ORIGINAL ARTICLE

Received: May 2013
Accepted: January 2014

Student knowledge of Testicular cancer and self-examination in a medical sciences University in Iran

Tayeb Ramim[1], Seid Qusem Mousavi[2], Leili Rosatmnia[3], Azim Bazyar[3]
Vahid Ghanbari[3,*]

ABSTRACT

Background: While Young men are at higher risk of developing testicular cancer (TC), testicular-self examination (TSE) is an easy, cost effectiveness method to early detection of this disease. The aim of the study was to investigate medical sciences student`s awareness, attitude and self-efficacy about TC and TSE.

Methods: This cross-sectional study was carried out among full time young students (n=330) in a medical sciences university in the academic year 2010-2011. In order to collect data a self-administered questionnaire was applied by means of a convenience sampling method among 330 young males.

Results: Less than 5% of the students reported they had knowledge regarding TSE and only 10% were performing it. Just 2% of them were found to have good knowledge about TC and 17% had good awareness about TSE. Under 10 % of the participants had good attitude about performing TSE and over 81 % also showed poor self-efficacy.

Conclusion: The findings showed weak awareness and self-efficacy about TC and TSE cross young males; it is suggested more attentions should be paid educational courses of Medical Sciences students, more importantly, in terms of Principles and Practice of Cancer Prevention.

Keywords: Cancer, Testicular, Prevention, Self-examination.

1. Sina Trauma and Surgery Research Centre, Tehran University of Medical Sciences, Tehran, Iran.
2. Nursing Faculty, Sabzevar University of Medical Sciences, Sabzevar, Iran.
3. Nursing Faculty, Ilam University of Medical Sciences, Ilam, Iran.

***Corresponding Author:**
Vahid Ghanbari,
Lecturer in Faculty of Nursing, Ilam University of Medical Sciences, Ilam, Iran.
Tel: +98 912 7368595
Fax: +98 21 66877057
Email: Vahid.gh13@gmail.com

BCCR
2014; 6(3): 7-11
www.bccrjournal.com

Introduction

Testicular cancer (TC) is a relatively rare cancer (1% of all cancers),[1, 2] while its incidence has been more than doubled over the past 40 years.[1] It is the most common cancer across men aged 15-35 years old ,[2-9] and accounting for 20% of cancers diagnosed[10] and 14% of mortality rate of all cancer at this age.[11] So it is one of the most important threats in a young man's life.[1, 2, 12, 13] Because it usually occurs in early life, can have a profound impact on quality of life and psychological adjustment.[10]

TC is treatable and has a good prognosis, especially if detected early[7] so that there was 72% decrease of mortality rate from TC between 1950 to 2000 throw early diagnosis and treatment improvement[2, 6] and an increase in five years survival rate from 57% in 1995 to 99.8% in 1999 because of earlier detection and treatment quality improvement, increase awareness of risk factors.[4] In spite of early detection have caused these propounded effect, delay in diagnosis and treatment is the most related factor to death from TC[2, 4, 14] which it stem from poor public knowledge about TC and TSE performance.[14]

Since the most of TC cases are diagnosed by own individuals (nine out of ten)[2, 4, 6, 12] and early detection is an important key factor in its treatment, so various specialty associations such as American Cancer Society, American Urological Association and FDA suggested young men to perform TSE monthly to diagnoses the TC at its first stages,[2, 4] Because it is a simple and cost-effective procedure[9, 10, 13] and can be learnt and taught easily.[5]

Although the importance of early diagnosis is considered by most of experts as a principle,[5] and young males are highly advised to start TSE from the age of 15,[10] various studies have shown that at the most vulnerable ages men are unaware of TC and how to perform TSE as well.[2, 4, 15,16] Only 29% of pediatric residents studied by Bernner had performed TSE once a month and 61% of them had done it at least once in three month.[17] Findings of Lencher's study revealed that only two percent of 274 young men had regularly performed TSE.[18] Another study that assessed awareness of TC and TSE among first-year medical students at 12 universities demonstrated that only 11% of whom were aware of TC and just one percent had routinely performed TSE.[15] The object of the study was to assess knowledge, attitude and self-efficacy of full time young male students of Ilam University of Medical Sciences about TC and TSE.

