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Determining the relationship between women's health literacy and awareness of gynecological cancers

Kadınların sağlık okuryazarlığı ile jinekolojik kanserlere yönelik farkındalıkları arasındaki ilişkinin belirlenmesi

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ABSTRACT

Aims: The aim of this study was to determine the relationship between women's health literacy levels and gynecological cancer awareness.

Materials and Methods: The descriptive-correlational study was conducted with 305 participants. The data of the study were collected through an online questionnaire between February-September 2023. The Introductory Information Form, the Health Literacy Scale (HLS) and the Gynecological Cancer Awareness Scale (GCAS), were used as data collection tools.

Results: The mean age of the participants in this study was 34.31 years. 49.2% of the participants had a bachelor's degree or higher, 59.3% were unemployed, 61.3% belonged to the middle-income group, 67.9% lived in the city, 32.8% did not have regular annual gynecological examinations, 47.9% had never had a pap smear test, and 62.3% thought they did not have enough information about HPV vaccination. The mean total score of the participants was 53.92±8.21 on the HLS and 153.21±18.15 on the GCAS. Significant differences were found between the total scores of the HLS and GCAS and some characteristics of the women such as education level, employment status, place of residence, having pap smear test and thinking that they had sufficient information about HPV vaccines ($p<0.05$). A significant positive correlation was found between the women's total score of the HLS and the total score of the GCAS ($r=0.319$; $p<0.001$).

Conclusion: Women's health literacy and gynecological cancer awareness were found to be affected by sociodemographic and gynecological characteristics. It was determined that as women's health literacy levels increased, their gynecological cancer awareness also increased.

Keywords: Cervical cancer, gynecologic diseases, health literacy, HPV Human Papillomavirus, women's health

ÖZ

Amaç: *Bu çalışmanın amacı, kadınların sağlık okuryazarlığı düzeyleri ile jinekolojik kanser farkındalıkları arasındaki ilişkiyi belirlemektir.*

Gereç ve Yöntem: *Tanımlayıcı-korelasyonel tipteki çalışma 305 katılımcı ile gerçekleştirildi. Çalışmanın verileri, Şubat-Eylül 2023 tarihleri arasında online anket yoluyla toplandı. Veri toplama aracı olarak Tanıtıcı Bilgi Formu, Sağlık Okuryazarlığı Ölçeği (SOYÖ) ve Jinekolojik Kanser Farkındalık Ölçeği (JİKFÖ) kullanıldı.*

Bulgular: *Bu çalışmadaki katılımcıların yaş ortalaması 34,31 idi. Katılımcıların %49,2'si lisans ve üzeri eğitim düzeyine sahipti, %59,3'ü çalışmıyordu, %61,3'ü orta gelir grubuna dahildi, %67,9'u şehirde*

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yaşıyordu, %32,8'i yıllık olarak düzenli jinekolojik muayene yaptırmıyordu, %47,9'u hiç pap smear testi yaptırmamıştı ve %62,3'ü HPV aşısı hakkında yeterli bilgiye sahip olmadığını düşünüyordu. Katılımcıların SOYÖ toplam puan ortalaması 53.92±8.21 ve JİKFÖ toplam puan ortalaması 153.21±18.15 idi. SOYÖ ve JİKFÖ toplam puanları ile kadınların eğitim düzeyi, çalışma durumu, yaşadıkları yer, pap smear testi yaptırma ve HPV aşıları hakkında yeterli bilgi sahibi olduğunu düşünme gibi bazı özellikleri arasında anlamlı farklılıklar bulundu (p<0,05). Kadınların SOYÖ toplam puanı ile JİKFÖ toplam puanı arasında anlamlı pozitif bir korelasyon saptandı (r=0,319; p<0,001).

