

## The Relation between The Knowledge and Attitudes of Female Students Regarding Gynecological Cancer Prevention and Healthy Lifestyle Behaviours

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### Abstract

**Objective:** This cross sectional study has been conducted to determine the relationship between the knowledge and attitude of female students regarding gynecological cancer prevention and healthy lifestyle behaviors (HLB).

**Method:** The sample of the study included 802 female students living in Cumhuriyet University Higher Education Student Loan and Housing Board Dormitory in the 2014-2015 school years. The data was collected by interviewing participants via “Personal Information Form”, “Healthy Lifestyle Behavior Scale” and “Knowledge Assessment Form on Gynecological Cancer Prevention”. **Results:** Among the students participating in this study 20.9 % were in Faculty of Health Sciences. The mean age of the sample was  $20.71 \pm 1.68$ . There were statistically significant differences between the health responsibility, physical exercise, nutrition and stress management subscales of HLB and the status of undergoing gynecological examination ( $p < 0.05$ ). A linear positive correlation of 17.2 % was found between the total scores of participants in HLB scale and in gynecological cancer prevention ( $p = 0.000 \alpha = 0.01$ ). The difference between HLB scale scores and the knowledge scores on gynecological cancer prevention (KSGCP) was found to be statistically significant ( $p = 0.000 < 0.05$ ). The total scores of female students in HLB scale increased in parallel with their mean knowledge scores on gynecological cancer prevention. **Conclusion:** Health promotion and gynecological cancer prevention might be possible by imposing HLB to the university students. It is suggested that the knowledge levels of students on HLB and gynecological cancer prevention should be identified and that they should be both trained and consulted within this framework.

**Keywords:** Female Students in the University, Healthy Lifestyle Behavior, Gynecological Cancer, Gynecological Cancer Prevention, Knowledge, Attitude.

### Introduction

Gynecological cancers, mainly endometrial, cervical and ovary cancers are relatively common and cause significant mortality and morbidity rates. Each gynecological cancer is unique in the sense that they have different signs and symptoms, different risk factors and also different prevention methods. In Turkey, among the causes of death rates, breast cancer was at the second rank with 12.7 %, ovarian cancer

was at the seventh rank with 5 %, uterus cancer was at the ninth rank with 2.9 % and cervical cancer was at the tenth rank with 2 %. Currently, gynecological cancer accounts for 15 % among all types of cancer and 10 % of the cancer related deaths [1,2].

The latest data on cancer indicates that, in Turkey gynecological cancers are within the first ten in terms of incidence and mortality rates. Protective approaches should be followed to reduce the incidence of contracting a cancer. Gynecological cancer differs from the other cancer types both morally and materially. This is why it is very important to develop strategies for reducing the mortality and morbidity rates caused by gynecological cancer[3].

The hormonal, genetic, individualistic and environmental factors play important roles in carcinogenesis of gynecological cancer. Obesity, tobacco and alcohol consumption, human papillomavirus, perinatal development, family history,

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socio-economic status, occupational exposure, low sedentary lifestyle, body mass index are considered to be the contributing causes for contracting gynecological cancer [4,5]. It is important to diagnose the cancer at an early stage to reduce the mortality incidence rate which increases both in Turkey and in the world gradually[6-9].

The university students can adopt and help others to adopt healthy lifestyle behaviors (HLB) during their education period. University students may be expected to have health responsibility, to demonstrate health enhancing behaviors and to be a role model. Raising HLB awareness both in youth and during lifetime is important for preventing cancer. Therefore, it is very important for the health workers to play an active role in instructing, consulting and guiding the university students to promote healthy behaviors [3,9,10].

### Materials and methods

This cross sectional study has been designed to determine the relationship between the knowledge and attitude of female students living in Cumhuriyet University Higher Education Student Loan and Housing Board Dormitory regarding gynecological cancer prevention and healthy lifestyle behaviors. The population of the study included 2938 female students living in Cumhuriyet University Higher Education Student Loan and Housing Board Dormitory in the 2014-2015 school years. The sample of the study involved 802 female students. The data was collected via Personal Information Form, HLB scale and Knowledge Assessment Form on Gynecological Cancer Prevention. The study was conducted in the dormitory between the dates 20/01/2015 – 30/06/2015. The students were informed about the study and written consent was collected from all the voluntarily participating students.

### Personal Information Form

The form is prepared by the researcher after conducting literature review [2,4,10-13]. The total number of questions in the form was 24 including the questions on determining socio-demographic characteristics of the students (8 item) and knowledge of the students on the gynecological cancer and the risk factors of gynecological cancer (16 items).