Material and Methods

This descriptive cross-sectional study was conducted among male students in Ilam University of Medical Sciences in the west of Iran. This population was selected because studies show that medical students have poor knowledge and practice about TC and TSE performance[15, 17] and a very important point to make is that they should teach public about these such methods owing to their professional role. The research was approved by the research committee of Nursing Faculty. 365 male students were invited to participate in the study by a convenience sampling. The aims of the study were explained to the subjects and then verbal constant was obtained. 330 students agreed to participate in which and were given a self-administrated questionnaire. Students were asked to give back questionnaire after 30 minutes. 280 students completely filled out the questionnaire and returned it and incomplete questionnaires were omitted.

The questionnaire used in this study was designed on the basis of published studies.[13, 18] This questionnaire contained demographic characteristics (e.g. age, major, academic year, work experiences in hospital or related health care center, former TSE education and doing), TC awareness (5 items), TSE awareness (5 items), attitude and worries about TSE (5 items) and self-efficacy in TSE performance(5 items). The questionnaire items were adjusted on a 5-point Likert scale (0 strongly disagree to 4 completely agree). A total score was then computed for each subscale by summing the individual scores. The calculated score for each subscale was classified as good (15-20), moderate (9-14) and weak (> 9). The first draft of the questionnaire was reviewed by an urologist, an oncologist, a master of community health nursing and two PhDs of nursing that they had experience in men's health and all of them were university lecturer to determine face and content validity of it and the final version was made based on their comments. For reliability analyses, Cronbach's alpha coefficients were calculated which was 0.67 to 0.87. Data were analysed using SPSS version 16.0 and to describe the student characteristics, TC, TSE knowl-

edge, TSE attitude and self performance, descriptive statistics were used. Mann-Whitney U and Kruskal Wallis test were used to find factors associated with TC and TSE knowledge, attitude and self performance.

Results

Response rate was %88 (280) of participants filled in and delivered the questionnaire (**Table 1**). The age of all the respondents ranges from 17 to 41 years old within a mean age of 21.5±2.58 years. Nearly half participants were medical and nursing students (47%). The majority of them were bachelor (59.3%), approximately two of thirds of them were in first and second years (65%). Just over 10% of participants reported before experiences of working in hospital or other health care facilities. Among all of cases participated in this survey, less than 10% reported before experiences of performing TSE and just 5% claimed before education about TSE.

TC&TSE awareness and self-efficacy

Knowledge of TC and TSE was poor, only 2.2% had

Table1. Demographic characteristics of participants(N=280).

Characteristic	Frequency Na(%)	TC knowledge	P b	TSE knowledge	P	TSE attitude	P	TSE self-efficacy	P
Age(years)									
Mean	21.5± 2.58	0.28	0.624	0.224c	0.00	-0.092	0.138	0.097	0.117
Major									
Medicine	70(25)	137.6	0.08	146.3	0.09	120.2	0.36	134.6	0.38
Nursing	62(22.1)	133.8		138.6		134.9		148.5	
Operating Room	25(8.9)	147.1		136.4		144.8		139.2	
Anesthesia	19(6.8)	131.9		86.05		140.4		139.8	
Clinical Laboratory Sciences	31(11.1)	109.9		122.4		121.1		123.9	
Public health	8(2.9)	76.3		155.4		104.1		113.3	
Environmental Health	9(3.2)	171.5		143.1		176.7		120.5	
Occupational Health	13(4.6)	165.6		147.1		148.5		138.3	
Medical Emergency Technician	34(12.1)	122.6		114.5		143.5		104.4	
Education Year									
First	67(23.9)	122.0	0.27	116.2	0.01	144.6	0.3	109.7	0.08
Second	115(41.1)	124.3		122.6		123.6		137.4	
Third	41(14.6)	136.9		123.3		127.1		130.2	
Forth	35(12.5)	132.1		164.3		119		130.7	
5>	6(2.1)	226.76		199		156		175.5	
Degree									
Technician	37(13.2)	118.7	0.44	119.6	0.26	134.8	0.24	117.1	0.39
Bachelor	166(59.3)	135.4		132.4		139.3		136.8	
Medicine	70(25)	138.2		144.8		120.7		135.4	
Work Experience									
Yes	36(12.9)	143.3	0.22	158.7	0.01	141.1	0.36	141.4	0.35
No	230(82.1)	128.5		126		128.8		128.8	
TSE Experience									
Yes	20(7.9)	145.6	0.28	160.3	0.04	151.8	0.14	159.3	0.04
No	242(86.4)	127.9		126.6		127.4		126.7	
TSE Education									
Yes	15(5.4)	141.2	0.5	166.1	0.05	152.9	0.2	147.9	0.3
No	250(89.3)	129.2		127.7		128.5		128.9	

