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RESEARCH ARTICLE

Determining Health Literacy Level of Women with Gynecological Cancer and Affecting Factors

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Abstract
Aim: This study was conducted to determine the health literacy levels of women with gynecological cancer and the affecting factors.
Method: The sample of this descriptive and cross-sectional study consisted of 128 women who volunteered to participate in the study and were treated in the gynecological oncology service of the Oncology Center of a Training and Research Hospital in Izmir between January and June 2021. Data were collected by face-to-face interview method using a questionnaire and HLS.
Results: In the study, the mean age of women with gynecological cancer is 60.81±11.18. The mean total score of the women's HLS is 94.38±13.91. The factors that are found to be significantly ($p<0.05$) associated with the level of health literacy are the education level of the women, the number of children, the employment status, and the number of hospital admissions in a year. In the study, the type of gynecological cancer, the number of regimens, the type of treatment, the duration of the disease, the age of onset of the disease, and the period without treatment were not associated with health literacy ($p>0.05$).
Conclusion: In the study, it was concluded that the health literacy level of women was sufficient, the factors affecting health literacy were generally socio-demographic variables, and the disease characteristics and health behaviors did not affect the health literacy level.

Keywords: Gynecological cancer, health literacy, affecting factors

Jinekolojik Kanserli Kadınların Sağlık Okuryazarlığı Düzeyleri ve Etkileyen Faktörlerin Belirlenmesi

Öz
Amaç: Bu çalışma jinekolojik kanserli kadınların sağlık okuryazarlığı düzeyleri ile etkileyen faktörleri belirlemek amacıyla yapıldı.
Yöntem: Tanımlayıcı ve kesitsel tipteki araştırmanın örneklemini, Ocak-Haziran 2021 tarihleri arasında, İzmir ilindeki bir Eğitim Araştırma Hastanesinin Onkoloji Merkezinde jinekolojik onkoloji servisinde tedavi gören ve çalışmaya katılmaya gönüllü 128 kadın oluşturdu. Veriler, anket formu ve Sağlık Okuryazarlığı Ölçeği kullanılarak yüz yüze görüşme yöntemi ile toplandı.

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Bulgular: Çalışmada jinekolojik kanserli kadınların yaş ortalaması 60,81±11,18 bulundu. Kadınların sağlık okuryazarlık ölçeği toplam puan ortalaması 94,38±13,91'dir. Sağlık okuryazarlığı düzeyi ile istatistiksel olarak anlamlı ($p<0,05$) bulunan faktörler kadınların eğitim durumu, çocuk sayısı, çalışma durumu ve bir yıl içinde hastane başvuru sayısıdır. Çalışmada jinekolojik kanser türü, kür sayısı, tedavinin tipi, hastalık süresi, hastalığın başlangıç yaşı ve tedavisiz geçen süre sağlık okuryazarlığı ile ilişkili bulunmamıştır ($p>0,05$).
Sonuç: Çalışmada kadınların sağlık okuryazarlık düzeyinin yeterli oluğu sağlık okuryazarlığını etkileyen faktörlerin genellikle sosyo-demografik değişkenler olduğu, hastalık özellikleri ve sağlık davranışlarının sağlık okuryazarlık düzeyini etkilemediği sonucuna varıldı.

