RESEARCH ARTICLE

Knowledge, Attitude and Practices of Technicians Working at Hospitals Towards Testicular Cancer and Self-examination of Testicles in Turkey

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Abstract

Background: The present study was conducted to determine knowledge level of technicians working in hospitals about testicular cancer (TC) and self-examination of testicles (TSE) and to determine levels of consciousness and implementation status about TSE. Materials and Methods: This cross-sectional study was conducted with technicians working in hospitals (n=243) between 2nd January-31st May 2012 at private and governmental hospitals in urban Kayseri. Healthy control subjects (n=235) who were similar to technicians in terms of age, education level and income status were also included to the study. Chi-square test was used in comparison of categorical variables. Results: Technicians were significantly more aware of TC than controls, but the latter were found to have significantly more information about TSE. There was no significant difference between the two groups in terms of knowing how to do TSE and 80% of both groups were unaware this exam. Of technicians, 19.8% and of controls, 25.5% did TSE, the difference being statistically insignificant. First reason for not doing TSE was "not-knowing" among technicians (48.1%) while it was "ignorance" among controls (66.8%). Of technicians doing TSE, 37.5% did as it came to their mind while 51.7% of controls performed TSE several times in the previous year. Technicians were significantly more afraid of getting TC than controls (p=0.037). Conclusions: It was determined in the present study that rates of TSE were similar between technicians and controls. However compliance with the recommended frequency and right method was low. Consequently, public health educationshould be planned and applied in order to increase the knowledge of TC and TSE.

Keywords: Testicle self-examination - testicular cancer - hospital employee - nursing

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Introduction

The incidence of testicular cancer (TC) which is defined as the most common malignancy among 15-34 aged males has increased worldwide in recent years despite being rare in the general population (Parkin et al., 2005; Verhoeven, 2012). It is estimated that 8820 men will receive new TC diagnosis and 380 will die from this disease in 2014 in the USA (Siegel et al., 2014). In England, it was reported that nearly 2200 men were diagnosed with TC and 70 died from the disease in 2011 (Cancer Research UK, 2014). The TC incidence is expected to be more than 20% in 2025 in 13 South European countries including Finland, Croatia, Slovenia, Italy and Spain (Znaor et al., 2014). In our country, as all over the world, the most common cancer type among men is TC (Gultekin and Bozbas, 2014). More than 90% of patients are cured with surgery, radiotherapy, and chemotherapy alone or combination of them (Yetisyigit et al., 2014). This success depends on the early and accuracy of disease diagnosis and the application of optimum treatment (Zhao et al., 2014).

In the TC which is so frequent among young male adults, phase, prognosis and mortality are reported to be directly associated with early diagnosis (Albers et al., 2011). Therefore, "early diagnosis and treatment" is very important in TC. One of the ways to early detect TC is regular self-exam of testicles (TSE) (Altinel and Aydin Avci, 2013). Many of TC cases are firstly detected by the patient either with TSE done regular or without knowing or some are determined with routine physical examinations. Self-exam of testicles has many advantages such as being easily learned and applied, being safe and economic, not requiring specialized equipment, not being invasive and not taking time compared to the other diagnostic methods (Gocgeldi et al., 2011; Asgar Pour and Cam, 2014). Despite TSE with advantages in many ways, studies have revealed that the majority of men do not do TSE and have insufficient knowledge about TC (Yilmaz et al., 2009; Kuzgunbay et al., 2013; Asgar Pour and Cam, 2014). Guidelines especially emphasize on doing regular TSE by the subjects who are at risk of TC. The importance of TC and TSE should be told and the right application

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method should be taught to these subjects. Health care professionals, mainly nurses, have great roles in this issue (Yilmaz et al., 2009; Altinel et al., 2013; Asgar Pour and Cam, 2014).

The present study was conducted to determine knowledge level, attitudes and practices of technicians working at hospitals about testicular cancer (TC) and self-exam of testicles (TSE).