good knowledge about TC causes and its symptoms and less than 17% of participants had good score about TSE procedure. In terms of attitude about performing TSE and its result, less than 9% showed that had good attitude about this self examination. 2.6% of subjects had good score in regard to TSE self-efficacy.

Correlation between TC&TSE awareness, attitude and self-efficacy and demographic variables

Students' age was not correlated to TC knowledge (P=0.28), attitude relating TSE (P= 0.138) and their self-efficacy in performing TSE (P=0.117), but Spearman test indicated direct correlation between TSE knowledge and participants age. Major of the participants, also, had no correlation to TC and TSE knowledge and TSE attitude and self-efficacy (P= 0.089, P= 0.099, P=0.368, P= 0.386 respectively). Kruskal Wallis test did not show any difference among student years at the university with regard to TC awareness and attitude and self-efficacy of TSE while a significant correlation between TSE knowledge and entry year's to university(P=0.011) was observed. Work experience was not correlated with TC knowledge (P=0.282), TSE performing attitude (P= 0.141) and self-efficacy (P=0.356). However it was correlate with TSE knowledge (P=0.041).

Experience in TSE performing had considerable correlation to TSE knowledge and self-efficacy (P=0.041, P= 0.049 respectively) but it had no correlation to TC knowledge (P=0.282) and TSE attitude (P=0.141). Spearman test also showed no correlation between TSE before education and TC, TSE knowledge and attitude and self-efficacy in performing TSE (P>0.05).

Discussion

Although testicular cancer is a rare cancer, it is the most common cancer in young men that its incidence is increasing.[1, 2, 12, 13] American Cancer Society has recommended to do testicular self-examination monthly in order to detect of testis cancer quickly.[10]

In this study, only 20 cases (8%) stated that they did testicular self-examination and 90% told that they had not heard about it. Ward and Colleagues showed only 10.4 % of participants did TSE and 58 % of them stated that they had never performed TSE.[10]

From 101 male university students, majority of them were uninformed about testicular cancer and 58% of student reported that they had heard about TSE but 45% said that they knew how to perform it, but majority of them indicated they didn't perform TSE. 95% of the students thought TSE was important.[13] and in another study 64% of 191 participants indicated that they did not never perform TSE[12] Evans and et all showed that though the rate of TSE performance raised significantly after 10 years, it was still very low.[19] Despite the fact that nearly 73% of participants indicated that they had heard about TC, just 10% of them performed TSE based on current recommendation.[10] Studies assessing TC knowledge and TSE practice in young adult men have identified a pattern of results similar to that found in adolescents. There generally appears to be substantial lack of knowledge about TC among young men and correspondingly low adherence to TSE.[10] Friman and Finney(1990) believed that a death from testicular cancer does not represent a limitation of medical science but a failure by the health community to adequately reach men, who are at risk, the necessary steps for early detection and treatment.[2]

Conclusion

The study showed weak awareness and self-efficacy about TC and TSE across young males. Thus, it is suggested more attentions are needed in educational course among students of medical sciences in Iran. The results of this study also advise that more attention should pay about such screening methods.