Anahtar Kelimeler: Jinekolojik kanser, sağlık okuryazarlığı, etkileyen faktörler

INTRODUCTION

Gynecological cancers are among the most common causes of death worldwide after cardiovascular diseases (1). According to the Global Cancer Incidence, Mortality and Prevalence (GLOBOCAN) 2020 data, when the most common cancers in women are examined, cervical cancer ranks second, endometrial cancer ranks sixth, and ovarian cancer ranks seventh. Among the 10 cancer types in women in Turkey, cervical cancer ranks ninth. Gynecological cancers constitute 11.2% of all female cancers (2). According to Globocan 2018 report, it was determined that there are 1.2 million new cases of gynecological cancers worldwide causing the death of 610,000 women (3). Many cancers can be prevented or diagnosed early with simple measures (4). However, unfortunately, there is no screening test for gynecological cancers other than cervical cancer. Therefore, raising awareness about gynecological cancers and identifying risk groups and risk factors have a key role in the early diagnosis and treatment of the disease. One of the most efficient ways to achieve this is for individuals to take on their health responsibilities. Because increasingly complex health technologies and health services have led to this result. This complex system is becoming more and more patient-centered. Therefore, at this point, it is up to individuals to have sufficient basic health knowledge, to be aware of their rights and responsibilities, and to act in this direction. This is only possible when people have sufficient health literacy (5). In particular, international organizations such as the World Health Organization (WHO), and the American Medical Association (AMA), which are accepted as the authority in the field of health, have published reports on the subject and underlined the different dimensions with various definitions, which have led to a rapid increase in the importance given to the field of health literacy. The WHO defines health literacy as "the capacity of patients to access,

understand, and use health information to maintain and improve good health" (6).

In a health literacy study conducted with a total of 8,000 participants in eight European Union countries, it is shown that almost one out of every two (47%) participants have limited health literacy (7). Health literacy research was conducted in Turkey in 2012. This research was carried out by the Health and Social Workers Union using The European Health Literacy Survey (HLS-EU) with the participation of 4924 adults randomly selected from 23 provinces in 12 regions representing Turkey. In the conclusion of the research, it was determined that Turkey's general health literacy index was 30.4 on a 50-point scale. The European mean score obtained from the same scale was 33.8, which was found to be slightly higher than the rates in our country (8). In a systematic review of 14 studies, Oldach and Katz (2014) concluded that low health literacy tends to cause low screening rates (9). In the literature, low health literacy has been associated with poor cancer screening after a cancer diagnosis, difficulty in choosing treatment, and poor quality of life (10).

Nurses need to be aware of their health literacy needs because nurses often spend more one-on-one time with patients. In addition, nurses have unique opportunities to conduct health literacy assessments and communicate important health-related information (11).

In the literature, health literacy studies in our country and other countries include oncology patients or especially patient populations with cervix and breast cancer. However, there is no study covering all gynecological cancer patients (2,12,13). Therefore, this study aims to shed light on future studies and to determine the effect of factors affecting the health literacy levels of gynecological oncology patients.

This study was conducted to determine the health literacy levels of women with gynecological cancer and the affecting factors.

METHOD

Study Design

This study is a descriptive, cross-sectional study. This study was carried out in the Gynecology Oncology Service of the Oncology Center of a Training and Research Hospital in Izmir. The population of the study consisted of patients who were treated in the Gynecology Oncology Service of the Oncology Center of a Training and Research Hospital in Izmir. The sample consisted of all women with gynecological cancer who were treated at the mentioned hospital between January and June 2021 and volunteered to participate in the study. This study was completed with 128 women who were

reached using the non probability sampling method. At the end of the study, "post hoc" power analysis was performed to evaluate whether the sample was sufficient or not. The effect value of the study was calculated as 0.35 and the result of "post hoc" power analysis was found as 0.794 by taking ȁ=0.05.

Data Collection Tools

Questionnaire Form: It was created by researchers in line with the literature (12-14). The form included 32 questions examining patients' sociodemographic characteristics, disease and treatment information, and health behaviors.

Health Literacy Scale (HLS): The Turkish validity reliability of the scale developed by Sorensen was determined by Aras and Bayik Temel (15,16). The scale consists of 25 items and 4 subscales. Access to Information includes 5 items (Min-Max:5-25), Understand Information includes seven items, Assessing to Information subscale includes eight items, Use to Information subscale also includes five items. The minimum score for the whole scale is 25 and the maximum score is 125. Low scores indicate insufficient, problematic, and poor health literacy, while high scores indicate sufficient and very good. The higher the score, the higher the health literacy level of the individual. Toci et al. found Cronbach's alpha value of the scale between 0.90 and 0.94 (17), Aras and Bayık (2017) (16) 0.92, Sørensen (15) ranged between 0.51 and 0.91. The Cronbach's alpha value of the scale in this study was 0.97.