Materials and Methods

In this cross-sectional study, which was conducted between 2ndof February and 31stof May 2012 in the two big towns of Kayseri (Kocasinan and Melikgazi), totally 1021 health technicians working at governmental hospitals (n=935) and private hospitals (n=86) were randomly selected and 275 technicians were recruited of whom 243 (88.4%) participated. Of the subjects,

Table 1. Knowledge and Performance about Testicular Self-examination and Testicle Cancer

Knowledge and Performance	Hospital Group		Control Group		Statistical Analysis
	n	%	n	%	p
Having heard of TC					
Yes	154	63.4	119	50.6	0.005
No	89	36.6	116	49.4	
Having heard of TSE					
Yes	85	35	70	29.8	0.225
No	158	65	165	70.2	
Request to get information about TC and TSE					
Yes	186	76.5	189	80.4	0.302
No	57	23.5	46	19.6	
Doing TSE					
Yes	48	19.8	60	25.5	0.131
No	195	80.2	175	74.5	
Reasons for not doing TSE*					
-Not caring the examination	71	30.5	131	66.8	
-Not knowing TSE	112	48.1	43	21.9	
-Fear of worse result after examination	27	11.6	12	6.1	**
-Thinking the examination as a sin and feeling guilty	5	2.1	6	3.1	
-Other (not having complaint, discomfort, etc.)	18	7.7	4	2	
Frequency of doing TSE					
-A few times last year	8	16.7	31	51.7	
-A few times in last 6 months	10	20.8	4	6.6	0.001
-Once a month	12	25	15	25	
-Other (when come to my mind, when felt complaint, etc.)	18	37.5	10	16.7	

*Respondents were able to select more than one option, **Incalculable

Table 2. Knowledge of Participants about Testicular Self-examination and Testicle Cancer

Testicular Self-Examination	Hospital Group		Control Group		Statistical Analysis
	n	%	n	%	p
Testicle cancer is mostly seen in 15-35 aged males					
True	45	18.5	59	25.1	
False	34	14	27	11.5	0.195
Not knows	164	67.5	149	63.4	
The most important risk group for testicle cancer is ones with undescended testis					
True	72	29.6	65	27.7	
False	16	6.6	15	6.4	0.88
Not knows	155	63.8	155	66	
Chance of recovery increases 80-90% with early diagnosis					
True	141	58	154	65.5	
False	6	2.5	4	1.7	0.231
Not knows	96	39.5	77	32.8	
The earliest diagnosis method in testicle cancer is testicular self-examination					
True	112	46.1	111	47.2	
False	13	5.3	15	6.4	
Not knows	118	48.6	109	46.4	0.831
Testicular self-examination should be done in the shower or shortly after shower					
True	58	23.9	65	27.7	
False	13	5.3	16	6.8	0.456
Not knows	172	70.8	154	65.5	
Testicular self-examination should be done every month regularly					
True	90	37	93	39.6	
False	5	2.1	11	4.7	0.202
Not knows	148	60.9	131	55.7	

questionnaire forms of 32 technicians were excluded due to lacking data. Healthy control subjects who did not work at healthcare services, who did not have a known disease and who resembled hospital group were included in the study. A questionnaire was applied to 255 controls while study was conducted with 235 of them since 20 subjects did not want to participate. Questionnaire forms were delivered to both groups by the researchers and collected back within one week.

Data collecting tools

Data of the research were collected with a questionnaire form developed after a literature review and composed of 2 sections. In the first section, questions about socio-demographic characteristics (age, education, marital status, income level, etc.) were included while in the second section, questions about knowledge, attitude and practices of subjects about TC and TSE were included. The aim of the research was explained to participants and written consent was obtained.

Statistical analysis

Statistical data analysis was performed with Statistical Package for Social Sciences (SPSS) version 17.0 on computer. Number, percentage, mean and chi-square test for comparison of categorical variables were used in evaluation of data. $p<0.05$ was set as statistically significant in comparisons.

