

Testicular-self examination among Nigerian adolescent secondary school boys: knowledge, attitudes and practices

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Key words

Adolescents • Attitudes • Knowledge • Testicular self examination • Students

Summary

Background. Testicular-self examination (TSE) is a cheap and easy-to-perform procedure for early detection of testicular cancer but data on this subject is lacking in Nigeria, particularly among male adolescents.

Objective. To assess the knowledge, attitudes and practices of testicular-self examination among secondary school boys.

Methods. Knowledge, attitudes and practices in relation to TSE were assessed, using anonymous structured self-administered questionnaires in a sample of 540 secondary school boys aged between 15 and 20 years.

Results. Nearly all (98.7%) the male students had never heard of TSE and had hardly practiced TSE. Of the 7 students who admitted

examining their testicles, none did so at the recommended level (10 or more times per year) and did not follow the standard procedure for TSE. Nearly half (47.2%) of the participants had a positive intention to start performing TSE regularly after hearing of TSE (through the questionnaire and subsequent teaching on the subject).

Conclusions. The level of knowledge, practice and the rating of the importance of TSE are all very low among adolescent secondary school boys in Benin City, suggesting that these students are unaware of the value of this personal health surveillance tool. The students demonstrated a positive intention to start performing TSE regularly after hearing of TSE (through the questionnaire and subsequent teaching on the subject).

Introduction

Testicular-self examination (TSE) refers to the procedure by which a man checks the appearance as well as the consistency of his testicles. It is a simple, painless procedure, easy-to-learn and requiring about three minutes to complete. It is an important clinical tool for early detection of testicular cancer (TC). TSE offers adolescent boys and young men the opportunity to routinely and systematically examine their testicles. In this regard, it has been recommended that young men (between the ages of 15 and 35 years) should practice TSE every month. This recommendation is buttressed by the fact that nine out of every ten TC is first discovered by the individual himself [1]. Although testicular cancer is uncommon among teenagers, it has been documented as the most common cancer in males between the age of 15 and 34 years [2]. To ensure early detection, the teenager has to look for any hard lumps or smooth rounded bumps or any change in size, shape and consistency of the testes. Early detection and treatment results in cure, underscoring the important role TSE can play [3]. The earliest detectable symptom of TC is a small, hard and usually painless lump in the testes [3]. The principal risk factor for TC is cryptorchidism and this risk is as high as 30-40% when compared to males with normally descended testicles [4]. In this context, therefore, TSE on

a routine basis is particularly important for males with cryptorchidism. Other risk factors for testicular cancer are a positive history of a family member who has had this cancer or a previous testicular cancer.

In developed countries, several studies have reported a very poor knowledge as well as a low rating of the importance of this screening tool (TSE) among young male individuals. For instance, in two separate studies, one in the US and the other in Europe, only 10.3% and 3.0% of males performed TSE at levels consistent with current recommendations [5, 6]. If at risk age group with high levels of education are not carrying out the recommendation, the level of compliance in less educated population, like Nigeria and other developing countries, will be next to zero. Although most adolescent and young women know that breast-self examination is a good health habit, most teenage boys and young men do not know that TSE is a self-health surveillance procedure that they need to establish as a life-time habit beginning from the period adolescence. For instance, reports from Nigeria indicated a high level of awareness and knowledge with regard to breast-self examination [7, 8]. With regard to the subject of TSE, data on adolescent males is scanty in developed countries, and more so, in developing countries. A review of the literature did not reveal any study on the subject among Nigerian adolescent secondary schoolboys. This scenario is further confirmed by the

report of Carlin [9] in which she stated that in a review of the literature, physical assessment texts made no mention of TSE, even though the Authors encouraged the practice of breast self-examination for adolescent girls and young women. Although the worldwide increasing incidence of TC has been recognized, the reports of various surveys revealed that knowledge, awareness and performance of TSE among adolescent and young adult males remain poor [10, 11].

The purpose of the present study was to assess the knowledge, attitudes and practices of TSE among adolescent Nigerian secondary school boys in Benin City. The data obtained might serve as a starting point in arousing public interest on TC and ultimately, encouraging the practice of TSE among adolescent Nigerian boys.

