



### RESEARCH ARTICLE

## THE PRACTICES OF UNIVERSITY STUDENTS REGARDING TESTICULAR SELF-EXAMINATION AND AN EVALUATION ON THE EDUCATION GIVEN TO UNIVERSITY STUDENTS

Melike DEMIR DOGAN and Busra GUVEN Yasin ERDOGAN.

Gumushane Universitesi Saglik Bilimleri Fakultesi, Bablarbası Mahallesi 29100 / Gumushane.

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### Abstract

This study was planned to determine the practice of university students regarding testicular cancer and testicular self-examination.

The population of this quasi-experimental study was male nursing students (n=150). The sample consisted of 98 students who had agreed to participate in the study. The data was collected through a questionnaire, which was developed by the researcher in the direction of the literature. In the analyses; the percentage, mean, and t-tests, and Kruskal-Wallis H test were performed.

The students mean age was  $21.12 \pm 1.82$ . There was no testicular cancer students' in the students' families. While more than half of the students (59.2%) reported that they had prior knowledge regarding testicular cancer, the remainder, (54.1%), stated that they acquired their knowledge from their degree course. 49% of the students reported that they knew how to perform a testicular self-examination, but 31.6% said that they had. The average correct answer to 22 questions concerning testicular cancer and testicular self-examination was  $16.55 \pm 2.14$  prior to study, and the average correct answers was  $18.22 \pm 2.93$  after education. This increase was statistically significant ( $p < 0.001$ ).

As a result, it was determined that most university students have a moderate level of knowledge on testicular cancer and testicular self-examination.

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### Introduction:-

The incidence of cancer is increasing worldwide every year. According to data from 2012, the incidence of cancer in males was 205.4 at 100.000 (Ferlay et al., 2013). According to 2010 data, the ratio was 234.4 out of 100,000 in Turkey (Turkey Cancer Statistics, 2010).

Although testicular cancer is rarely seen, it is the most common cancer among 15-35 year olds (Turkey Cancer Statistics, 2010). Testicular cancer represents 1% of male neoplasm, and 5% of urological tumours (Albers et al., 2015). According to the 2010 data, incidences of testicular cancer was 3.4 out of 100,000, in Turkey (Turkey Cancer Statistics, 2010).

Testicular tumours show excellent cure rates with staging at the time of diagnosis; and adequate early treatment based on chemotherapeutic combinations, either with or without radiotherapy and surgery (Kuzgunbay et al., 2013).

**Corresponding Author:- Melike DEMIR DOGAN.**

Address:- Gumushane Universitesi Saglik Bilimleri Fakultesi, Bablarbası Mahallesi 29100 / Gumushane.

Testicular cancer is highly curable if caught early, with a five-year survival rate of 90% (American Cancer Society, 2013). A testicular self-examination is the easiest way for an early detection of physical abnormalities in the testicles. The American Medical Association, and the American Urological Association suggests that public information and education regarding testicular self-examination for an early diagnosis of testicular cancer (Kuzgunbay, 2014). The European Association of Urology recommends a testicular self-examination to men with clinical risk factors (Albers et al., 2015).

Testicular self-examination involves palpating the testis, epididymis, and spermatic cord between the thumb and the first two fingers. This practice should be done either in the shower or after the shower using a mirror, once a month (Göggeldi and Koçak, 2010).

Studies have shown that the knowledge and awareness of society concerning testicular cancer and a testicular self-examination is limited (Kuzgunbay et al., 2013; Khadra and Oakeshott, 2002; Brenner et al., 2003; Casey et al., 2010). Thus, a knowledge of testicular self-examination is critical in self-detection and the subsequent treatment of testicular cancer. For this reason, this study was planned to determine the knowledge and practice of university students of testicular cancer and testicular self-examination, and then it was conducted to determine the extent of knowledge after study.

## **Methods:-**

### **Setting and Participants:-**

This quasi-experimental study was conducted in the Gümüşhane University health school department of nursing, from December 2014 to February 2015. The population of the study were male nursing students (n=150). The sample consisted of 98 students who had agreed to participate in the study.

### **Measures and instruments:-**

Data was collected through a questionnaire which was developed by the researcher in the direction of the literature. The socio-demographical form included 14 questions, which included socio-demographical characteristics and those related to testicular cancer and testicular self-examination. The knowledge form included 22 questions, which also included general knowledge towards testicular cancer and testicular self-examination.

The students completed the socio-demographical form prior to study. They also completed the knowledge form, which include 4 question about testicular cancer, and 18 questions about the testicular self-examination before education. Afterwards, 30-minutes of training was given on testicular cancer and testicular self-examination. The Students were asked to fill out information forms again after this training.