Results

The mean age of hospital and control groups were 31.23±8.0 years and 31.30±9.4 years, respectively and groups were similar in terms of mean age. Study group

Table 3. Status of Knowing the Symptoms of Testicular Cancer

Symptoms of Testicular Cancer	Hospital Group		Control Group		Statistical Analysis
	n	%	n	%	p
Palpable testicle lump/mass					
Common	63	25.9	27.2	50.4	
Seldom	43	17.7	13.2	41.9	0.396
Not knows	137	56.4	59.6	50.5	
General swelling in the testicles					
Common	63	25.9	61	26	
Seldom	45	18.5	40	17	0.907
Not knows	135	55.6	134	57	
Pain in testicles					
Common	71	29.2	66	28.1	
Seldom	68	28	48	20.4	0.092
Not knows	104	42.8	121	51.5	
Pain or a feeling of heaviness in the testicles					
Common	60	24.7	55	23.4	
Seldom	66	27.2	48	20.4	
Not knows	117	48.1	132	56.2	0.147
Skin rash/change on scrotum					
Common	38	15.6	26	11.1	
Seldom	49	20.2	37	15.7	0.102
Not knows	156	64.2	172	73.2	
Problems with sexual intercourse					
Common	52	21.4	44	18.7	
Seldom	48	19.8	40	17	0.478
Not knows	143	58.8	151	64.3	
Weight loss					
Common	39	16	23	9.8	
Seldom	54	22.2	41	17.4	0.028
Not knows	150	61.7	17	72.8	
Blood in the urine					
Common	45	18.5	39	16.6	
Seldom	43	17.7	47	20	0.744
Not knows	155	63.8	149	63.4	
Pain, burning when urinating					
Common	56	23	57	24.3	
Seldom	54	22.2	48	20.4	0.877
Not knows	133	54.7	130	55.3	
Testicular temperature increase					
Common	43	17.7	33	14	
Seldom	52	21.4	43	18.3	0.297
Not knows	148	60.9	159	67.7	
Discoloration of the scrotum					
Common	44	18.1	33	14	
Seldom	47	19.3	42	17.9	0.382
Not knows	152	62.6	160	68.1	

Table 4. Thoughts of Participants about Testicular Self-examination and Testicle Cancer

Thoughts	Hospital Group		Control Group		StatisticalAnalysis
	n	%	n	%	p
I'm afraid of getting testicular cancer					
Agree	215	88.5	192	81.7	0.037
Disagree	28	11.5	43	18.3	
Testicular cancer cannot be cured never fully					
Agree	46	18.9	35	14.9	0.24
Disagree	197	81.1	200	85.1	
Among family members of men with testicular cancer are at greater risk of developing the disease					
Agree	139	57.2	145	61.7	
Disagree	104	42.8	90	38.3	0.316
Testicular cancer often strikes men at my age					
Agree	64	26.3	91	38.7	0.004
Disagree	179	73.7	144	61.3	
Testicular cancer is a very serious disease					
Agree	185	76.1	176	74.9	0.753
Disagree	58	23.9	59	25.1	
I can detect testicular cancer myself					
Agree	87	35.8	111	47.2	0.011
Disagree	156	64.2	124	52.8	
Many men get testicular cancer					
Agree	100	41.2	131	55.7	0.001
Disagree	143	58.8	104	44.3	
If diagnosed early, testicular cancer is more likely to be recovered					
Agree	207	85.2	194	82.6	
Disagree	36	14.8	41	17.4	0.434
Initial treatment of testicular cancer is surgery					
Agree	68	28	69	29.4	0.739
Disagree	175	72	166	70.6	
In the case of early diagnosis,testicular cancer is the cancer type with best treatment success					
Agree	161	66.3	127	54	
Disagree	82	33.7	108	46	0.006

stated that they had a moderate level of income (59.3%) while control group had a good level of income (44.2%). Most of the hospital group had graduated from Health High School and Health College (51.8%) while controls were high school graduates (34.5%). The two groups were similar in terms of marital status, smoking, cancer history in the family, TC history in the family and having problems about testicles.

