

RESEARCH COMMUNICATION

Testicular Cancer Awareness and Testicular Self-Examination among University Students

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Abstract

Background: This study was planned to determine the knowledge of testicular cancer (TC), risk factors and testicular self-examination (TSE) among university students. **Methods:** A survey study was conducted at a university located in Ankara, Turkey with 634 male students. **Results:** Almost half of them (44%) heard TC during their education and life but majority of participants has lack of knowledge about sign and symptoms of TC. Only 5.9 % of them (n=38) indicated they received information on TSE and 17.7 % have performed the practice of TSE before; only one in a forth (n=21) performed monthly. The reason for not doing TSE was mostly (83.4%) “not having knowledge” and “not seen as important” (55.7%). **Conclusions:** Adding the education on TC, risk factors and TSE into their curriculum is proposed.

Keywords: Testicular cancer - self-testicular examination - university students - knowledge

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Introduction

Testicular cancer is the most common form of cancer among young men aged 15–35 years and the incidence is increasing. It is a highly treatable disease if detected in early stage. According to National Cancer Institute (2010) the age-adjusted incidence rate was 5.4 per 100,000 men per year in 2003-2007. In Turkey the relative incidence rate is 1.3 per 100.000 (Eser et al, 2006).

Testicular cancer can't be prevented however early diagnosis of the disease can be possible by assessing an unusual mass or swelling with self and regular examination of the testis. Early diagnosis plays an important role especially in nonseminomas or more aggressive and rapidly progressing testicular tumors (Rudberg et al., 2005; Wynd, 2002).

Testicular cancer is a curable disease when diagnosed early and research suggests high potentials of using low cost technique for early detection of testicular cancers (McCullagh et al., 2005; Casey et al., 2010) such as TSE. For this reason it is important to raise awareness in the community about testicular cancer, to focus on early diagnosis and surveillance subjects and give education to males who are at high risk group about performing TSE. In a study aiming to examine the factors involved with diagnostic delay of the 140 patients 49% of them had the scrotal pain and the median time in delay of the diagnoses was 5.4 months. This study concluded the importance of the education on TSE (Toklu et al, 1999).

Early detection of TC certainly improves outcome, but

there is little evidence that routine testicular examination is beneficial in the general population therefore leading health organizations debate the efficacy of testicular self-examination (TSE) in reducing TC related mortality (Adelman and Joffe, 2004; Casey et al., 2010; Evans et al., 2010). However, this decrease in mortality is accompanied by an increase in treatment-related morbidity, particularly for those cancers that are diagnosed at later stages. While TSE may not markedly improve the already high survival rates related to TC, early diagnosis does bring significant potential to reduce treatment-related morbidity, since surgery plus close surveillance is a viable management option for many early-stage patients (Moul, 2007). Education and instruction for men on the normal shape and texture of the testicles, plus information regarding signs and symptoms associated with TC could be a critical component in reducing treatment delay (Vasudev et al., 2004).

In Turkey, although much attention was given to education on breast cancer and breast self-examination, few studies has been done for education about testicular cancer (TC), risk factors and testicular self-examination (TSE). Because the university students are mostly in this age group, this study was planned to determine the knowledge on TC, risk factors and TSE among this group.

Materials and Methods

A cross-sectional survey study was conducted at a university located in Ankara, Turkey. The sample included

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634 male students (71 % response rate) who volunteered to participate from health sciences, medical, dentistry, education, engineering, science & letters faculties and vocational health school. This study was approved by the Baskent University Social and Human Sciences Research Committee. Voluntary completion of the questionnaire indicated informed consent. Data was collected via using a questionnaire which was developed based on the literature (Cook, 2000; Brown, 2003; McCullagh et al., 2005; Congeni et al., 2005; Rudberg et al., 2005; Ercan 2006; Altin and Kav, 2007; Yilmaz et al., 2009) consisted 32 items; including 14 statements about perception of TC and TSE using a four point likert scale. The questionnaire pre-tested with 20 students. SPSS (SPSS, Version 12.0 for Windows 2000) was used for data entry and analysis.

Results

Of the students 28.6% of them from health related schools (15.9% faculty of health sciences, 9.5% medical school, 3.2% faculty of dentistry), 46.2% of them from engineer school and %18.3 of them from social school (7.6% faculty of sciences and letters, 10.7% teacher’s college) and 6.9% of them from vocational health school. The mean age of the participants was 21.3±2.14 (range: 17-34 years).