Data Collection

The data collection tools were filled by the patients using face-to-face interview method at a convenient time after the researchers explained the purpose and method of the research to the patients and obtained their written consent for their participation. Filling out the forms took about 10-15 minutes for the patients.

Evaluation of Data

The obtained data were coded in SPSS (Statistical Program for Social Sciences) 20.0 statistical program. Descriptive statistics, number, percentage, mean, and standard deviation were used in the evaluation of the data. Shapiro-Wilk Test was used to determine whether the data showed a normal distribution. One-way analysis of variance(ANOVA) and Independent Groups T-Test were applied for parametric data. In all results, p-values less than 0.05 were considered statistically significant ($p<0.05$).

Ethical Aspect of Research

Ethics committee approval of the study was received from a state university Training and Research Hospital Non-Invasive Clinical Research Ethics Committee(Date

and Decision no: 16.11.2020 and 2020/13-2).

RESULTS

The mean age of the women participating in the study is 60.81±11.18 (min=24, max=81), more than half (68.0%) are primary school graduates, almost all (95.3%) are married, 53.9% have 3 or more children and 90.6% are not employed. 37.5% of the women spent their lives mostly in big cities, and 74.0% of them expressed their income as 'income equal to expenditure' (Table 1). When the health literacy and sociodemographic characteristics of the women were compared in the study, it was found that as the educational status and the number of children increased, the total HLS score increased ($p<0.05$), and the total score of those who were not employed was higher than those who were employed ($p<0.05$). In the study, it was found that the total HLS score was higher in the 24-34 age group compared to the older age group, in single women compared to married women, in those whose income is less than their expenses compared to those whose income is equal to or more than their expenditure, in those who live in big city/city compared to those who live in counties and villages. However, no statistically significant difference was found between them ($p>0.05$) (Table 1).

The rates of cancer types seen in women participating in the study were similar to each other, and the lowest (10.2%) was found to be vaginal cancer. Except for 33.6%, it was determined that all women had comorbid diseases. It was observed that the majority (73.4%) received chemotherapy and radiotherapy, and 54.7% received 5 or fewer regimens. It was determined that more than half of the women (64.8%) were at the age of 55 years or older at diagnosis, and the disease duration of 38.3% was 0-1 years. It was determined that the period without treatment was generally (75%) 0-8 months. In the study, among women, those with ovarian cancer compared to other gynecological cancer types, those who received chemotherapy and radiotherapy compared to those who did not, those with 0-5 regimens compared to those with more regimens, and those with 0-8 months without treatment compared to those with longer duration without treatment had a higher mean HLS score but there was no statistically significant difference between them ($p>0.05$). It was observed that the chronic disease status, age at the onset of the disease, and the duration of treatment did not affect the mean HLS score and there was no statistical difference ($p>0.05$) (Table 2).

Table 1. Distribution of Women's Socio-Demographic Characteristics According to the Total Score of the HLS

