

Full Length Research Paper

Awareness and Sources of Information Relating to Testicular Self-Examination and Torsion among Male Undergraduates in a Nigerian University

SOLADEMI Olaoluwa Bayo ^{1*}(MPH), OSHINAME Fredrick O. ³ (MPH, MA, PhD) and SOTUNSA John Obafemi² (MD, MPH)

¹Department of Public Health, Adeleke University, Ede, Osun State, Nigeria.

²Department of Obstetrics and Gynecology, Benjamin Carson (Snr) College of Medicine, Babcock University, Ilishan, Nigeria.

³Department of Health Promotion and Education, College of Medicine, University of Ibadan, Nigeria.

Abstract

Testicular Torsion (TT) poses a serious health challenge to young men and Testicular Self-Examination (TSE) is recommended for its early detection and management. Radio and television are recognized media for public enlightenment. However studies related to the awareness and sources of information about TSE are not common in Nigeria. This study therefore assessed the level of awareness and sources of information about TSE among 500 male undergraduates of Babcock University in 2008. Respondents' mean age was 21±3.2 years. Only 28.2% were aware of TT; while 39.6% were aware of TSE. Very few had heard about TT on television (9.2%) and radio (4.3%). Likewise, very few had heard about TSE on television (15.7%) and Radio (7.1%). Participants' awareness of TT and TSE was low. Television and radio as sources of information was low. Integration of health education programmes focusing on TSE into television and radio programmes is recommended.

Keywords: Testicular torsion, Testicular self-examination.

BACKGROUND TO THE STUDY

Testicular Self-Examination (TSE) is a preventive health behaviour for the early detection of some testicular disorders such as Testicular Torsion (TT), Testicular Cancer (TC) and Varicocele (Nasrallah et al., 2000). Public awareness and education relating to TSE has been widely recommended, promoted and supported by health care professionals and mass media specialists worldwide for the early detection of testicular disorders (William and Joffe, 2004). TT is said to have been first described in 1840 by Delasiauve (Mangwiro, 2006). The condition occurs when the testicle turns or spins thereby blocking the

flow of blood into the testicle. Prolonged blockage of blood flow causes tissue death in the testicle, thereby resulting in pain, swelling, and possible testicular damage. If timely treatment is not received within 6 to 8 hours, the affected testicle may die and need to be removed (Sherman, 2006). TT is a problem known to occur in children and adults. The peak incidence is usually seen in the 16-20 years age group (Ibingira, 2003). Each year, TT affects 1 in 4,000 males younger than 25 years worldwide (Blaivas et al., 2000; Ringdahl and Teague, 2006; Sherman, 2006).

TT is one of the most delicate surgical emergencies if not recognized and presented for care in time. If prompt intervention is not instituted at the first consultation, it may well be too late to initiate any effective treatment to save the testicle at the second or subsequent consultations even if it is recognized

*Corresponding author Email: demibayo@yahoo.com;
Tel: +234 8072048123, +234 8180715252

(Ibingira, 2003). The most frequent symptom of TT is the sudden onset of testicular or abdominal pain. It may follow a trauma but usually occurs suddenly with no known cause. In very young males it frequently occurs in their sleep (Strub, 2000).

Magoha (1989) in a research carried out in Nigeria reported a salvage rate for TT to be 32 percent, while Blaivas et al. (2000) stated that the average salvage rate of TT was about 50 percent worldwide. Early detection and rapid diagnosis of TT through testicular examination, emergency screening and ultrasound examinations can lead to successful salvage of the affected testis. The rate of testicular loss dramatically increases if treatment is delayed beyond 4 to 6 hours of symptoms (Ringdahl and Teague, 2006). TT is a major risk factor for male infertility (Thompson, 1993). Rybkiewicz (2003) in an experimental study on long term and late results of treatment in patients with a history of TT concluded that clinical findings in adults revealed that TT induces auto-immunological reactions such as antisperm antibodies with subsequent infertility.

Infertility is of public health importance in Nigeria and many other developing countries because of its high prevalence as well as its serious social implications such as marital disharmony, divorce and stigma (Araoye, 2003). Moreover the complications of TT induced infertility such as marital disharmony and divorce could constitute a serious psychological burden on the affected person. In time past, infertility was regarded as an exclusive disease of women but recent scientific data all over the world however suggest that male factors which include TT induced infertility are the commonest single defined cause of infertility (Nordical Fertility Centre, 2003). A study in Nnewi, Nigeria has revealed that out of 314 Nigerian couples that were evaluated thoroughly for the cause of their infertility, a positive male factor alone was found in 133 (42.4%) couples while female factor alone was established in 81 (25.8%) couples. A total of 65 (20.7%) couples had a combination of male and female factors. The cause of infertility was unexplained in 35 (11.1%) couples (Ikechebelu et al., 2003).