### Healthy Lifestyle Behavior Scale

The scale was developed by Walker, Sechrist and Pender in 1987 [14]. It measures the health promotion behaviors of the individual associated with his/her healthy lifestyle behaviors. The scale was adapted to

Turkish society by Nihal Esin in 1997. The Cronbach's alfa coefficient of the scale was found to be 0.91 and for the subscales it was between 0.57 - 0.77 [15]. Scale is composed of 48 items and comprises six subscales. The subscales are self actualization, health responsibility, physical exercise, nutrition, interpersonal support and stress management. Each subscale may be used independently. The total score of the scale gives the healthy lifestyle behavior score.

### Knowledge Assessment Form on Gynecological Cancer Prevention

The form is prepared with the intention of assessing the knowledge of participating students on gynecological cancer prevention[16-18]. It is composed of 16 items. The students were required to choose among "true", "false" or "I do not know" options while answering the questions in the form. Each "correct" answer was evaluated as "1 point" in the analysis. The maximum score achieved was 16 in the knowledge based questions. In the questionnaire, the answers of the students to the questions in Form III were evaluated in two categories as "cognizant" and "not cognizant" such that "1 point" was assigned to the participants who know the answer and "0 point" to the ones who do not know the answer. Written consent was taken from Higher Education Student Loan and Housing Board for the application of the data collection forms. The data analysis was performed by using SPSS 15.0 software. In the analysis, descriptive statistics such as mean, standard deviation and percentage distribution were computed. In addition, chi-square test, t-test and F-test (ANOVA) were performed. The correlation coefficient between the HLB scale and the variables of gynecological cancer prevention was determined. The significance level is found to be 0.05 in the statistical tests.

### Research Ethics

Approval for the study was obtained from the Cumhuriyet University Scientific Research Project Ethic Committee processed (No: 2015- 01/05 15.01.2015). Approval for the study was obtained from the Cumhuriyet University Scientific Research Project Committee processed (No: SBF 034- 19.08.2015- 19.08.2017). Were informed about the nature of the study, measures to preserve their confidentiality and the possibility to withdraw their participation at any time. Their written consent for participating in the study was obtained. The research was conducted according to Declaration of Helsinki principles. Moreover, written permission from the relevant

institutions and permission from the female students were obtained in order to realize the research.

## Results

The distribution of students according to their socio-demographic status revealed that 20.9 % were in Faculty of Health Sciences, 29.3 % were in Faculty of Arts and Sciences, 33.2% were in the first grade and mean age was  $20.71 \pm 1.68$ . The BMI distribution of the students was such that while 77.1 % were in normal weight, 1.4 % were obese. 78.4 % of the students declared that they hold health insurance, 80.9 % of them had average economic condition. 30.9 % of the

students had stated t have family members with cancer history of which 74.1 % were first-degree relatives. 79.7 % of the students asserted that they were not informed on gynecological cancer. It has been observed that while 82 % of the students were not informed on cancer prevention, 18 % were well informed.

The scores of the students on the HLB scale indicated that while the highest mean score of  $36.29 \pm 6.42$  was obtained in self realization, lowest mean score of  $9.38 \pm 3.25$  was obtained in physical exercise, which then was followed by the mean score of  $14.84 \pm 3.40$  in nutrition,  $17.25 \pm 3.64$  in stress management and  $21.40 \pm 6.05$  in interpersonal support. The total mean of the scale was  $118.90 \pm 20.54$ .

**Table 1: The Distribution of Female Students According to Their Status of Being Cognizant and Not Cognizant on Gynecological Cancer Prevention (n=802)**

	Cognizant	Not Cognizant
Harmful substance (cigarette, alcohol) consumption is not a risk factor for gynecological cancer.	670 (83.5 %)	132(16.5 %)
Obesity is a risk factor for gynecological cancer.	491 (61.2 %)	311(38.8 %)
Chronic diseases are not a risk factor for gynecological cancer.	419(52.2 %)	383(47.7% )
Sexual intercourse at young age is a risk factor for gynecological cancer.	438 (54.6 %)	364 (45.4 %)
Poor perineal hygiene does not cause gynecological cancer.	405(50.5 %)	397(49.5 %)
Human Papilloma Virus (HPV) is not a risk factor for gynecological cancer.	352(43.9 %)	450(56.1 %)
Herpes Simplex type 2 virus is a risk factor for gynecological cancer.	243 (30.3 %)	559(69.7 %)
Sexual Transmitted Diseases (STD)s are not risk factors for the development of gynecological cancer.	637(79.4 %)	165(20.6 %)
Condom usage is necessary for gynecological cancer prevention.	302(37.7 %)	500(62.3 %)
There is no vaccine for gynecological cancer prevention.	145(18.1 %)	657(81.9 %)
Early diagnosis of gynecological cancer is possible with gynecological examination.	623(77.7 %)	179(22.3 %)
Regular physical exercise does not prevent gynecological cancer.	501(62.5 %)	301(37.5 %)
Stress management is essential for gynecological cancer prevention.	536(66.8 %)	266(33.2 %)
It is important to avoid animal fat diet for gynecological cancer prevention.	415(51.7 %)	387(48.3 %)
Weight control is important in gynecological cancer prevention.	532(66.3 %)	270(33.7 %)
Gynecological cancer can be early diagnosed by gynecological examination.	589(73.4 %)	213(26.6 %)