Characteristics	**n(%)**	**HLS Total**	**Test p**
Age			
24-34	3(2.3)	105.00±14.73	F=.532* p=.713
35-44	6(4.7)	96.00±14.21	
45-54	24(18.8)	94.17±13.06	
55-65	44(34.4)	94.77±13.92	
65 ve ↑	51(39.8)	93.33±14.47	
The mean of Age	60.81±11.18 (min=24. max=81)		
Education			
Literate	7(5.5)	82.42±9.55	F=3.011* p=**.033**
Primary education	87(68.0)	95.55±13.92	
High school	31(24.2)	92.61±13.44	
University	3(2.3)	106.66±11.84	
Marital Status			
Married	122(95.3)	94.25±13.92	t=.040** p=.842
Single	6(4.7)	97.17±14.69	
Number of Children			
0	3(2.3)	105.67±15.31	F=2.882* p=**.025**
1	15(11.7)	90.87±12.78	
2	41(32.1)	92.56±12.91	
3	69(53.9)	99.29±13.59	
Working status			
Yes	12(9.4)	95.25±17.94	t=4.38** p=**.038**
No	116(90.6)	94.29±13.52	
Income status			
Income less than expense	30(23.0)	96.70±16.30	F=1.057* p=.351
Income equal to expense	95(74.0)	93.93±13.18	
Revenue more than expense	3(2.0)	85.67±8.62	
Place to live			
Big city	48(37.5)	95.88±14.52	F=.492* p=.689
City	22(17.3)	93.05±13.48	
County	34(26.6)	94.82±13.09	
Village	24(18.8)	92.00±14.62	

**(F)One Way ANOVA, ** (t)Student T Test*

Table 2. Distribution of Women's Disease Characteristics According to HLS Total Score

Characteristics	n(%)	HLS Total	Test p
Type of Cancer			
Cervix	23(18.0)	92.78±13.70	F=.760* p=.55
Uterus	32(25.0)	94.90±13.81	
Endometrial	25(19.5)	91.88±14.11	
Over	35(27.3)	97.42±13.66	
Vagina	13(10.2)	92.53±15.31	
Chronic diseases			
No	43(33.6)	96.34 ± 14.23	F=1.734* p=.147
HT	27(21.1)	96.76± 13.58	
DM	30(23.4)	92.47± 13.68	
CV Dis	13(10.2)	96.00 ± 15.54	
HT+DM+CV Dis.	15(11.7)	86.87 ± 10.94	
Chemotherapy+Radiotherapy			
Yes	94(73.4)	94.88±13.44	t=.764** p=.384
No	34(26.6)	93.00±15.27	
Number of Cures			
0-5	70(54.7)	95.06±14.29	F=.184* p=.832
6-10	39(30.5)	93.69±12.41	
10 ve ↑	19(14.8)	93.32±15.94	
Age of onset of the disease			
24-34	7(5.5)	95.14±12.99	F=.355* p=.840
35-44	9(7.0)	94.67±17.32	
45-54	29(22.7)	94.66±13.11	
55-64	42(32.8)	95.98±13.34	
65 ve ↑	41(32.0)	92.37±14.82	
Duration of illness			
0-1 year	49(38.3)	95.48±14.88	F=.175* p=.951
2 years	20(15.6)	93.65±12.64	
3 years	18(14.1)	92.77± 16.14	
4 years	14(10.9)	95.07±13.30	
5 and ↑	27(21.1)	93.62±12.45	
Time without treatment			
0-8 months	96(75.0)	94.77±13.70	F=.188* p=.829
9-16 months	26(20.3)	94.03±14.86	
17-24 months	6(4.7)	91.00±15.92	

*(F)One Way ANOVA, ** (t)Student T Test

It was determined that there was no alcohol use among the women participating in the study, and 90.9% of them did not smoke. It was determined that almost all of them (96.9%) complied with the recommended treatment and did not change their medications without consulting. It was observed that more than half of the patients (63.3%) applied to more than 6 hospitals in a year, and the number of admissions to the

emergency department in the last two years was generally 1-2 times (36.7%) or 3-5 times (33.6%). It was determined that 78.1% received information about their health from physicians (Table 3).

