking status and alcohol use did not affect their perception of health. In a study involving factory workers, the researchers reported that sex, marital status, chronic disease, and smoking status did not affect the perception of health, while education and alcohol use had an impact (Kolac et al., 2018). In a study concerning the elderly, the investigators found that sex affected the perception of health, and that marital status did not have an impact (Altay et al., 2016). It is an expected result that the health perceptions of teachers who exercise and have a proper diet are higher than those who neither

exercise nor eat properly. In this study, a moderately significant positive correlation was found between the teachers' HL and their perception of health. In study employing different HL scale, a relationship exists between HL and perception of health has been reported (Cimen & Temel, 2017). Considering that HL and perception of health are two important components of the individuals' health education, the determined relationship is an expected result. Hence, it is extremely important to increase the HL and perception of health among the teachers who play an important role in the society.

Conclusion and Recommendations: Based on the findings of this study, it could be inferred that the teachers' HL levels are close to the desired level, while their perception of health is not at the desired level. It is recommended to conduct multidisciplinary studies at national level to determine the teachers' HL and perception of health.In addition, a positive and moderately significant relationship was found between the level of HL and perception of health. Therefore, it is necessary to carry out interventional nursing studies that will increase both HL and health perception levels of the teachers. In addition, within the scope of school health nursing, it is important to organize continuing education programs on health literacy for children, their families, teachers, and other school personnel for a healthy society in schools.

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