ARAŞTIRMA MAKALESİ/ORIGINAL ARTICLE

Kocaeli Medical J 2017;6;3:1-6

Sağlık Yüksekokulu Öğrencilerinde Sağlık Okuryazarlığı

Health Literacy in School of Health Students

Sibel Ergün

Balıkesir Üniversitesi, Sağlık Yüksekokulu, Hemşirelik Bölümü, Balıkesir, Türkiye

ÖZ

GİRİŞ ve AMAÇ: *Sağlık okuryazarlığı (SOY), kişilerin bilinçli sağlık kararları vermek için gerekli sağlık bilgi ve hizmetlerini anlama, edinme ve işleme kapasitesinin derecesidir. Araştırma Sağlık Yüksekokulu öğrencilerinin sağlık okuryazarlığı düzeyini ve etkileyen faktörleri belirlemek amacıyla yapıldı.*

YÖNTEM ve GEREÇLER: *Tanımlayıcı tipte planlanan araştırmanın evrenini, Balıkesir Üniversitesi Balıkesir Sağlık Yüksekokulu 2016-2017 yılında hemşirelik ve ebelik bölümünde eğitim gören 1058 öğrenci oluşturdu. Örneklemi ise araştırmaya katılmayı kabul eden 718 öğrenci oluşturdu. Veriler, sosyodemografik form ve sağlıklı yaşam biçimi davranışları ölçeği uygulanarak toplandı. Verilerin değerlendirmesinde frekans, yüzde, ki-kare testi, t testi ve tek yönlü varyans analizi (ANOVA) ve Benferoni testi kullanıldı.*

BULGULAR: *Araştırmada öğrencilerin TSOY-32 ölçeğinin genel puan ortalaması 26.48±16.54 olarak belirlendi. Kız öğrencilerin, ebelik bölümünde eğitimine devam edenlerin, 4. Sınıfların TSOY-32 ölçeği toplam puanlarının fazla olduğu saptandı (p<0.01). Araştırmada öğrencilerin sağlık okuryazarlık düzeyi "sorunlu – sınırlı sağlık okuryazarlığı" olarak belirlendi.*

TARTIŞMA ve SONUÇ: *Sonuç olarak, bu araştırmada öğrencilerin sağlık okuryazarlık düzeyi "sorunlu–sınırlı sağlık okuryazarlığı" olarak bulundu. Öğrencilerin sağlık okuryazarlığını kavrama ve günlük hayatta uygulanım çabalarının desteklenmesi önerilmektedir.*

Anahtar Kelimeler: *Sağlık okuryazarlığı; sağlık okuryazarlık düzeyi; sağlık yüksekokulu; öğrenci*

ABSTRACT

INTRODUCTION: *Health Literacy (HL) is the degree to which individuals have the capacity to obtain, process, and understand the basic health information and services needed to make informed health decisions.This study aimed to find out the level of health literacy, and factors effecting health literacy among students at the School of Health in Balıkesir University.*

METHODS: *The research was a descriptive study. The universe of the study comprised 1058 nursing and midwifery students studying at the School of Health in Balıkesir University 2016-2017 academic year. The sample consisted of 718 students who accepted to participate in the study. Data was collected by applying the socio-demographic form and healthy life behaviour scale. Frequency, percentage, chi-square, t test and one-way ANOVA and Bonferroni test were used to analyse the results.*

RESULTS: *Mean score of TSOY-32 scale of the students was found as 26.48±16.54. Female students, midwifery students and fourth year students had higher TSOY-32 total points (p<0.01). It was found that the students had "problematic-limited health literacy level".*

DISCUSSION and CONCLUSION: *It was shown that students had "problematic-limited health literacy level". Students should be encouraged to understand the health literacy and practice it their daily life.*

Keywords: *Health literacy, health literacy level; school of health; student*

İletişim / Correspondence:

Dr. Sibel Ergün
Balıkesir Üniversitesi, Sağlık Yüksekokulu, Hemşirelik Bölümü, Balıkesir, Türkiye
E-mail: sibel.ergun@balikesir.edu.tr
Başvuru Tarihi: 09.07.2017
Kabul Tarihi: 27.09.2017

INTRODUCTION

The concept of health literacy was defined about 40 years ago in the context of health education, but it has been used in America and Europe since the 1990s (1-3). According to the World Health Organization (WHO), health literacy is defined as "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health" (4-8). Recently, the European Consortium on Health Literacy Score (HLS) gave a more comprehensive definition of health literacy. They suggested four key factors for health literacy: the ability to access, understand, appraise, and apply health information in order to make decisions in everyday life in the three main areas of disease prevention, healthcare, and health promotion (4,9,10).