The analysis of gynecological cancer prevention data indicates that 56.1 % of the students did not know the whether “HPV is a risk factor for gynecological cancer”, 69.7% did not know whether “Herpes Simplex Type 2 virus is a risk factor for gynecological

cancer”, 20.6 % did not know if “STDs are risk factors for the development of gynecological cancer”, 62.3 % did not know whether “condom usage is necessary for gynecological cancer prevention” and 81.9 % did not know if “there is a vaccine preventing gynecological cancer”.

**Table 2: The Distribution of Health Responsibility in HLB scale, in HLB Subscales and in Knowledge Scores on Gynecological Cancer Prevention (KSGCP)**

	Physical Exercise Code			Total	Nutrition Code			Total	Stress Code			Total
	1	2	3		1	2	3		1	2	3	
1	296	45	5	346	103	22	22	346	91	24	13	346
2	173	169	32	374	27	24	104	374	26	26	79	374
3	9	46	27	82	1	24	57	82	0	29	53	82
Total	478	260	64	802	131	48	183	802	117	54	145	802
Chi-Square	value	df	sig	x	value	df	sig		value	df	sig	
	238.6	4	0.000		207.2	4	0.000		212.8	4	0.000	
	HLB Code			Total	KGCP Code				Total			
	1	2	3		1	2	3	4				
1	84	262	0	346	29	11	133	70	346			
2	6	327	41	374	30	84	130	130	374			
3	0	25	57	82	5	3	29	45	82			
Total	90	614	98	802	64	20	292	245	802			
Chi-Square	value	df	sig	x	value	df	sig					
	384.16	4	0.000		55.83	6	0.000					

There exists a statistically significant difference between the health responsibility subscale of HLB scale and physical exercise, nutrition, stress

management, HLB, knowledge score on gynecological cancer prevention ( $p = 0.000 < 0.05$ ).

## Discussion

This study has been conducted in Cumhuriyet University Higher Education Student Loan and Housing Board Dormitory to specify the relationship between the knowledge and attitude of female students on gynecological cancer prevention and healthy lifestyle behaviors. Among the students participating in this study 20.9 % were in Faculty of Health Sciences, 29.3 % were in Faculty of Arts and Sciences, 33.2 % were in the first grade and the mean age of the sample was  $20.71 \pm 1.68$ . The BMI distribution of the students indicated that 77.1 % were in normal weight, 1.4 % were obese. 78.6 % of the students had health insurance, 80.9 % had average economic condition. 79.7 % of the students declared that they were not informed on gynecological cancer and 82 % stated that they were not informed on cancer prevention. Most of the knowledgeable students on gynecological cancer affirmed that they were informed by the instructors in the university. In a study conducted by Gültekin et al. 82.9 % of the participants declared that they were not informed about cancer [6]. Similarly, in our study, most of the students (79.7 %) were not knowledgeable about gynecological cancer. It was observed that there exists a statistically significant relationship between the status of being informed on gynecological cancer and the total score on HLB scale and subscales ( $p = 0.000 < 0.05$ ). The difference among the status of students on being informed and their knowledge scores on gynecological cancer prevention was found to be statistically significant ( $p < 0.05$ ). A linear positive correlation was found between the scores of students on HLB subscales and their knowledge scores on gynecological cancer prevention. The positive linear correlation was found in decreasing order between self actualization and HLB scale (84.1%), stress management and HLB scale (83.2 %), health responsibility and HLB scale (83.0 %), nutrition and HLB scale (71.3 %), physical exercise and HLB scale (70.1 %) and interpersonal support and HLB scale (65.5 %). In addition, a linear positive correlation of 17.2 % was found between the total score of students on HLB scale and their knowledge score on gynecological cancer prevention. This Pearson correlation coefficient was found to be significant despite being low ( $p = 0.000 < 0.05$ ). In other words, the knowledge scores of the students on gynecological cancer prevention increases with 17.2 % when their total score on HLB scale increases. The analysis of the data on HLB scale indicates that the highest mean score was on self actualization with  $36.29 \pm 6.42$  which then is followed by  $21.40 \pm 6.05$  in health responsibility,  $19.73 \pm 3.60$  in interpersonal support,