### **Ethical considerations:-**

The required permission was taken from the administration of the Gümüşhane University Health School Nursing Department. The students were informed, and verbal consent was obtained.

### **Data analysis:-**

The descriptive statistics, means, median, frequencies, and percentages, were used to show the socio demographic characteristics of the students. The comparisons were made using the t test and Kruskal-Wallis H test for all the statistical analyses, and a 2 sided p value of less than 0.05 was considered statistically significant.

## **Results:-**

### **Socio Demographic Characteristics of Students:-**

The students mean age was  $21.12 \pm 1.82$ . There was no history of testicular cancer in the students' families. The students had spent the majority of their life in the city. It was determined that half of the students (50%) were living in the school dormitory, and 47% either in the family home, or with friends. Half of the students' mothers were primary school graduates (56.1%), but the vast majority of mothers were housewives (93.9%). Half of the students' fathers' were also primary school graduates, and 34.7% were labourers. The majority of the students' level of income was moderate (71.4%). The majority of those participating in the study were non-smokers (63.3%) and did not consume alcohol (92.9%) (Table 1).

**Table 1:-** Socio-demographic characteristics of students (n=98)

	<b>n</b>	<b>%</b>
<b>Class</b>		
1	28	28.6
2	26	26.5
3	19	19.4
4	25	25.5
<b>The occurrence of most of the living</b>		
Village	22	22.4
Town	27	27.6
City	49	50.0
<b>Current place of stay</b>		
In addition to family	3	3
Dormitory	49	50
At home with my friends	46	47
<b>Mother's education</b>		
Illiterate	23	23.5
Primary school	55	56.1
Secondary school	13	13.3
High school	5	5.1
University	2	2
<b>Mother's occupation</b>		
Housewife	92	93.9
Workers	6	6
<b>Father's education</b>		
Illiterate	7	7.2
Primary school	46	46.9
Secondary school	18	18.4
High school	21	21.4
University	6	6.1
<b>Father's occupation</b>		
Retired	23	23.5
Workers	34	34.7
Officer	20	20.3
Self-employment	21	21.5
<b>Level of income</b>		
Bad	21	21.4
Moderate	70	71.4
Good	7	7.1
<b>Smoking status</b>		
Yes	36	36.7
No	62	63.3
<b>Alcohol drinking status</b>		
Yes	7	7.1
No	91	92.9

**Testicular Cancer and Testicular Self-Examination:-**

58 of the students (59.2%) reported that they had knowledge about testicular cancer, and that they had acquired this information in undergraduate courses (54.1%). The students reported that they did not know how to perform a testicular self-examination (51%) and that they had never performed one either (68.4%). Only 13.3% of the group was found to have performed a regular monthly testicular self-examination (Table 2).

The students reported that the reason for not doing a testicular self-examination were; not knowing how to do a testicular self-examination (47.3%), a disregard for a testicular self-examination (27%), and the fear of discovering something negative during the testicular self-examination (25.7%) (Table 2).

**Table 2:**Information about Testicular Cancer and Testicular Self-Examination

	n	%
<b>Do you have information about testicular cancer?</b>		
Yes	58	59.2
No	40	40.8
<b>Where did you get the information about testicular cancer?</b>		
In undergraduate lessons	53	54.1
Newspapers and magazines	5	5.1
<b>Do you know how to do testicular self-examination?</b>		
Yes	48	49
No	50	51
<b>Do you do testicular self-examination?</b>		
Yes	31	31.6
No	67	68.4
<b>What is your time to do testicular self-examination?</b>		
Few times in a last year	15	35.7
Once in the last 6 months	14	33.3
Regularly each month	13	13.3
<b>What is your reason not to do testicular self-examination?</b>		
Don't know how to do testicular self-examination	35	47.3
Disregard of testicular self-examination	20	27.0
Fear from a bad thing during testicular self-examination	19	25.7

The mean for correct answers given in the test of knowledge by the participants before study was  $16.55 \pm 2.14$ , and  $18.22 \pm 2.93$  afterwards. This increase was statistically significant ( $p < 0.001$ ).

There was a significant difference between the students' class and level of knowledge before training ( $p = 0.03$ ) which showed the lowest mean score was for the lower class. There was a significant difference between the students' mothers' education and level of knowledge before training ( $p = 0.03$ ). Students whose mothers were university graduates, were found to have a lower mean score. After the study, there was not a significant difference between the students' class and the level of knowledge and between the students' mothers' education and level of knowledge (Table 3).