Table 1. Students’ Knowledge and Practice of Testicular Self Examination (TSE)

Heard Testicular Cancer	Yes*	279	44.0
	No	355	56.0
TSE Knowledge / Education	Yes**	38	5.9
	No	596	94.1
TSE Practice	Performed	111	17.7
	Not performed	523	82.3
Frequency (n:111)	Monthly	21	19.1
	Any time	90	80.9
TSE Steps (n:111)*	All steps	7	33.3
	Any steps	104	66.7
Reasons of not practicing TSE***	Not having knowledge	436	83.4
	Not seen as important	291	55.7
	Anxiety	57	10.9
	Feeling sinful	32	6.1
	Guilty	16	3.1

n:634; *18.1% only name of the testicular cancer; ** 43 % from health professional, 18 % from internet, 13 % from relatives, 13% via books and other written materials, 13 % from mass media, 0.9% from relatives and others from any type of these ; *** multiple answers and percentage calculation performed using n: 523

Table 2. Students’ Responses Regarding Signs and Symptoms related with Testicular Cancer

Signs and Symptoms	Frequent		Rare		Not seen		Don’t know	
	n	%	n	%	n	%	n	%
Palpable mass/tumor	232	38.3	84	13.9	39	6.4	250	41.3
Swelling in testes	180	29.9	130	21.6	41	6.8	252	41.8
Pain or heaviness in the groin	213	35.2	129	21.3	37	6.1	226	37.4
Weight loss	66	11.0	102	16.9	105	17.4	329	54.7
Hematuria	115	19.0	121	20.0	88	14.5	281	46.4
Dysuria or burning sense on urination	174	29.0	108	17.9	64	10.6	257	42.5

It is found that 37.2 % of the students are smoking, their mean usage are 14.8 ± 25.35 months and in average 13.8±8.26 cigarette per day. 57.1 % are consuming alcohol and quantity of alcohol is 1 or 2 glasses a day in the average, 86.0 % are consuming 1-3 portions or more vegetables or fruits in their daily nutrition, 30.4 % are regularly and 47.9 % are sometimes or once in a while doing exercises. None of the students had testicular cancer history however 1.8 % had an individual with testicular cancer in his family.

Almost half of the students (44%) had heard testicular cancer during their education and life but they only knew its name when it is asked. Only 5.9 % of the students (n=38) indicated that they received information on TSE and 17.7 % have performed the practice of TSE before (Table 1). Most of them didn’t have information about the occurrence age of testicular cancer and those who have responded noted as “it can be occur at any age” and “over forty years of age”. Only 12.2 % of the students visited the physician for testicular examination. 4.9 % of the students had a history of a health problem with their testes like varicocele, cryptorchidism and hydrocele and of them 16.4% were operated because of these reasons, 30.2% had a beat to their testes during a sport activity like playing football, and riding a bicycle. Of the students 1.8 % had a family history of testicular cancer.

It was stated only 5.9 % of them received education about testicular examination. Of the students who received information about TSE was examined they received this information mostly from health staff (43%) and internet (18%). When the views of the students about the symptoms of testicular cancer are examined; symptoms related with palpable lump/mass in the testes (38.3%) and pain or heaviness in the groin (35.2%) are observed frequently, however it was determined the students who

Table 3. Students’ Responses to the Statements about Testicular Cancer (TC) and Testicular Self Examination (TSE)

Statements/Remarks*	Agree	Slightly		Un Disagree
		agree	decided	
I am afraid of having TC	70.2	15.6	6.8	7.5
TC can never be totally cured	5.2	11.0	41.4	42.4
The risk of having this disease is higher in men who have testicular cancer in their families	38.3	15.6	23.2	7.5
The men who have TC are usually at my age	7.3	14.7	44.3	33.7
TC is a very serious disease	63.3	19.9	13.7	4.1
A lot of men has TC	14.4	26.7	45.1	13.8
I can detect TC by myself	11.1	20.2	38.2	30.4
I think bad habits (tobacco, alcohol consuming etc.) have an effect on TC	42.9	31.3	17.6	8.3
The sexual life of people who has TC is effected negatively	58.9	21.1	13.8	6.2
The people who has TC can’t have any children	19.2	27.2	38.5	15.1
If TC diagnosed early the chance for cure is higher	64.1	19.0	12.9	4.0
TSE can help me detecting the masses in the testis	42.6	27.5	26.1	3.8
TSE can be painful	23.8	29.2	35.2	11.7
TSE is time consuming	17.5	26.1	35.5	21.0

* Percentages

don't know the symptoms and incidence rate are more (Table 2).

Data on students' responses to the statements about TC and TSE are summarized in Table 3. Majority of students (85.6 %) who participated to this study stated they want to be informed about prevention and early diagnosis of testicular cancer; they indicated that they prefer to receive information via internet, leaflet and demonstration on the mannequins.

Discussion

In this study although almost half of the students stated that they heard TC, very few (5.9%) of them stated they have received information about TSE. Previous studies in Turkey revealed similar results. In a study conducted with Technical education and forestry students (n=506); it has been found that 57.1% of the students haven't heard TC and 91.1% TSE, 91.6 % haven't received any information (Ercan, 2006). In another study among school of health students (n=110) 60.9% them heard about TC and 40 % about TSE (Yilmaz et al., 2009). In a study by Altin and Kav (2007) of the male students (n= 104) at the Health Sciences Faculty nearly half (47.1 %) of them heard testicular cancer during their education but most of them (91.35 %) didn't know the symptoms of testicular cancer; only 11.5 % received education regarding TSE.