Many studies on health literacy indicate that if health literacy is inadequate, there are some problems with effective use of health services by individuals. It is also indicated that inadequate health literacy results in an unhealthy life, low productivity at the social level, increased morbidity and mortality rate, and cost increasing cost of health services (8,11,12).

When we look at the level of health literacy in the world, 50% of adult individuals in USA have no basic health literacy (13-15). According to health literacy research (2012) carried out across eight European Union Countries (Greece, Austria, Ireland, Spain, the Netherlands, Germany, Bulgaria and Poland), it was found that individuals had inadequate health literacy scores ranging from 2% to 27% (16). In a study conducted by Durusu Tanrıöver et al. (2014), Turkey's overall health literacy index was found to be 30.4 (17).

Technological improvements have made changes in providing of modern health services. These changes necessitate that individuals should get knowledge about their own health and illnesses, and take part in and take responsibility in the decision-making process. Giving responsibilities to those who do not have sufficient knowledge about health literacy can threaten patient safety and health system sustainability. For this reason, while evaluating the participation of people in health system and the ability to take responsibility about their health it is necessary to determine the level of health literacy (17). Since students having education in a health school are expected to serve as a member of the health team in coming years it is important to determine their level of health literacy. In this context, this study was carried out to determine the level of health literacy of health school students and factors that affects the level of health literacy.

METHODS

This study was a descriptive and cross-sectional study. The study was applied to nursing and midwifery students among Balıkesir University School of Health from November to December 2016. The universe of this study consists of 1058 students in Nursing (n=753) and Midwifery (n=305) departments. It has been tried to reach the whole of the universe without selecting the sample. However, students who did not agree to answer the questionnaire and did not attend the school although they were enrolled were not included in the sample. Incorrectly filled out questionnaires were not counted. As a result, total of 718 questionnaires were included to analyse. Before conducting the questionnaire, the students were informed about the study. Then the questionnaire was applied to the students who were agree to participate in the survey. Data were collected by socio-demographic form and Turkey Health Literacy Scale-32 (TSOY-32).

Socio-demographic form

The socio-demographic data form was developed by the researcher by literature rewiev. This form comprised 22 questions related personal information of the students (age, sex, department, class, income level etc.).

Turkey Health Literacy Scale-32 (TSOY-32).

Turkey Health Literacy Scale is a 32-item self-report scale developed to assess the health literacy of literate people over fifteen years old. The scale is based on the conceptual framework developed by the European Health Literacy Consortium (HLS-EU CONSORTIUM, 2012). In the reliability and validity study carried out by Okyay et al. (2016), general internal consistency coefficient was defined as 0.927 (Okyay &Abacıgil, 2016). In this study,

general internal consistency coefficient was defined as 0.982. Each item on the scale is rated as 1 = Very easy, 2 = Easy, 3 = Difficult, 4 = Very difficult. Code 5 was used for the expression "I have no idea". The codes are re-coded again as 1-4, 4-1 before calculating points. The general health literacy index was standardized to unified metrics from 0 to 50 using the formula Index=(mean-1)*(50/3), where Index is the specific index calculated. Mean was the mean of all participating items for each individual; 1 was the minimal possible value of the mean (leading to a minimum value of the index of 0), 3 was the range of the mean, and 50 was the chosen maximum value of the new metric. Thus, an index value was obtained where 0 represented the lowest HL and 50 the highest HL.

According to the score, health literacy level is evaluated as insufficient health literacy (0-25 points); problematic - limited health literacy (>25-33 points); sufficient health literacy (>33-42 points) and excellent health literacy (>42-50 points).

Prior to data analysis, a data dictionary was created, the purpose of which was to describe and code data in numerical form for easy access to information. Data were entered using the SPSS version 22 (IBM. 2014). Descriptive statistics including means, frequencies, and percentages were used to describe the demographics.

Chi-square test, t-test and one-way analysis of variance (ANOVA) were used to analyze data. The Bonferroni test which is one of the multiple comparison tests was applied to determine from which group the difference derived. Averages were given with standard deviation (mean ± SD), and p <0.01 was considered statistically significant.