Our limitation was that participants were over represented from a population better educated than the general public. Thus, the results have to be viewed cautiously. Also respondents may have been affected by the sensitive questions.

Acknowledgements

We are grateful to Nursing Faculty of Ilam University of Medical Sciences for providing the invaluable technical and programmatic support. This project received financial support from Ilam University of Medical Sciences (#893022). The authors declare that they have no Conflict of Interests.

References

1. Cotton R. Like it or lump it: getting boys to self-examine. British Journal of School Nursing. 2009;4(5):245-8.

2. Fessenden CC. Adoption of testicular self-examination [Ph.D.]. United States -- Michigan: Wayne State University; 2002.

3. Khadra A, Oakeshott P. Pilot study of testicular cancer awareness and testicular self-examination in men attending two South London general practices. Family practice. 2002;19(3):294-6.

4. Rew L, McDougall G, Riesch L, Parker C. Development of the self-efficacy for testicular self-examination scale. The journal of men's health & gender. 2005;2(1):59-63.

5. Moore R, Topping A. Young men's knowledge of testicular cancer and testicular self-examination: a lost opportunity? European journal of cancer care. 1999;8(3):137-42.

6. Tanagho EA, McAninch JW. Smith's general urology. 16 ed. Tehran: Timourzadeh; 2005.

7. Holdstock R. Testicular cancer. Practice Nurse. 2010;40(1):26-9.

8. Vasudev NS, Joffe JK, Cooke C, Richards F, Jones WG. Delay in the diagnosis of testicular tumours - changes over the past 18 years. The British journal of general practice : the journal of the Royal College of General Practitioners. 2004;54(505):595-7.

9. Clèries R, Martínez JM, Escribà JM, Esteban L, Pareja L, Borràs JM, et al. Monitoring the decreasing trend of testicular cancer mortality in Spain during 2005–2019 through a Bayesian approach. Cancer Epidemiology. 2010;34(3):244-56.

10. Ward KD, Vander Weg MW, Read MC, Sell MA, Beech BM. Testicular cancer awareness and self-examination among adolescent males in a community-based youth organization. Preventive medicine. 2005;41(2):386-98.

11. Vaz RM, Best DL, Davis SW, Kaiser M. Evaluation of a testicular cancer curriculum for adolescents. The Journal of pediatrics. 1989;114(1):150-3.

12. Wynd CA. Testicular Self Examination in Young Adult Men. Journal of Nursing Scholarship. 2002;34(3):251-5.

13. Barling NR, Lehmann M. Young men's awareness, attitudes and practice of testicular self-examination: a health action process approach. Psychology, Health & Medicine. 1999;4(3):255-63.

14. Casey RG, Grainger R, Butler MR, McDermott TE, Thornhill JA. Public Awareness of Testis Cancer and the Prevalence of Testicular Self-examination--Changing Patterns Over 20 Years. Urology. 2010;76(4):915-8.

15. Kuzgunbay B, Yaycioglu O, Soyupak B, Atay Kayis A, Ayan S, Yavascaoglu I, et al. Public awareness of testicular cancer and self-examination in Turkey: A multicenter study of Turkish Urooncology Society. Urologic Oncology: Seminars and Original Investigations. 2013;31(3):386-91.

16. Rudberg L, Nilsson S, Wikblad K, Carlsson M. Testicular cancer and testicular self-examination: knowledge and attitudes of adolescent Swedish men. Cancer nursing. 2005;28(4):256-62.

17. Brenner JS, Hergenroeder AC, Kozinetz CA, Kelder SH. Teaching testicular self-examination: education and practices in pediatric residents. Pediatrics. 2003;111(3):e239-e44.

18. Lechner L, Oenema A, De Nooijer J. Testicular self-examination (TSE) among Dutch young men aged 15–19: determinants of the intention to practice TSE. Health Education Research. 2002;17(1):73-84.

19. Evans REC, Steptoe A, Wardle J. Testicular self-examination: change in rates of practice in European university students, from 13 countries, over a 10-year period. The journal of men's health & gender. 2006;3(4):368-72.