

Original Article

Assessment of the Testicular Self-Examination Knowledge and Health Belief Model of Health Sciences Students

Hulya Ustundag, PhD, RN

Istanbul Bilgi University, Faculty of Health Sciences, Department of Nursing, Istanbul, Turkey

Correspondence: Hulya Ustundag, PhD, RN, Istanbul Bilgi University, Faculty of Health Sciences, Department of Nursing, Istanbul, Turkey e-mail: hulya.ustundag34@gmail.com

Abstract

Purpose: The study was conducted to be descriptive to identify the knowledge/practice of testicular cancer and testicular self-examination together with the health beliefs of health sciences faculty students.

Material and methods: The research is a descriptive study conducted at a state university in Turkey. The research population consisted of nursing, physiotherapy, rehabilitation and child development/education students. The sample was composed of 262 male students. The required data were gathered using a socio-demographic form and a Turkish version of Champion Health Belief Model Scale. For assessment of data; frequency, percentage, mean scores, Kruskal Wallis test and Mann Whitney-U test were benefited. The statistical significance was set at p value < 0.05 .

Results: Over 50% (60.3%) of the participants were between 18-21 years old. All of the participants reported knowledge about testicular cancer, with 42% of the participants stating that their knowledge came from the internet or social media. A total of 82.4% of the participants had no testicular problems, and 93.9% had no family history of testicular problems. More than 80% of participants did not know how to perform testicular self-examination. Champion health belief model scale showed that caring/seriousness had the highest score (20.34 ± 5.97) and that benefits of TSE had the lowest score (9.40 ± 2.91).

Conclusions: The present study reveals that the knowledge of testicular cancer and performance testicular self-examination was low among students. The scores obtained from Champion Health Belief Model Scale (CHBM) were at a medium level. Students should be informed appropriately on testicular cancer and testicular self-examination.

Key word: Testicular cancer, Testicular self-examination, health belief model.

Introduction

Testicular cancer occurs rarely in the general population; however, it is the most common type of malign tumour in young males (age between 15 and 35). Testicular cancer constitutes 1-1.5% of male neoplasms and 13-23% of male urogenital system tumours (Albers et al. 2017; American Cancer Society, 2017). In Turkey, urogenital system cancers cover 4.72% of all types of cancers. Testicular cancer, on the other hand, covers 1.3% of male neoplasms (Kuzgunbay et al., 2013; Kuzgunbay 2014; Akar&Bebis 2014).

One of the most common symptoms of testicular cancer is painless swelling in one testis. This symptom might be determined early if self-examination occurs regularly. (Kuzgunbay et al 2013; Kuzgunbay 2014; Akar&Bebis 2014;

Albers 2017). It is known that regular testicular self-examination leads to early detection (American Cancer Society, 2017; Kuzgunbay 2014). Other reports have shown that testicular self-examination does not occur frequently and most males are not aware of its benefits (Albers et al., 2017; Saab, Landers, Hegarty, 2016; Rovito et al., 2015; Ozbas et al., 2011). Kuzgunbay et al. reported that only 2.5% of medical school students had performed testicular self-examination before and that only 1% performed it regularly (once a month) (Kuzgunbay et al., 2013).

A high level of sensitivity to and awareness of testicular cancer increases the rate of performing testicular self-examination, as does explaining its benefits (Pour et al., 2016; Yılmaz, Koca, Cecen 2009; Pinar et al., 2011). The literature suggests that the beliefs and attributes of individuals about

health affect their health behaviours (Pinar et al., 2011; Iyigun et al., 2016). The Health Belief Model (HBM) explains the relationship between individuals' beliefs and predicts health-related behaviours as well as the effect of individual motivation on health behaviour at the level of individual decision-making. It describes the reasons for motivation about health behaviours and the conditions that affecting preventive behaviours. In this context, healthcare providers might assess adult males' health beliefs and behaviours with the help of the Champion Health Belief Model Scale (CHBMS) (Pinar et al., 2011; Iyigun et al., 2016; Rudberg et al., 2005).