The official permission was received from the administration of Balıkesir Health School where the study was being conducted. Oral consent was received from students by explaning the study content. Written permission for the use of the scale was obtained from the researcher who developed the scale. There is no conflict of interest between the researcher and participants.

RESULTS

80.3% of participants were female and 78.3% were in 17-21 ages group (mean age = 19.33 ± 1.85 (min = 17, max = 25). 67.3% of the students were in the nursing department, and 31.3% of them were their second year study. It was determined that 21.2% of the students' family made up of 5 people, and 53.3% of them had been lived in a city for a long time. 60.6% of students indicated that their income were equal to expense. It was found that 83.6% of the students had no chronic disease (Table 1). Overall mean score of TSOY-32 scale was found to be 26.48 ± 16.54.

Table 1. Comparison of Individual Characteristics of Students and Health Litercay Score Averages (n= 718)

Gender	number	%	X±ss	t/F ve p value
Female	579	80.6	29.0±14.5	t=8.919 p<0.001
Male	139	19.4	15.8±19.9	
Age Groups				
17-19	562	78.3	24.9±17.4	F=11.759 p<0.001
20-22	138	19.2	31.7±11.3	
23-25	18	2.5	34.4±8.2	
Department				
Nursing	483	67.3	22.0±17.5	t=-11.094 p<0.001
Midwifery	235	32.7	35.5±9.1	
Grade				
First year	175	24.4	17.2±16.6	F=41.725 p<0.001
Second year	225	31.3	26.6±19.0	
Third year	121	16.9	25.7±13.6	
Fourth year	197	27.4	34.9±8.8	
Number of indisvual at home				
3	44	6.1	34.1±11.4	F=31.377 p<0.001
4	349	48.6	24.6±15.9	
5	152	21.2	33.6±10.3	
6	74	10.3	32.5±8.1	
7 and over	99	13.8	14.1±22.9	
Income Level				
Less income	216	30.1	24.1±19.2	F=7.630 p<0.001
Balanced income	435	60.6	26.6±15.3	
Low income	67	9.3	33.0±11.9	
Living Place				
Village	131	18.2	21.3±22.7	F=10.962 p<0.001
Mall town	204	28.4	25.8±11.8	
City	383	53.3	26.4±15.7	
Chronic Disease				t=-3.937 p=.003
Yes	118	16.4	21.0±23.8	
No	600	83.6	27.5±14.4	

TSOY-32 scale total distribution points was analyzed according to sociodemographic characteristics of students. It was found that female students, and those who were 23-25 years old, continuing education in the midwifery, at the 4th grade, living at home with three people, those who had higher incomes, and who lived in the city and had no chronic diseases had high total scores. This score was statistically significant ($p<0.01$). Bonferroni test results of variables; age group, class level, number of individuals at home, perception of income level were analyzed. According to analysis, the difference between age group 23-24 and 17-19 was 9.51. p:.045; the difference between third and first level of study was 17.74. p:.000; the difference between living at home 3 people and 7 and over was 20.02. p:.000; the difference between the situation of over income and less income was 8.93. p:.000; the difference between urban and rural was 5.15. p: .006.

We found that 25.9% of students had the level of inadequate health literacy, 34.0% of the students had the level of problematic-limited health literacy, 27.0% had sufficient health literacy level and 13.1% had excellent health literacy level (Graph 1).

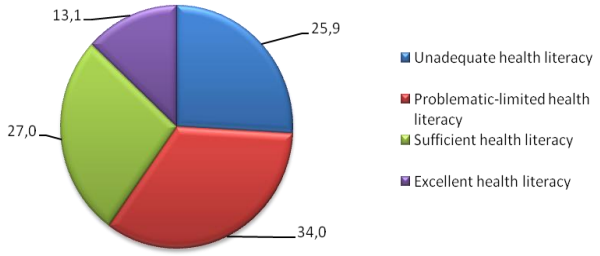

Figure 1. Comparison of Individual Characteristics of Students and Health Litercay Score Averages (n= 718).

29.6 of female students had insufficient health literacy level; 29.6, problematic-limited health literacy level; 31.3%, sufficient health literacy level; and 14.9%, excellent health literacy level. 21.6% of male students had insufficient health literacy level; 63.3%, problematic - limited health literacy level; 6.7%, sufficient health literacy level, and 5.8%, excellent health literacy level. Those differences are statistically significant ($p<0.001$) (Table 2).