In a study with 727 male students between the ages 15-21 and average 17 in 5 senior high schools from 3 medium-sized cities in a region in mid-Sweden of the students only 11.3% stated they have information about TC and 5.6% about TSE (Rudberg et al., 2005).

In this study although 17.7% of the students (n=111) have performed TSE of these students only 21 of them performed monthly and 7 of them all the steps. Different results are obtained when the sample groups are compared in the studies carried out in Turkey. It was stated the students in this sample of the study have performed TSE more when compared with some European countries but less when compared with the students especially in developed European countries and USA. In a study carried out in Turkey 6.3 % of the students knew how to perform TSE however 5.1% performed TSE (Ercan, 2006). In a study conducted by Özhan and Erdil (1990) on 192 university students it was determined that none of the students performed testicular examination. In a study by Yilmaz et al (2009) with students (n=110) at school of health it was determined that 19.1% of them performed TSE and 9 students stated to performing the examination every month regularly. Altin and Kav (2007) reported that 12.5 % of students performed TSE; of those half of them stated they performed once a month and only 4 of them performed all the steps. In a study in thirteen European countries which included 8680 students between the ages 17-30 regarding TSE practice it was found that 6.5% of the Icelandic students, 9.6% of the Dutch students and 12.3% French students performed TSE (Evans et al., 2006). In the same study the students who mostly performed TSE were listed as English (36.3%), Irish (34.8%) and Hungarian. In a study by Rudberg et al. (2005) with students (n=727) in Sweden between the ages 15-21 it was noted that 10.9% of

them performed TSE once a month. In a study by Wardle et al. (1994) in Europe (n=7304) it was determined 87% of the sample never performed TSE.

In the studies the reasons not to perform TSE were: not having information, not being aware of its importance, being afraid something bad could come up and perceiving it as a shame and sin (Ercan, 2006; Evans et al., 2006; Yilmaz et al., 2009). In this study the students expressed the similar reasons (Table 1). It appears that the effect of cultural structure, attitudes and beliefs on TSE should be considered more comprehensive and this could be an obstacle for TSE to be performed. It was stated that especially feelings like shame and guilt or perceiving it as sin could cause an obstacle in searching for help in even to assess the symptoms of TC (Evans et al., 2006). In a study it was determined that of the 104 patients 22.1% of them could discover the painless scrotal mass with self examination however diagnosing delayed 5.4 months (Toklu et al, 1999). Talking more openly about cancer, specifically highlighting the effectiveness of treatment, good recovery rates and promoting survivor stories may encourage speedy health seeking through reducing fear and embarrassment (Evans et al., 2006).

With performing TSE monthly for males between the ages 15-35 the warning signs and symptoms can be identified. TSE can easily be learned and performed, is painless and takes a few minutes (Baum, 1996; Rudberg et al., 2005). However primarily the young people has to know the importance and of testicular cancer and TSE and has to perform them. Many community health and cancer focused organizations support the education of young males for TSE. It is stated that the young males who has learned TSE can remember the right technique and show it correctly (Farrow, 2009). However the most important reason not to perform TSE is lack of information.

Vadapampil et al. (2009) stated there is a relationship between performing TSE regularly and having more information about TSE and also between the benefit perceived, performing TSE and defining less obstacles. In this study it was pointed out that the students didn't have adequate information about TSE and some of their information is wrong (Table 1 and 3).

In a study by Ercan (2006) 54.5 % of the students stated lots of males had testicular cancer, 80.1% believed testicular cancer can't be treated and 73.9 % stated the males who had testicular cancer aren't at their age group. In a study by Rudberg et al. (2005) the students mostly described the lump in the testicles of the TC symptoms and it was stated that of the symptoms which are not related with TC the most common was sexual problems. In same study it was stated that a lot of students didn't know whether the symptoms are common and have limited information about the treatment of TSE (Rudberg et al., 2005).

The results of this study and other similar ones showed that young people wanted to receive information about TC and TSE (Ercan, 2006; Yilmaz et al., 2009; Özhan and Erdil, 1990). However the sources which the students want to take information shows differences. In this study it was stated that the students want the information to be given more frequently by internet and/or been demonstrated on

the mannequin. In Ercan's (2006) study the sources which the students want to take information are listed as books, magazines, television programmes, the health web sites on the internet and elective sexual education lectures. In Yılmaz et al.'s (2009) study the students expressed that 60.8% of them want to take this information in the form of conference/panel. As it is seen in the studies conducted in Turkey mass communication tools like television, radio and newspaper are not preferred source for TC and TSE. This could be resulted from the lack of such campaigns in Turkey don't have examples or they are not common. It is emphasized that the most effective approach to teach TSE is the combination of written and audio-visual materials (Wynd, 2002). In another study it is stated that the information sources about TC and TSE are mostly mass media, instructors and close relatives (Rudberg et al., 2005).

As a result the knowledge of the students about TC and TSE are inadequate and the number who is performing is almost none. The students are aware of their lack of knowledge about the subject and eager to learn. Based on these results, their information needs will be met; adding the education on testicular cancer, risk factors and TSE into their curriculum proposed.

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