Sonuç: *Kadınların sağlık okuryazarlık ve jinekolojik kanser farkındalıklarının sosyodemografik ve jinekolojik özelliklerden etkilediği görüldü. Kadınların sağlık okuryazarlığı düzeyleri arttıkça, jinekolojik kanser farkındalıklarının arttığı belirlendi.*

Anahtar Kelimeler: *HPV Human Papillomavirüsü, jinekolojik hastalıklar, kadın sağlığı, sağlık okuryazarlığı, serviks kanseri*

INTRODUCTION

The World Health Organization defines health literacy as the ability to access, understand, evaluate and use information and services in ways that promote and sustain good health and well-being. Health literacy is critical to strengthening people's health by improving their access to health information and their capacity to use it effectively (WHO, 2024). Health literacy goes beyond simple reading and writing skills and includes the capacity to understand and evaluate health information. In this context, it also means making decisions about managing one's illness and taking care of oneself, learning how to use medical devices at home, adopting the role of caregiver, being aware of healthy habits, using medicines appropriately, understanding how to receive health services, reading and signing informed consent forms (Yılmaz & Tiraki, 2016). The level of health literacy varies significantly from country to country around the world. In general, the level of health literacy is associated with various factors such as education level, language barriers, cultural differences, economic status and access to health services (Bazaz et al., 2019; Gökoğlu, 2021; Lastrucci et al., 2019).

Health services include preventive health measures, treatment and rehabilitation of diseases based on improving social and individual health. These services reduce disease risks and provide early diagnosis and treatment. Although access to information has become easier with the development of technology, choosing the right resources and accessing health services are closely related to health literacy (Gökoğlu, 2021; Uçkaç, 2022). Accordingly, strengthening health literacy is important for improving health status, preventing diseases and providing self-care (Gokdemir et al., 2024; Lee & La, 2024; Nutbeam, 2000). Individuals with high levels of health literacy take more accurate and conscious steps to prevent diseases and improve health (Uçkaç, 2022). On the other hand, individuals with limited health literacy are more likely to have low levels of self-management skills and health status, and these individuals have difficulties in communicating with health systems and professionals (Lee & La, 2024).

Gynecological cancers are among the most common cancers in women. The types and incidence of gynecological cancers may vary according to the development levels of countries and regions. When the prevalence of gynecological cancers in the world is examined, the most common cancer is cervical cancer, followed by endometrial, ovarian, vulvar and vaginal cancer. In Turkey, this order varies as endometrial, ovarian, cervical, vulvar and vaginal cancer (WHO, 2022).

Risk factors for gynecological cancers may vary from person to person and according to the type of cancer. However, some of the risk factors identified for gynecological cancers are manageable and modifiable. Therefore, it may be possible to prevent gynecological cancers (Dal & Ertem, 2017). On the other hand, it is thought that the lack of sufficient knowledge of these risk factors in the society or the ineffective use of information on this subject is an obstacle in the prevention of gynecological cancers; individuals' health literacy levels are thought to affect their awareness of gynecological cancers. In this context, the aim of this study was to determine the relationship between women's health literacy levels and their awareness of gynecological cancers.

The questions of the study were:

1. Is there a difference between women's health literacy levels according to their sociodemographic and gynecological characteristics?

2. Is there a difference between women's awareness levels of gynecological cancers according to their sociodemographic and gynecological characteristics?

3. Is there a relationship between women's health literacy and awareness of gynecological cancers?

MATERIALS and METHODS

Study design

This study has a descriptive-correlational design.

Place and time of the study

The study was conducted online between February and September 2023.

Sample of the study

The population of the study consisted of women living in Turkey. While determining the sample size, sample calculation was made by power analysis based on the correlation between the scores of the scales to be used in the study. G*Power 3.1 program was used for power analysis. In the calculation, the correlation test was used for the bivariate normal model and the coefficient of determination=0.04 (Sullivan & Feinn, 2012), the margin of error of type 1 (α)=0.05 and the power of the test (1-β)=0.95 were accepted. As a result of the calculations, the minimum sample size was found to be 266 people in total (critical r=0.101). This study was finally conducted with 305 women.

Women who agreed to participate in the study, were sexually active, could read and understand Turkish, resided in Turkey, and had access to smartphones and internet were included. Gynecological cancers are mostly seen in the 21-65 age range, and the American College of Obstetricians and Gynecologists (ACOG) recommends regular cervical cancer screening starting at the age of 21 and continuing until the age of 65 (ACOG, 2021). In this context, women under the age of 21 and women over the age of 65 were not included in this study.