Table 2: Health Literacy Score Distribution According to Gender

	Health Literacy Level				
Gender	Unadequate Health Literacy	Problematic Limited Health Literacy	Sufficent Health Literacy	Excellent Health Literacy	Total
	S - %	S - %	S - %	S - %	S - %
Female	156 - 26.9	156 - 26.9	181 31.3	86 - 14.9	579 - 80.6
Male	30 - 1.6	88 - 63.3	13 - 6.7	8 - 5.8	139 19.4
Total	186 - 5.9	244 - 34.0	194 - 27.0	94 - 13.1	718- 100.0

DISCUSSION

Mean score average of TSOY-32 was found to be 29.0 ± 14.5 in women and 15.8 ± 19.9 in men. In their validity and reliability study, Okyay et al. (2016) found the mean scores as 29.7 ± 8.0 in females and 29.4 ± 7.5 for males (18). The findings of the study are similar to those of Okyay et al. (2016) in women. We think that the reason for the difference in the scores in men was due to the fact that most of the male students participated in our study was in their first year, and that they did not have sufficient education on health yet.

We found that the total scores of TSOY-32 scale of female students were higher than male students. In the study conducted by Vozikis et al found that female students' health literacy level was higher than male students (10). In the study carried out in 8 countries by Sorensen et al. found that males had a lower level of health literacy than female students. The findings of our study are consistent with the literature.

The result showed the total scale score of 23-25 age group was to be high. We think that this difference was due to the fact that the majority of the students in this age group were in the 4th grade and the health education given over 4 years increased awareness among the students. Total score of the students of the midwifery department also was to be high. This difference is thought to be due to the fact that all of the midwifery students were female, and that the total score of females in study was high.

It was indicated that scale total score of the 4th grade students was higher than the other grades. We think that this difference was thought to be due to the fact that the 4-year health education given to the 4th grade students increased awareness among the students. It is known that education supports the

adoption of positive values, scientific and healthy developments in health related fields by individuals as well as in every area. In addition education has also actively supports individuals to attain qualifications that can contribute to health area. The findings of this study suggest that educated people on health can understand better the value and importance of health literacy. The total score of the scale of those living at home 3 people was high. If the number of individuals in the family is low, it may be an indication that they can be more interested in their individual health. This situation is thought to increase the level of health literacy.

Students who lived in the city for a long time had a high total score of the scale. It is expected that living in developed places affects the level of health literacy. It can be evaluated that providing of services such as education, health, transportation and communication in a contemporary level affects the level of self-acceptance and health literacy of individuals. On the other hand, students whose family income levels were high had higher total scores of the scale than the students whose family income level was low. Vozikis et al. (2015) found that students whose family income levels were high had higher levels of health literacy (10). In their study Sorensen et al. (2015) found that people who have financial difficulties had low levels of health literacy (8). The findings of our study are consistent with previous studies.

Finding showed that people without chronic disease had higher total score of the scale. Literature has shown that low health literacy leads to physical illnesses, difficulty in understanding health education, and inability of effective chronic disease management (1). According to this result, it is expected that people with chronic illnesses have low level of health literacy.

25.9% of students had the level of inadequate health literacy, 34.0% of the students have the level of problematic - limited health literacy; 27.0%, sufficient health literacy level; and 13.1% has excellent health literacy level. In their study based on European Health Literacy (HLS-EU) scales Durusu et al (2014) found that 64.6% of Turkey's population was at a "problematic or inadequate" health literacy level (17). Carvolha et al. found that 37.4% of the participants had problematic health literacy and 10.6% had excellent health literacy (19). Sorensen et al. (2015) found that 47.6% of the participants were inadequate and problematic health literacy (8). We found that problematic-limited health literacy level was lower than the literature. It is thought that this was caused by the fact that this study conducted in a health-related school.

29.6 of female students had inadequate health literacy level; 29.6, problematic-limited health literacy level; 31.3%, sufficient health literacy level; and 14.9%, excellent health literacy level. 21.6% of male students had inadequate health literacy level; 63.3%, problematic-limited health literacy level; 6.7%, sufficient health literacy level; and 5.8%, excellent health literacy level. Those differences were statistically significant. In their study carried out for the scale's validity and reliability Okyay et al. (2016) found that 42.1% of female students and 42.3% of male students had a problematic-limited health literacy level (18). Carvolha et al. (2015) found that 30% of the female participants had problematic health literacy level, and 13.4% had excellent health literacy level, which was statistically significant (19). We found that the problematic-limited health literacy level was lower than the studies carried out in literature. It is thought that this was caused by the fact that our study was carried out in a health-related school.