The study was planned to be descriptive to identify the knowledge/practice of testicular cancer and testicular self-examination together with the health beliefs of health sciences faculty students.

Research Questions

- 1- Do the health sciences faculty students know about testicular cancer and testicular self-examination?
- 2- Do the health sciences faculty students perform testicular self-examination?
- 3- What are the health beliefs and practices of students in regards to testicular cancer?

Materials and Methods

The study was conducted descriptively to identify knowledge/performance of testicular cancer and testicular self-examination together with health beliefs of health sciences faculty students of a state university.

Participants and Setting

The study consisted of 372 male students from the departments of Nursing, Physiotherapy, Rehabilitation and Child Development/Education in the Health Sciences Faculty and was conducted between October and December, 2017. Participants were informed of the purpose of the study and all participants enrolled in the study signed an informed consent. The volunteers who consented to participate in the study were asked to fill in the questionnaire. 262 male students completed the study.

Data Collection

During the data gathering process; information form prepared according to literature (including the questions about; age, education year, knowledge of testis tumours, risk factors for

testicular cancer and knowledge and practice of self-examination) and Turkish version of Champion Health Belief Model Scale were utilized.

The Turkish version of the Champion Health Belief Model Scale (CHBMS) was validated by Pinar et al. The questionnaires were based on a 5 likert type with (1) strongly disagree, (2) disagree, (3) undecided, (4) agree and (5) strongly agree. selection. The reliability and validity study by Pinar et al. identified that the Cronbach's alpha coefficient values for sub-dimensions were 0.92 for perceived susceptibility, 0.90 for perceived seriousness, 0.72 for benefits, 0.64 for barriers and 0.78 for self-efficacy (Pinar et al., 2011)

The Turkish version of CHBMS consist of five sub-dimensions: (1) Sensitiveness, individuals' perception of personal risks or sensitivities regarding a disease or health issues and consisted out of five items; (2) Caring/Seriousness, taking the outcomes of a disease seriously and consisted out of 7seven items; (3) Benefits, individuals' belief in the benefit of protective behavior suggested to mitigate symptoms or prevent a disease, and consisted out of 3 items; (4) Barriers, perceived barriers to adopt new behaviors and adapting to situations and consisted out of 5 items; (5) Self-efficacy/ Confidence, individuals' belief in their capability of successfully taking an initiative, six items). The evaluation of sub-dimensions were based on minimum and maximum scores (Sensitiveness: 5–25, Caring/Seriousness: 7–35, Benefits: 3–15, Barriers: 5–25 and Self-efficacy/ Confidence: 6–30. There is no total score; the mean scores for each sub-dimension is calculated and assessed separately (Pinar et al., 2011).

The Cronbach alpha coefficient values for sub-dimensions in the study were identified as follow: 0.89 for sensitiveness, 0.83 for seriousness, 0.86 for benefits, 0.80 for barriers and 0.92 for self-efficacy.

Ethical considerations

The study was approved by the faculty administration. Written approval to conduct this study was obtained from the ethics committee of Istanbul Bilgi University. (2017-40016-63). The participants were informed on the study and their approval was also granted. Informed consent was obtained from all individual participants included in the study.

Data Analysis

SPSS 22.0 (Statistical Package for the Social Sciences) (SPSS Inc., Chicago, IL, USA) program was utilized for data analysis. For assessment of data; frequency, percentage, mean scores, Kruskal Wallis test and Mann Whitney-U test were benefited. The statistical significance was set at p value < 0.05.

Findings

A 60.3% of the participants were between 18 and 21 years old. All of the participants reported knowledge about testicular cancer, with 42% of the participants stating that their knowledge came from the internet or social media.