**Table 3:** Comparison of some socio-demographic characteristics with the average number of correct answers to given the knowledge test before and after education

			Before Education		After Education	
		n	mean	p	mean	p
Class	1	28	16.29	0.03*	18.10	0.81*
	2	26	14.84		17.88	
	3	19	17.05		18.26	
	4	25	17.08		18.68	
Mother's education	Illiterate	23	16.82	0.03*	17.86	0.20*
	Primary school	55	16.87		18.34	
	Secondary school	13	15.46		19.23	
	High school	5	15.60		16.60	
	University	2	14.00		16.50	

\*Kruskal-Wallis H test

## Discussion:-

The chances of curing testicular cancer are high if detected at an early stage. Early diagnosis is important in terms of being conscious individuals do testicular self-examination (Yılmaz et al., 2009; Ugurlu et al., 2011; Pinar et al., 2011). Thus, this study was planned to determine the knowledge and practices of university students regarding testicular cancer and testicular self-examination. It was also conducted to determine the exchange of knowledge through training.

Our study showed that 59.2% of the students had information regarding testicular cancer, and 54.1% had acquired this information in undergraduate courses. A study reported that 11.1% of the participants had knowledge concerning testicular cancer, and 5.6% of them received this information from school (Kuzgunbay et al., 2013). In our study, nursing students were considered to be better informed as a result of being a student.

Our study showed that 51% of the students did not know how to perform a testicular self-examination, and 68.4% of them had not performed one before. A study which questioned male university students on testicular cancer, identified that the participants were generally uninformed about testicular cancer risks and screening (Rovito et al., 2011). A study which surveyed 7304 college students throughout Europe, reported that 87% of the participants had never performed a testicular self-examination (Wardle et al., 1994). Göçgeldi and Koçak reported that 8.8% of the participants had performed testicular self-examination at least once in their lifetime (Göçgeldi and Koçak, 2010). Another study which was conducted in Turkey, showed that 3.3% of students knew how to do a testicular self-examination, and had performed one (Altinel and Avci, 2013). Referring to these studies; it can be observed that a higher proportion of our students do perform testicular self-examinations. This rate is affordably normal because they are nursing students. A study which was conducted on male nursing students reported that 89.4% of them did not know how to do a testicular self-examination (Asgar and Çam, 2014). According to this study on nursing students, it was determined that it is advantageous for our students to know how to perform a self-examination.

In our study, only 13.3% of the students had done a regular monthly testicular self-examination. A study which surveyed 7304 college students showed that only 3% of them performed a monthly self-examination (Wardle et al., 1994). Another study reported that 2.5% of the participants had performed a testicular self-examination, but only 1% of these had been performing it routinely once a month (Kuzgunbay et al., 2013). A study conducted in 2011 with 750 participants, showed that the ratio of regular testicular self-examination was found to be 1% (Ugboma and Aburoma, 2011). In a study conducted with university students, the rates for doing a regular testicular self-examination was found to be 2.5% (Uğurlu et al., 2011). Another study reported that the rates for performing a regular testicular self-examination was 4.3% (Özbaş et al., 2011). According to these studies, the result of our work was more positive than the aforementioned ones. However, a study conducted in England, in 2002, showed that the ratio of regular testicular self-examination performed was found to be 22% (Khadra and Oakeshott, 2002). These results may be considered similar to our result.

In our study, the students reported that the reasons for not doing a testicular self-examination were: not knowing how to do a testicular self-examination (47.3%), a disregard for testicular self-examination (27%) and a fear of finding something bad during a testicular self-examination (25.7%). A study conducted with 750 participants, reported that 27% of the men were afraid of detecting a lump, and thus declined doing a testicular self-examination (Ugboma and Aburoma, 2011). These results are similar to our study.

Our study showed that knowledge of testicular cancer and testicular self-examination was of a moderate level. A study which was conducted in Africa, reported that knowledge of testicular cancer and testicular self-examination was not common (Setdwe, 2014). Moreover, the other two studies reported that knowledge of testicular cancer and of testicular self-examination was low also (Rudberg et al., 2005; Vadaparampil et al., 2009). This difference is normal because it concurred with our study on the nursing students.

Our study showed that the education given to the participants regarding testicular self-examination contributed to the increase in the level of knowledge of the participants. Similar results were seen in the Göçgeldi and Koçak's study also (Göçgeldi and Koçak, 2010). Consequently, courses on testicular cancer and testicular self-examination will be held in order to raise awareness. This will certainly increase the amount of testicular self-examinations carried out by the male population.

### **Conclusion:-**

As a result of our study, the rate of men who knew how to perform a testicular self-examination, and who did this regularly, was found to be better than that in other studies. In fact, this ratio is better than the other study, but regarded as low for students making nursing their profession. It would be difficult to create an awareness in society on this issue in health care workers who have not performed a testicular self-examination regularly.

As a result, courses on the subject were found to be effective. We suggest that young men attending healthcare institutions for any reason, should be given opportunistic health education on testicular self-examination.

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