$17.25 \pm 3.64$  in stress management,  $14.84 \pm 3.40$  in nutrition and  $9.38 \pm 3.25$  in physical exercise. Total mean score of HLB scale was determined to be  $118.90 \pm 20.54$ . In the study by Karadağ and Lafçı, the total mean score was  $118.4 \pm 17.1$  in HLB scale. The HLB scale and HLB subscale mean values were  $21.0 \pm 3.8$  in nutrition,  $20.4 \pm 3.3$  in stress management,  $19.9 \pm 3.4$  in health responsibility,  $19.5 \pm 3.7$  in self actualization,  $19.4 \pm 3.4$  in interpersonal support and  $17.9 \pm 3.5$  in physical exercise [19]. In the study by İlhan et al. the total mean score was  $126.44 \pm 18.49$  in HLB scale [20]. In our study, the lowest scores of the students were on stress management ( $17.25 \pm 3.64$ ), nutrition ( $14.84 \pm 3.40$ ) and physical exercise ( $9.38 \pm 3.25$ ). The results of our study bear resemblance with the existing ones in the literature. In our study, the scores of students on self actualization were higher compared to the other subscales [21-26]. In addition, the difference between the participants with high scores on self actualization in HLB scale and their knowledge scores on gynecological cancer prevention was found to be statistically significant ( $p < 0.05$ ). Therefore, one may conclude that the individuals with self actualization are conscious on health responsibility, gynecological cancer prevention and HLB. The correlation analysis indicates that the scores of the students on gynecological cancer prevention have a positive impact on their scores of self actualization, health responsibility, stress management, interpersonal support ( $p < 0.05$ ). Health responsibility provides the individual with starting and maintaining health promotion behavior [27,28]. In our study, a statistically significant difference was found between physical exercise, nutrition and stress management subscales of HLB and status of undergoing gynecological examination, knowledge scores on the gynecological cancer prevention ( $p < 0.05$ ). Sedentary enhances the death by cardiovascular diseases, diabetes and obesity and increases the risk of having cancer, particularly colon cancer, high blood pressure, osteoporosis and depression. Therefore, attention should be paid to nutrition and physical exercise of university students to decrease the possibility of them catching a disease [29]. In our study, the difference between the physical exercise subscale of HLB and nutrition, stress management, HLB scale, knowledge scores on gynecological cancer prevention were found to be statistically significant ( $p < 0.05$ ).

The differences between the health responsibility subscale of HLB and physical exercise, nutrition, stress management, HLB scale, knowledge scores on gynecological cancer prevention were found to be statistically significant ( $p < 0.05$ ). The differences

between the nutrition subscale of HLB and stress management, HLB scale, knowledge scores on gynecological cancer prevention were found to be statistically significant ( $p < 0.05$ ). The difference between the stress management subscale of HLB and HLB scale, knowledge scores on gynecological cancer prevention were found to be statistically significant ( $p < 0.05$ ). It is very important to enhance the health responsibility of students and to raise awareness on them for gynecological cancer prevention. Therefore, it is necessary to boost HLBs of students, to promote their health and to improve their health responsibility for gynecological cancer prevention. It is principally the responsibility of health workers to provide the individuals with susceptibility on their own health and to enhance their health responsibility. In this aspect, it is very important for the health workers to play an active role in instructing, consulting and guiding the individuals. By raising awareness in the students about HLB and engendering behavioral change at an early age, health promotion and protection from possible diseases may be possible.

In terms of community health care, it is important to observe the health behaviors of female university students and to enhance the missing ones. The importance of our study to be conducted on the university students hinge on the fact that they are representatives of the society both now and in the future, and that they may be role models with the behaviors they have adopted throughout their university education. In this study, the relation between HLB and gynecological cancer prevention was found to be statistically significant. Raising awareness and consciousness on the young population may prevent future possibilities of contracting gynecological cancer.

### Conclusion

In this study, the relation between HLB and gynecological cancer prevention was found to be statistically significant. The young population exhibiting HLB may protect and promote their health. In this way, future incidence of contracting cancer may be minimized. The development and sustainability of HLB is fundamental for preventing possible diseases. The education and counseling presented to university students, who are the representatives of the society, may provide them with HLB acquisition, gynecological cancer prevention which in turn gives rise to health promotion of the society both now and in the future. In conclusion, applied courses and activities enhancing healthy lifestyle behaviors of students and raising awareness of cancer prevention as well as monitoring the results of these practices in scientific studies and

improving the methods whenever necessary are suggested. The present study indicates that the knowledge scores of participants on gynecological cancer prevention increase in parallel with the HLB scores. A linear positive correlation is found between the total scores of students on HLB and on its subscales and the knowledge scores of the students on gynecological cancer prevention. Thus, there exists a statistically significant relation between HLB and gynecological cancer prevention. This is why, it is important to identify the HLB of the female students and their knowledge on gynecological cancer. Raising awareness and consciousness about HLB and gynecological cancer prevention very important.

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