Table1 Sociodemographic characteristics and the knowledge level about testicular self-examination students

Demographic Characteristics	n	%	
Age	18-21	158	60.3
	22-27	104	39.7
Education year	First	81	30.9
	Second	106	40.5
	Third	50	19.1
	Fourth	25	9.5
Testis Cancer Education	Provided	46	17.6
	Non-provided	216	82.4
Source of knowledge	Undergraduate education	28	10.7
	Internet-media	109	41.6
	Friends	24	9.2
	Health care providers	18	6.9
Having a testicular problem formerly	Yes	18	6.9
	No	244	93.1
Family history of testicular problems	Yes	16	6.1
	No	246	93.9
Use of condom	Yes	151	57.7
	No	111	42.4
Do you know TSE	Yes	46	17.6
	No	216	82.4
TSE experience	Yes	29	11.1
	No	225	85.9
Reason of not performing?*	Not taking serious	195	74.4
	Fear	10	3.8
	Embrassement	22	8.4

*Multiple choices were marked.

Table 2 Champion health belief model scale dimensions

Scale dimensions	Means \pm SD	Lowest and highest value to be taken
Sensitiveness	11.35 \pm 4.16	5.00-25.00
Caring/seriousness	20.34 \pm 5.97	7.00-35.00
Benefits	9.40 \pm 2.91	3.00-15.00
Barriers	13.08 \pm 3.95	5.00-25.00
Self-effectiveness	16.52 \pm 5.61	6.00-30.00

Table 3 The items representing significant difference between demographic characteristics and Health Belief Model

Demographic characteristics		Mean \pm SD	z	p
		Self-effectiveness mean scores		
Having TSE knowledge	Yes	18.69 \pm 6.73	.3580*	p<0.05
	No	16.65 \pm 5.25		
		Self-effectiveness mean scores		
Education year	First	15.66 \pm 4.91	30.106**	p<0.05
	Second	16.66 \pm 5.63		
	Third	14.94 \pm 5.54		
	Fourth	21.92 \pm 4.78		
		Self-effectiveness mean scores		
Use of Condom	Yes	17.06 \pm 5.56	.6924*	p<0.05
	No	15.88 \pm 5.63		

*Mann-Whitney U **Kruskal Wallis

A total of 82.4% of the participants had no testicular problems, and 93.9% had no family history of testicular problems. Fourteen percent of the participants stated that they regularly had sex, and 57.7% used condoms during sexual intercourse. More than 80% of participants did not know how to perform testicular self-examination. Additionally, 74.4% did not take the self-examination seriously (Table 1).

The CHBMS identified that caring/seriousness had the highest score (20.34 \pm 5.97) and that benefits of TSE had the lowest score (9.40 \pm 2.91) (Table 2).

The items (such as self-effectiveness) represented significant differences between demographic characteristics and the Health Belief Model, as presented in Table 3.

Discussion

In the study, testicular self-examination knowledge/practice and health belief models of health sciences faculty students were assessed. All of the participants reported that they had knowledge about testicular cancer, but 82.4% did not receive any education on the issue. Most of the subjects expressed that their knowledge about testicular cancer came via the internet, school education, media and healthcare providers, in that order. The study by Pour et al. reported that 40.8% of the participants had not received any education on testicular cancer. (Pour et al., 2016). Likewise, Ugurlu et al. reported that 44% of the participants had knowledge about testicular cancer; however, 94.1% had not received education on the topic (Ugurlu et al., 2011).