Materials and methods

This descriptive cross-sectional study, was conducted in one of the public senior secondary schools for boys' only in Oredo Local Government Area (OLGA), Edo State, Nigeria. In this LGA, there are nine public secondary schools comprising 3 co-educational, 4 all girls and 2 all boys [12]. One out of the two all-boys' secondary schools, was randomly selected by ballot. In this selected school, the total population of students between the age of 15 and 20 years was 594 and this constituted the study sample. No sampling was performed since the survey was designed to include all the students in this school who were between the age of 15 and 20 years. During data collection, the students were informed about the relevance of the study and the need to accurately fill the questionnaire without including their names and that their participation was voluntary. Permission to conduct the survey was obtained from the school administrators. Data was collected between October and November, 2011, using a structured questionnaire designed by the Authors. The questionnaire was pre-tested on 30 male students of the same age group in the other all boys' school within the same LGA. The class teacher assisted in identifying the students within the relevant age group from the class register. The questionnaire was divided into two parts: the first part sought information on socio-demographic data, such as age of participants, educational status of father and mother, occupation of father and mother, religion and state of origin. The socio-economic status of the parents was determined using the classification suggested by Ogunlesi et al [13]. This was analyzed via combining the highest educational attainment, occupation and income of the parents (based on the mean income of each educational qualification and occupation). In this Social Classification System, classes I and II represent high social class, class III represents middle social class while classes IV and V represent low social class. In this way, the adolescent girls were divided into high, middle and low socio-economic groups. The second part of the questionnaire assessed the knowledge, attitudes and practices of TSE among the students. Knowledge about TSE was assessed based on

questions concerning steps in the performance of TSE, frequency of performance, and what to look out for during TSE. The students' rating of the importance of TSE was also assessed. Data were obtained on whether or not the student practice TSE and how frequently he did so. After the students have completed the questionnaire, we explained to them how to perform a TSE. The best time to perform TSE is during or after a warm bath because the scrotum is most relaxed at this time and this makes it easier to examine the testicles.

The data was analyzed using the SPSS (Statistical Package for Social Sciences), version 12.0. Where applicable and appropriate, descriptive statistics such as frequencies, means, ratios, standard deviations, confidence intervals, percentages were used to describe all the variables.

Results

Out of a total population of 594 male students, 571(96.1%) participated but 31 questionnaires were incompletely filled and were rejected, leaving 540 for data analysis. The mean age of the students was 16.8 ± 1.7 years (95% Confidence Interval, CI = 16.6-16.9). As shown in Table I, slightly above half of the students (52.6%) came from families in the low socio-economic status and over three-quarter of the students were from Christian families. Only seven (1.3%) of the 540 have heard about TSE and the information was obtained from friends and peers (Table II). None of the students received information on TSE from a health-care provider. Of the seven who admitted to have heard about TSE and practiced it, none has practiced it in the last three months. As depicted in Table II, over half of the students could not rate the importance of TSE while nearly one-third of the students rated the importance of TSE as very low. As shown in Table II, nearly half (47.2%) of the students had a positive intention to start performing TSE regularly after hearing of TSE (through the questionnaire). None of the students was aware that testicular cancer can occur among people who are less than 20 years old.

Discussion

Data from the present study indicated that regarding TSE, adolescent male students were grossly uninformed as only 1.3% of them had heard and practiced TSE (not at the recommended level). An extensive search of the literature did not reveal any Nigerian study on adolescent school boys for comparison. However, a study among adults (aged 18 to 50 years old) in three tertiary institutions in Port Harcourt revealed a similar poor knowledge and attitude concerning the subject [11]. The finding of low knowledge with regard to TSE is not surprising, given that a similar low level of awareness has been separately reported in several studies conducted in developed countries with highly literate populations. For

Tab. I. Socio-demographic characteristics of the participants.