Data collection

The data of the study were collected between February-September 2023 from the participants who could be reached by snowballing method through an online survey based on self-report and lasting approximately 10 minutes. While collecting the data, the link to the data collection forms was sent by the researchers to the individuals in their social circles via Whatsapp® and they were asked to share this link with the people in their social circles. In the sent link, the participants were informed about the study in writing before viewing the data collection forms and the participants checked the option indicating that they voluntarily participated in the study.

Data collection tools

Three data collection forms were used in the study: The Introductory Information Form, the Health Literacy Scale (HLS) and the Gynecological Cancer Awareness Scale (GCAS).

The Introductory Information Form, which was created by the researchers by reviewing the literature, includes 10 questions to evaluate the sociodemographic and gynecological characteristics of women (Boxell et al., 2012; Gözüyeşil et al., 2020; Kaya Şenol et al., 2021).

The Health Literacy Scale (HLS) was developed by Suka et al. (2013) in Japan to measure the health literacy levels of adults. The scale has three sub-dimensions: functional health literacy, communicative health literacy and critical health literacy. In the original study of the scale, Cronbach's alpha value was found to be 0.81. In the Turkish validity and reliability study, Cronbach's alpha value was found to be 0.85. Each item of the scale is rated on a 5-point Likert scale ranging from 1 point to 5 points. A total score of 14-70 is obtained from the scale. An increase in the total score indicates an increase in the level of health literacy (Türkoğlu & Kılıç, 2021). The Cronbach's alpha value in this study was 0.874.

The Gynecological Cancer Awareness Scale (GCAS) was developed by Dal and Ertem (2017) to assess the awareness of sexually active women aged 20-65 years about gynecological cancers. The 5-point Likert-type GCAS consists of four sub-dimensions: Routine check-up and perception of serious diseases in gynecological cancer awareness, gynecological cancer risks awareness, preventing gynecological cancers awareness, early diagnosis and information in gynecological cancers awareness. In the validity and reliability study of the scale, Cronbach alpha value was found to be 0.944. Although the GCAS is evaluated on a total score, the scale can be

scored between 41-205. As the score of women increases, their awareness of gynecological cancers increases (Dal & Ertem, 2017). Cronbach's alpha value in this study is 0.928.

Statistical analysis

Statistical Package for Social Sciences (SPSS) version 25 statistical analysis program was used to analyze the data. The normal distribution of the data was evaluated by Kolmogorov-Smirnov normality test. Descriptive statistics (percentage, number, mean, standard deviation, median), nonparametric tests and Bonferroni post hoc test were used to evaluate the data. The relationship between variables was evaluated by Spearman's correlation test. Statistical significance level was taken as $p<0.05$.

Ethical dimension of the study

Ethics committee permission was obtained from the non-interventional ethics committee of a university for the study (Date: 25.01.2023/Number: 19). Permission for the scales to be used in the study was obtained from the authors of the scales via e-mail. The study was conducted in accordance with the principles of the Declaration of Helsinki. Voluntary informed consent was obtained from each participant in an online form before data collection.

RESULTS

The average age of the participants in this study was 34.31 years. Among the participants, 49.2% had a bachelor's degree or higher, 59.3% were unemployed, 61.3% had an income equal to their expenses, 67.9% resided in the city, 67.2% did not have regular gynecological examinations every year, 47.9% had never had a Pap-smear test, and 62.3% did not think they had sufficient information about HPV vaccines (Table-1).

In this study, there was a significant difference between the total score of the HLS and age, educational status, employment status, place of residence, having Pap-smear test and perception of having sufficient knowledge about the HPV vaccines, and between the total score of the GCAS and educational status, employment status, income status, place of residence, having a history of gynecological cancer in themselves or their family, having regular gynecological examination every year, having Pap-smear test and perception of having sufficient knowledge about the HPV vaccines ($p<0.05$; Table-1).

The mean total score of the HLS was 53.92±8.21 (median: 54) and the mean total score of the GCAS was 153.21±18.15 (median: 154). These findings were higher than the values determined for both scales when compared with the mean values calculated on the basis of the lowest and highest possible scores (Table-2).