The study, most of the subjects stated that they had not received any education on testicular cancer, which could be explained by the fact that most of the subjects were first- and second- year students, whose curriculum had not yet included testicular cancer education. In this study, the rate of condom use was identified as 57.7%. A similar study by Ozbas et al., defined the condom use rate to be 70% (Ozbas et al., 2011). The use of condoms during sexual intercourse is an effective way to prevent HIV, which is a risk factor for testicular cancer. Early diagnosis is crucial for all types of cancer. The best practice for an early diagnosis of testicular cancer is a monthly self-examination (Casey et al., 2010; Umeh & Chadwick 2016). This study presented that only 11.1% of the students perform a self-examination regularly. Most of the subjects did not take the testicular self-examination seriously (74.4%), whereas 3.8% had a fear of noticing a tumour and 74.4% forgot to perform the testicular self-examination. Similar rates of practising testicular self-examination were found in other studies (37.5% in Pinar et al.'s study, 33% in Pour et al.'s study and 17.7% in Ugurlu et al.'s study). The study by Altinel and Avcı reported that only 3.3% of students from the faculty of education conducted testicular self-examination (Pour et al., 2016; Pinar et al., 2011; Ugurlu et al., 2011; Altinel & Avcı 2013). The study by Peltzer and Pengpid reported that the rate of testicular self-examination in student participants was dependent on the country in which it was conducted (i.e., Bangladesh, 20.3%; Madagascar, 12.2%; Singapore, 21.4%; South Africa, 17.2% and Turkey, 17.7%) (Peltzer & Pengpid 2015). The study by Ozturk et al. reported that 80% of

non-student participants never performed testicular self-examination. The main reason given for not performing the self-examination was not knowing how to perform the examination (Ozturk, Unalan, Guleser, 2014).

The study by Ramim et al. reported that Iranian medical sciences students had insufficient knowledge about testicular cancer and testicular self-examination, and the rate of testicular self-examination performance was substantially low (Ramim et al., 2014). The main reason for the low rate was that the majority of students (74.4%) did not take the testicular self-examination seriously. Planning an appropriate educational model and focusing on the importance of testicular self-examination performance will increase the rates of testicular self-examination.

The Health Belief Model describes the role of individual beliefs and values that determine preventive health care behaviours. Thus, the HBM plays an important role in of behaviours related to primary, secondary and tertiary prevention. The scores on the CHBMS were identified at a medium level in the present study. Pinar et al. reported that the scores of the CHBMS were at a medium level, and the highest mean score belonged to seriousness (20.69±6.94), followed by others as self-efficacy (18.76±5.01), barriers (11.51±3.37), susceptibility (11.44±4.56) and perceived benefits (9.36 ± 2.68) (Pinar et al., 2011). In the study by Pour et al., the students' mean scores of perceived sensitiveness, caring/seriousness, benefit, obstacle, self-effectiveness dimensions related to the testicular self-examination (TSE) were 11.27±3.6, 21.12± 5.9, 10.6 ± 2.8, 11.29±3.6, and 18.05±4.9, respectively. (Pour et al., 2016). The scores obtained from the Health Belief Model in this study agreed with those from similar studies conducted in Turkey.

A statistically significant difference was observed between education year of students and the self-effectiveness -sub-dimension scores of the CHBMS when compared to demographic characteristics of students ($p < 0.05$). Likewise, a statistically significant difference was detected in the self-effectiveness mean scores of students who knew about TSE and preferred to use a condom during sexual intercourse ($p < 0.05$). The study by Dogan et al. conducted with nursing school students identified that the scores of the self-efficacy sub-dimension were significantly

different in terms of education year of students, having knowledge before hand or not. (Dogan et al., 2016). It is rather compatible with this study. As the education year of students increases and students gain more knowledge and skills regarding testicular self-examination, self-effectiveness, defined as “confidence in one's own ability to achieve intended results,” improves. The results of the present study are absolutely compatible with other similar studies (Ozbas et al., 2011; Altinel & Avci 2013; Peltzer & Pengpid, 2015; Dogan et al., 2016).

Conclusion

The present study reveals that the knowledge of testicular cancer and performance testicular self-examination was low among students. The scores obtained from CHBM were at a medium level. Students should be informed appropriately on testicular cancer and testicular self-examination. Furthermore, testicular cancer and testicular self-examination should be part of the curriculum, and the importance should be explained and emphasized in detail.

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