Of the hospital group, 63.4% and of control group, 50.6% defined that they had heard of TC and this difference was statistically significant (p=0.005, Table 1). Most of the males in both groups have not heard of TSE and did not do a TSE while those men did not do the TSE due to not knowing it (48.1%) firstly and not caring it (30.5%) secondly. Controls did not do TSE because they did not care it (66.8%) firstly and they did not know it (21.9%) secondly (Table 1).

Table 2 shows men in the two groups having insufficient knowledge about the age of TC, the time and frequency of TSE. Table 3 shows they had insufficient knowledge about TC signs. It was determined that men in the two groups thought TC was a very serious disease, they were afraid of getting TC and thought that chance of treatment success was high if it was early diagnosed (Table 4).

Discussion

Of the hospital group, 63.6% and of the control group, 50.6%have heard about TC being significantly different. Other studies have reported similar (57.6% (Altinel and Aydin Avci, 2013), 60.9% (Yilmaz et al., 2009)), less (11.3% (Rudberg et al., 2005), 23.3% (Gocgeldi et al., 2011)) or higher (91.0% (Khadra and Oakeshott, 2002), 80.0% (Asgar Pour and Cam , 2014), 90.6% (Moore and Topping, 1999)) ratios compared to our findings. Given the fact that study group were graduates of Health High School and Health College and worked at healthcare environments, higher ratio of hearing TC than the other group is an expected finding. Interesting finding in our study however is the majority who have not heard of TSE and so not have done TSE although at least half of males had heard of TC. Khadra et al. (2002) have reported that of the participants, 28.0% heard of TSE while 5.6% and 8.9% of the subjects heard of TSE according to Rudberg et al. (2005) and Gocgeldi et al. (2011), respectively. In Shallwani et al's study, it was found that while 2% of men applied TSE before the education, the ratio increased to 26% after the education, being statistically significant. Also, in our study it was determined that men who did TSE did not do it regularly. TSE is an important tool to get protected from late diagnosis of TC. In terms of this disease which has a high successful treatment chance with early diagnosis, patients at high risk should be aware and encouraged (Muliira et al., 2012).

In the present study, men in both groups were found to have very little information about TC and TSE. Insufficient knowledge about practices regarding both the disease and

its early diagnosis is one of the most important barriers for exhibiting preventive health behaviours of the individuals. Therefore, low ratio of doing TSE of men who have very low level of knowledge is not a surprising result. In line with this finding, the reasons for not doing TSE were firstly not knowing (48.1%) and secondly not caring it (30.5%) by the hospital group while the reasons were firstly not caring (66.8%) and secondly not knowing it (21.9%) by controls. Ugurlu et al. (2011) have found that 83.4% and 55.7% of participants did not do TSE due to not knowing and not caring it, respectively. According to Ozbas et al.'s study (2011), men did not do TSE because they did not know (88.0%) and did not care it (6.0%). Yilmaz et al. (2009) and Gocgeldi et al. (2011) have reported that 94.0% and 54.0% did not do TSE because of not knowing it, respectively. This demonstrates the importance of having information about the issue.

It is appositive state that most of the men in both groups wanted to get information about TC and TSE which shows that they cared about TC and their health status. The request to get information by the majority in both groups may also be explained by their fear of TC, by thought of TC as a very serious disease and by thought of high success of its treatment when early diagnosed. While the feeling of being afraid of getting cancer diagnosis may be a triggering factor, it may cause reluctance and avoidance behaviours in individuals if this fear reaches critical levels (Brewer et al., 2011).

In the present study, level of knowledge about TC and TSE of men in both groups, doing TSE and doing it with recommended time and frequency were found to be low. The high level of knowledge about TC in the study group despite low ratio of TSE shows that knowledge has not been turned into practice. Consequently, it was recommended to plan and apply health educations in order to increase information about TC and TSE of men especially who are at risk by the nurses and healthcare professionals while those educations should be periodically repeated with the evaluation of its efficacy for providing to turn into practices.

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