According to the results of this study, the health literacy of the students was found to be as problematic-limited health literacy level. The level of health literacy of the students was affected by the variables of gender, age, department, grade, income level perception, place of residence, and chronic illness. In line with these results we suggest that;

- Health literacy curriculum should be developed and implemented in especially for the first-year of health school students, and cover all the years of education.
- Variables such as gender, age, education level and class, income level perception, place of residence, chronic disease should be taken into account when developing the programs because health literacy level is influenced by those variables.

REFERENCES

1. Yılmaz M, Tiryaki Z. Sağlık okuryazarlığı nedir? nasıl ölçülür? Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi 2016; 9:142-7.

2. Coşkun S, Bebiş H. Adolesanlarda e-sağlık okuryazarlığı ölçeği: Türkçe Geçerlik ve güvenirlik çalışması. Gülhane Tıp Dergisi 2015; 57;378-84.

3. Ghanbari S, Ramezankhani A, Montazeri A, et al. Health literacy measure for adolescents (helma): development and psychometric properties. PLoS ONE 2016; 11:1-12.

4. Sørensen K, Van den Broucke S, Fullam J, et al. Health literacy and public health: a systematic review and integration of definitions and models. BMC public health 2012; 12:80–92.

5. Ross PT, Lukela MP, Agbakwuru U, et al. Medical students' recognition of health literacy in a single embedded curricular activity. International Journal of Medical Education 2103; 4;115-9.

6. Nielsen-Bohlman L, Panzer AM, Kinndig DA. Health literacy: a prescription to endconfusion. Washington, DC: National Academies Press 2004:28-34.

7. World Health Organization, 2008. Closing the gap in a generation: health equity through action on the social determinants of health. Final report of the commission on social determinants of health. Geneva: commission on the social determinants of health.whqlibdoc.who.int/publications/2008/9789241563703_eng.pdf. erişim tarihi:09.01.2016.

8. Sørensen K, Pelikan JM, Rothlin F, et al. Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). European Journal of Public Health 2015; 25:1053–8.

9. World Health Organization Health Literacy: The Solid Facts; 2013. bv Available: http://www.euro.who.int/data/assets/pdf.file/0008/190655/e196854.pdf.

10. Vozikis A, Drivas K, Milioris K. Health literacy among university students in Greece: determinants and association with self-perceived health, health behaviours and health risks. Archives of Public Health 2014; 72:15, 2-6.

11. Van der Heide I, Wang J, Droomers M, et al. The relationship between health, education, and health literacy: results from the Dutch adult literacy and life skills survey. Journal of Health Communication 2013; 18;172-184.

12. Berkman ND, Sheridan SL, Donahue KE, et al. Low health literacy and health outcomes: an updated systematic review. Annals of internal medicine 2011; 155;97-107.

13. Sezer A, Kadıoğlu H. Yetişkin Sağlık Okuryazarlığı Ölçeği'nin Geliştirilmesi. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi 2014;17-3;165-70.

14. Johnston MV, Diab ME, Kim SS, et al. Health Literacy, Morbidity and Quality of Life among Individuals with Spinal Cord İnjury. J Spinal Cord Med 2015; 28:230–40.

15. Eichler K, Wieser S, Brugger U. The Costs of Limited Health Literacy: A Systematic Review. Int J Public Health 2009; 54:313-24.

16. The European Health Literacy Project, 2009-2012. Comperative Report on Health Literacy in eight EU Member States (2012). Maastricht, HLS-EU Consortium. Erişim: 08.01.2017, www.healthliteracy.eu.

17. Durusu-Tanrıöver M, Yıldırım HH, Demiray-Ready FN, et al. Türkiye Sağlık Okuryazarlığı Araştırması, Birinci Baskı, Sağlık-Sen Yayınları, Ankara 2014;35-52.

18. Okyay P, Abacıgil F. Türkiye Sağlık Okuryazarlığı Ölçekleri Güvenilirlik ve Geçerlilik Çalışması. Anıl Matbaa.1. Baskı. Ankara 2016; 43-60.

19. Carvalho GS, Araújo MCP, Boff ETO, et al. European health literacy scale (HLS-EU-BR) applied in a Brazilian higher education population of Rio Grande do Sul (RS European health literacy scale (HLS-EU-BR) applied in a Brazilian higher education population of Rio Grande do Sul (RS19. European Science Education Research Association 2016; 9;1289-95.