The correlation between HLS and GCAS scores of the participants in this study is presented in Table 3. A significant positive correlation was found between the functional health literacy, communicative health literacy, critical health literacy sub-dimension and total HLS scores of women and routine check-up and perception of serious diseases in gynecological cancer awareness, preventing gynecological cancers awareness, early diagnosis and information in gynecological cancers awareness sub-dimension and total GCAS scores ($p<0.05$). On the other hand, no significant correlation was found between HLS total and sub-dimensions scores and GCAS gynecological cancer risks awareness sub-dimension score (Table-3).

Table-1. Comparison of HLS and GCAS scores according to sociodemographic and gynecological characteristics (n=305).

		Total score of Health Literacy Scale (HLS)		**Total score of Gynecological Cancer Awareness Scale (GCAS)**	
Characteristics	**Mean±SD**		**p**		**p**
Age$^{\phi}$	34.33±9.89 (Min-Max: 21-63)		**<0.001$^{(S)}$** **r: -0.289**		0.802$^{(S)}$ r: 0.014
	n (%)	**Mean±SD**	**p**	**Mean±SD**	**p**
Educational status					
Primary school[a]	44 (14.4)	46.27±7.07	**<0.001$^{(K)}$**	150.48±17.86	**0.022$^{(K)}$**
Middle school[b]	26 (8.5)	47.38±6.31		144.58±14.32	
High school[c]	85 (27.9)	53.24±6.29		152.59±19.34	

Bachelor's degree and above[d]	150 (49.2)	57.70±7.40		155.88±17.67	
Bonferroni test		a-c, a-d, b-c, b-d, c-d		b-d	
Employment status					
Employed	124 (40.7)	56.65±8.18	**<0.001$^{(M)}$**	157.13±19.39	**<0.001$^{(M)}$**
Unemployed	181 (59.3)	52.06±7.71		150.54±16.79	
Income status					
Low Income[a]	67 (22)	52.67±8.37	0.246$^{(K)}$	150.09±16.96	**0.011$^{(K)}$**
Middle Income[b]	187 (61.3)	54.03±8.06		152.76±17.83	
High Income[c]	51 (16.7)	55.22±8.47		159.00±19.83	
Bonferroni test				a-c	
Residence					
Countryside	98 (32.1)	50.48±8.05	**<0.001$^{(M)}$**	148.42±20.22	**0.002$^{(M)}$**
City	207 (67.9)	55.56±7.79		155.49±16.66	
Personal or family history of gynecological cancer					
Yes	46 (15.1)	51.24±10.17	0.097$^{M)}$	158.24±15.5	**0.032$^{(M)}$**
No	259 (84.6)	54.41±7.74		152.33±18.47	
Regular gynecological examination (at least once in a year)					
Yes	100 (32.8)	54.23±7.64	0.937$^{M)}$	157.74±16.76	**<0.001$^{(M)}$**
No	205 (67.2)	53.78±8.49		151.01±18.44	
Previously undergone a Pap-Smear Test					
Yes	159 (52.1)	55.43±7.91	**0.001$^{(M)}$**	155.25±16.66	**0.017$^{(M)}$**
No	146 (47.9)	52.29±8.25		151.36±19.29	
Perception of having sufficient knowledge about the HPV vaccines					
Yes	115 (37.7)	57.92±7.53	**<0.001$^{(M)}$**	159.82±16.76	**<0.001$^{(M)}$**
No	190 (62.3)	51.51±7.66		149.23±17.84	

SD: standard deviation, Min-Max: minimum-maximum, $^{\phi}$r: Spearman's rho, $^{(S)}$Spearman's correlation test, $^{(M)}$Mann-Whitney U test, $^{(K)}$Kruskal-Wallis test

Table-2. The HLS and the GCAS scores of the participants.

		Mean±SD	Min-Max	Median
Health Literacy Scale (HLS)	Functional health literacy	18.19±4.74	5-25	19.00
	Communicative health literacy	19.68±3.17	5-25	20.00
	Critical health literacy	16.05±2.62	4-20	16.00
	Total score	53.92±8.21	29-70	54.00
Gynecological Cancer Awareness Scale (GCAS)	Routine check-up and perception of serious diseases in gynecological cancer awareness	86.84±12.38	24-110	87.00
	Gynecological cancer risks awareness	27.37±5.63	9-45	27.00
	Preventing gynecological cancers awareness	22.37±4.00	6-30	23.00
	Early diagnosis and information in gynecological cancers awareness	16.62±2.60	4-20	17.00
	Total score	153.21±18.15	49-205	154.00

SD: standard deviation, Min-Max: minimum-maximum.