Table 3. Distribution of Women's Health Behaviors According to the Total Score of the HLS

Characteristics	n(%)	HLS Total	Test p
Smoking			
No	116(90.9)	94.26±14.01	t=.071** p=.790
Yes	12(9.1)	95.58±13.40	
Adherence to treatment			
Yes	124(96.9)	94.02±13.76	t=.026** p=.872
Partly	4(3.1)	105.50±16.01	
Changing medication			
Yes	20(15.6)	94.35±20.4	t=.222** p=.639
No	108(84.4)	108±94.39	
Hospital admissions in a year			
1-2	6(4.7)	85.50±5.85	F=4.074* **p= .019**
3-5	41(32.0)	90.78±13.13	
6 and ↑	81(63.3)	96.86±14.14	
Information source			
Doctor	100(78.1)	94.20±13.23	F=.510* p=.602
Television	18(14.1)	96.94±17.17	
Internet	10(7.8)	91.60±15.03	

*One Way ANOVA, ** Student T Test

In the study, it was found that the total HLS score was higher among smokers than non-smokers, those who partially complied with the treatment compared to those who fully complied, those who did not change their medication doses without consulting a physician compared to those who did, and those who received health information from television compared to those who received health information from the physician and the Internet, had a higher total HLS mean score but there was no statistically significant difference between them ($p>0.05$). It was determined that the mean HLS score of the patients with 6 or more admissions to the hospital within a year was higher than those with fewer admissions, and there was a statistically significant difference between them ($p<0.05$).

In the study, the women's HLS total mean score is 94.38±13.91, the Access to Information subscale mean score is 19.13±3.88, Understand Information subscale mean score is 27.11±5.78, the Assessing to Information subscale mean

score is 31.20±5.05 and Use to Information subscale mean is 16.92±2.60.

DISCUSSION

It is very important to prevent gynecological cancers, which cause high mortality and morbidity all over the world. Many studies have shown that raising awareness about gynecological cancers and gynecological cancer symptoms increases early diagnosis and survival (18-20). To our knowledge, our study is the first study in the literature based on this fact, because it includes all gynecological cancers. For this reason, the results of our study will inspire many studies.

Comparable literature is lacking as it is the first study conducted with women with Gynecological Cancer. In addition, since different studies use different scales (18), it is difficult to compare the results. However, when compared to studies using the same scale in a similar population, the HLS mean score was 106.67±14.78 in Aktan and Ozdemir's study with climacteric women(21), and 90.30±12.4 in Aras and Bayik Temel's(16). In our study, on the other hand, the HLS total mean score of 94.38±13.91 of the women with gynecological cancer is considered sufficient. These differences might be due to the time and population-specific differences in the study. To better evaluate the results, it may be recommended to use the same measurement tool in patients with similar diagnoses in future studies.

Among the socio-demographic characteristics of the women participating in our study, the factors that were statistically related ($p<0.05$) to the level of health literacy were found to be the level of education, number of children, and employment status. In recent years, more research has focused on the importance of health literacy and its relationship with negative health behaviors and outcomes, especially in people with low education (22,23). It was thought that this result was because a high level of education allows individuals to understand and practice what they read. According to our study, the total mean score of the HLS of women without children was found to be statistically significantly higher than those with children. This result, which is consistent with the literature, may suggest that the women who are not responsible for childcare would have sufficient/excessive time to allocate for themselves. As a matter of fact, Aktan and Ozdemir (2020) (21) and Güven (2017) (24) reached the same conclusion in their study. In our study, employment status was found to be another sociodemographic variable associated with health literacy.

In our study, it was seen that the HLS mean score of women diagnosed with ovarian cancer was higher than other cancer types, and the HLS mean score of women

diagnosed with endometrial cancer was lower than other cancer types. In our study, the fact that the ovarian cancer treatment protocol was more intense than other cancer types may have required more understanding, interpretation, and research of healthy information. In future studies, there is a need to evaluate the effect of gynecological cancer type on health literacy.

In our study, it was determined that the health literacy total mean score of women who received chemotherapy and radiotherapy was higher than those who did not receive treatment. In the study of Kanu et al. (2021), in which they evaluated health literacy in patients with breast cancer, it was reported that one of the important predictors of health literacy is the type of treatment (25). This result and the data obtained from our study raise the question of how health literacy affects treatment decision for cancer. This information supports the conclusion that the mean score of the HLS decreases as the time spent without treatment increases. As a result of this, we can say that the effect of health literacy on both the time of starting the treatment and the acceptance of the treatment is undeniable.