Age	Group (years)	Number	Percent
15-17	387	71.7	
18-20	153	28.3	
Socioeconomic status (SES)			
High	73	13.5	
Middle	183	33.9	
Low	284	52.6	
Family religion			
Christian	429	79.4	
Muslim	74	13.7	
Traditional religion	37	6.9	
State of origin			
Edo	415	76.9	
Other states	125	23.1	

instance, among young German, Icelandic and Dutch men the practice prevalence rates of regular TSE were 3.0%, 2.0% and 2.0% respectively [5, 14]. This low level of practice of TSE was further highlighted in a study in the United States in which only 29.0% of male Paediatric Resident Doctors performed TSE regularly [15]. A comparative study of British and Zimbabwean undergraduates revealed that knowledge of TSE was low in both groups of participants [16]. Another study in Turkey revealed poor knowledge of TSE among college male adolescents [17]. All these studies consistently pointed to a low level of knowledge and practice with regard to TSE among adolescent male students. This scenario about knowledge and practice of TSE might be explained by lack of awareness by adolescent males that testicular cancer can occur in them and that TSE is a potential screening tool for early detection of testicular cancer and hence, treatment and cure. Another explanation might be that the clinicians themselves do not instruct their male patients about TSE and encourage them to undertake regular monthly examination [5]. This view is reinforced by the report of a study in which only 17.5% of physicians surveyed taught TSE to adolescent male patients on a routine basis [18]. In that study, 82.0% of the physicians stated they were either not familiar with the technique of TSE or had not thought about it. This situation is further reflected in our finding that none of the seven participants who have heard about TSE did so from healthcare providers. On the other hand, the low level of knowledge and practice observed in the present study might be explained by cultural factors. Generally speaking, it is not in our culture to discuss freely issues involving the genitals in the public. The students may have been shy to admit that they do examine their testicles. Given the observed increasing incidence of testicular cancer among the primary at risk age group of between 15 and 34 years, there is an urgent need to educate male adolescents on the subject of TSE, leading to promotion of personal health surveillance via early testicular cancer detection and treatment with the ultimate aim of saving lives [10].

Tab. II. Knowledge, attitudes and practices of testicular-self examination (TSE) among 540 participants.

Questions and answers	Number	Percent
Have you heard about TSE?		
Yes	7	1.3
No	533	98.7
What tool (s) do you need to perform it?		
None	282	52.2
Mirror	21	3.9
I do not know	237	43.9
The two steps involved in TSE are inspection and feeling:		
Yes	93	17.2
No	133	24.6
I do not know	314	58.2
How often should TSE be performed?		
Once every month	38	7.0
Once every 3 months	70	13.0
Once every 6 months 99 18.3		
Once every year	57	10.6
I do not know	276	51.1
Is TSE important?		
Yes	88	16.3
No	147	27.2
I do not know	305	56.5
If important, how will you rate it (0-10)? (n = 88)		
0-3	50	56.8
4-6	23	26.1
7-10	15	17.1
Having heard of TSE through this questionnaire, do you intend to practice TSE regularly?		
Yes (Positive)	255	47.2
No (Negative)	116	21.5
Undecided (neutral)	169	31.3
The risk of testicular cancer is highest among those aged:		
15-35 years	3	0.6
Above 35 years	537	99.4

As in previous studies [5], a low rating of the importance of TSE was observed in the present study. The implication of the low rating of the importance of TSE is that even when the adolescent males become informed on the subject they may not practice it (TSE). Although in the present study, nearly half (47.2%) of the students indicated a positive intention to practice TSE regularly after hearing about it, this finding should be taken with caution considering the possibility that the students may want to please the Authors by indicating a positive intention. On the other hand, a similar finding of a positive intention to start practicing TSE regularly after hearing about it has been observed in another study. This might be a reflection of the readiness of these male adolescents to accept and practice TSE regularly, suggesting that educating the students on the subject has a high potential to succeed. Data from the present study indicated that all the students were unaware that testicular cancer can occur in individuals below twenty years of age. A similar finding

has been reported in previous studies [6,19]. This is worrisome because unawareness of the existence of testicular cancer resulted in the low rating of the importance of TSE as observed in this study. Testicular cancer is a fast-growing tumour and the prognosis depends largely on the time of starting effective therapy.

In conclusion, the level of knowledge, practice and the rating of the importance of TSE are all very low among

adolescent secondary school boys in Benin City, suggesting that these students are unaware of the value of this personal health surveillance tool. The students demonstrated a positive intention to start performing TSE regularly after hearing of TSE (through the questionnaire and subsequent teaching on the subject). Health education, using video presentations in schools and promotion of regular and accurate TSE is suggested.

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