Table-3. Correlation of the HLS and the GCAS scores.

		Functional Health Literacy	Communicative Health Literacy	Critical Health Literacy	Total Score of HLS
Routine check-up and perception of serious diseases in gynecological cancer awareness	r	.122**	.411*	.374*	.341*
	p	**0.033**	**0.000**	**0.000**	**0.000**
Gynecological cancer risks awareness	r	-0.033	-0.063	-0.060	-0.043
	p	0.566	0.270	0.294	0.450
Preventing gynecological cancers awareness	r	.206*	.330*	.225*	.314*
	p	**0.000**	**0.000**	**0.000**	**0.000**
Early diagnosis and information in gynecological cancers awareness	r	.218*	.374*	.458*	.392*
	p	**0.000**	**0.000**	**0.000**	**0.000**
Total Score of GCAS	r	.127**	.376*	.336*	.319*
	p	**0.027**	**0.000**	**0.000**	**0.000**

r: Spearman's rho, *p<0.001, **p<0.05

DISCUSSION

The prevention of gynecological cancers may be impacted by a person's level of health literacy. (Coşkun, 2023). The results of this study, aimed at determining the relationship between women's health literacy levels and their awareness of gynecological cancers, have been discussed in line with previous studies in the literature.

The results of this study showed that the sociodemographic-gynecological characteristics of the participants were related to their level of health literacy and their awareness of gynecological cancers. Similar to this study, Başaran and Duru (2024) reported that sociodemographic factors affected gynecological cancer awareness. Kim and Han (2016) reported a positive relationship between health literacy and cervical cancer screening. The findings of this study suggest that education and living conditions may play a determining role in health literacy; in addition, access to healthcare, information acquisition, and health education have a positive impact on awareness of gynecological cancers.

The study identified high levels of health literacy and awareness of gynecological cancers among women. These findings are consistent with the results of Uslu-Sahan et al. (2023) and Coşkun (2023), supporting the notion that health literacy positively influences women's awareness of gynecological cancers.

The findings of this study indicate a positive correlation between health literacy level and awareness of gynecological cancers, showing that as health literacy level increases, women's awareness of prevention and early detection of gynecological cancers also increases. Therefore, it can be considered that strengthening health literacy level could enhance women's role in combating gynecological cancers. Similar to the results of this study, various studies in the literature (Başaran & Duru, 2024; Köse & Karakurt, 2023; Uslu-Sahan et al., 2023) have reported a relationship between health literacy level and awareness of gynecological cancers.

However, another noteworthy point is that there is no significant relationship between the level of health literacy and gynecological cancer risks awareness. Perception of risks related to specific issues such as gynecological cancer may not be directly associated with individuals' level of education or health literacy because many factors

influence perception of risk. Among these factors, cultural beliefs, personal experiences, media, and environmental factors play significant roles (Gözüm & Çapık, 2014; Gözüyeşil et al., 2019). Although Öztürk et al. (2021) emphasized in their study that women have limited knowledge about gynecological cancer risks, risk perception is a complex phenomenon. It is possible that even women with higher education levels may not clearly understand specific risk factors or may fail to recognize certain risky situations as actual risks. This gap can create a significant barrier in improving women's health and in the prevention, early diagnosis, and detection of gynecological cancers. Therefore, knowing specific risk factors alone cannot be fully explained by education level or health literacy, and a broader perspective is necessary to better understand and address gynecological cancer risk perception.

CONCLUSION

Health literacy level and gynecological cancer awareness are affected by sociodemographic factors such as age, educational status, employment status, and place of residence. Health literacy level and gynecological cancer awareness differ according to gynecological characteristics such as having a Pap-smear test and having sufficient knowledge about HPV vaccines. Awareness of gynecological cancers increases with increasing health literacy level. The findings of this study suggest that increasing women's health literacy level is an important factor in the fight against gynecological cancers. Further studies are needed to increase the level of awareness of gynecological cancer risks.

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