In our study, although it was not statistically significant, it was found that the HLS mean score of smokers was higher than non-smokers, which is different from the literature. In the study of Liu et al. (2015), in which they investigated the effects of health-related behaviors and health status on health literacy in elderly individuals with a mean age of 71.74±28.35 years, they found that the HLS mean score of smokers was lower (26). This result was thought to be due to the rate of smoking women in our study which was 9.4%.

It was found that as the number of hospital admissions increased within a year, the mean score of the HLS also increased, and this situation made a statistical difference. Although this situation is interpreted as being related to caring for health, different results have been obtained in studies in the literature. Baker et al. (2004) found that individuals with poor health literacy were more likely to be admitted to the hospital (27). Similarly, Friedland (1998) reported that patients with low health literacy stayed longer in hospitals but visited fewer hospitals (28).

It was found in our study that women who received health-related information from television had a higher mean total score on the HLS. However, unlike our study in the literature, the most common source to access health information is found to be the internet (29). This result was interpreted as the fact that internet access may be less common due to the high mean age of the women in our study.

Limitations of the Research

In this study, we pointed out a few limitations inherent in descriptive and cross-sectional studies that will be useful to consider in future research. Since the data obtained in the study were obtained in an Oncology Center in Izmir, the results cannot be generalized to the whole population. However, the fact that women are from every region of the country provides the opportunity to generalize women with gynecological cancer throughout the country. The women may not have given the desired objective answers to the study questions because of their disease anxiety, as they filled out the questionnaire while they were being treated at the hospital. This may be explained by the lower health literacy score as the time spent without treatment increases. In addition, in our study, we measured health literacy levels with only one of the multiple HLSs in the literature. Therefore, the structure and subscales of the scale used should also be considered when comparing the results.

CONCLUSION AND RECOMMENDATIONS

In our study, in which we evaluated health literacy and affecting factors in patients with gynecological cancer, it was determined that the health literacy levels of women were sufficient when compared to the literature. It was determined that the socio-demographic characteristics that were significantly associated with the level of health literacy were educational status, number of children, and employment status. In the study, the type of gynecological cancer, the number of regimens, the type of treatment, the duration of the disease, the age of onset of the disease, and the period without treatment were not associated with health literacy. Among health behaviors, the number of hospital admissions in one year was found to be associated with health literacy.

Health literacy plays a key role in cancer care with significant implications for patient experience and outcomes. Those with low health literacy may have greater difficulties in processing information, while those with higher health literacy may be more knowledgeable and take a more active role in managing their health. Therefore, nurses who are in close contact with the patient should aim to increase health literacy both in patient care and patient education. For this reason, health literacy should be considered in cancer patients and the factors affecting its development should be emphasized. In addition, more research should be conducted to better understand the decision-making processes and preferences of those with low health literacy and cancer treatment.

Ethical Approval: This study was approved by Health Science University İzmir Tepecik Training and Research Hospital Non-Invasive Clinical Research Ethics Committee with (Date: 16/11/2020) and (Decision no: 2020/13-2). Institutional permission was obtained from Izmir Provincial Health Directorate. Written prior permission was obtained for the research from the Izmir Province Tepecik Training and Research Hospital Oncology Center. For the Health Literacy Scale used in the study, permission was obtained from Aras and Temel via e-mail. The written informed consent form was obtained from the patients included in the study.

Author(s) Contributions: Idea and concept SAÇ, EBT; design SAÇ; Supervision and consultancy SAÇ, EBT; Data collection and/or processing: SAÇ, EBT Literature review SAÇ, EBT; Analysis and/or interpretation: SAÇ; Writing the article SAÇ, EBT; Critical thinking SAÇ is in the form.

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