Ibingira (2003) has reported that the number of cases of TT has been on the increase over the last two decades in Uganda. In Nigeria Dakum et al. (2005) have concluded in their study that TT is the most common cause of scrotal problems in Jos among males aged 12 days to 80 years with a mean age of 29.4 years. Dakum and his colleagues further stated that majority of the patients with acute scrotum presented to the hospital late. It was noted that public health education on radio and television is required to reduce delay in case presentation, improve diagnostic skills, testicular salvage rate and prognosis. This study therefore focused on the determination of the level of

awareness and sources of information related to TT and TSE among students of Babcock University, Ilishan-Remo Ogun State. The result have potential for constituting scientific justification for instituting policies that would help health communicators and the mass media specialists to develop educational interventions relating to TT and TSE for the Nigerian population.

Statement of Problem

The consequences of TT includes the loss of testicles and infertility; Infertility in turn attracts a lot of social stigma. The social stigma coupled with the complications of TT could be indeed very devastating to sufferers. Sometimes if urgent intervention is not taken the affected testis can become gangrenous (Berkeley, 2005). For a male with TT to save his testicle, he must recognize the symptoms of torsion, visit an appropriate health care facility and have a timely surgical intervention. Unfortunately many young people are either not aware of the signs and symptoms of TT or do not know how to perform TSE with a view to taking appropriate health action (Masbach et al., 2005). In Nigeria the Federal Ministry of Health (FMOH) has stated that a major factor associated with poor adolescent reproductive health status is lack of awareness and knowledge of relevant reproductive health issues (FMOH, 2002). Little is known about tertiary school students' level of awareness and sources of information about TSE. Yet many students in tertiary schools in Nigeria are aged between 16 and 20 and are thus vulnerable to the condition. Studies conducted in various parts of Nigeria show that the condition exists (Dakum et al., 2005; Mbibu et al., 2004; Ugwu et al., 2003; Osegbe et al., 1987). A review of the post-operative record of surgical diagnoses of male patients was carried out at the Babcock university medical centre. The review showed that from 2001 to 2007 a total of seven surgical interventions relating to testicular torsion were performed. This study therefore focused on the assessment of the level of awareness and sources of information related to TT and TSE among students of Babcock University, Ilishan-Remo Ogun State.

Justification of Study

Just as female breast self-examination (BSE) is important for the early detection of abnormalities in the breast (ARFH, 2000; American Cancer Society, 2004) so also is TSE (American Cancer Society, 2004; Ward et al., 2005) important for the early detection and management of testicular disorders. Infertility and sexual dysfunction are among the eight areas outlined

by International Committee for Population and Development (ICPD) in 1994 to be given major attention and this has been adopted by Nigerian government (FMOH, 2002). This study is useful in throwing some light on the use of mass media especially television and radio as a means of disseminating health informations. The findings of the study could be used as baseline information for developing television and radio intervention programmes for reducing and/or mitigating the impact of TT and other reproductive disorders in Nigeria. Furthermore, the findings of the study could also be used for guiding the formulation of evidence-based policies geared towards promoting male reproductive health through the use of mass media especially among vulnerable in-school young male populations.

Broad and Specific Objectives of the Study

The broad objective of the study was to assess the level of awareness and the sources of information relating to TT and the practice of TSE among students of Babcock University, Ilishan-Remo Ogun State.

Research Questions

1. What is the level of awareness of TSE and TT among male undergraduates at Babcock University?
2. What are the sources of information about TSE among male students at Babcock University?

Description of the Study Community

This study was carried out at the Babcock University (BU) in 2008. The university is located in Ilishan-Remo, a town in Ikenne Local Government Area (LGA) of Ogun state. Babcock University came into existence on Tuesday, April 20, 1999. According to the 2006/2007 faculty statistics the university has a total undergraduate student population of 3,994. The males accounted for approximately 49 percent (1,946) of the total population.

Study Design, Sampling Procedure and Sample Size

The study was a descriptive cross-sectional survey. In order to obtain a sample of the population for the study, stratified, proportionate and simple random sampling techniques were adopted. The sample size

was calculated at 99% confidence interval using the following formula:

$$n = \{z @ \text{half-alpha} / (2 * \text{Error})\}^2$$

To calculate the sample size at 99% confidence limit within +/- 0.06 using the formula is

$$n = (2.578 / .12)^2 = 461$$

The calculated sample size of 461 was increased to 500 so as to address the problem of incomplete responses and possible cases of attrition.

METHODS AND INSTRUMENTS FOR DATA COLLECTION

Both qualitative (Focus Group Discussion) and quantitative (Semi-structured interview) methods were employed for data collection. A total of six FGDs were conducted as follows: Management and Social Sciences - 2; Science and Technology - 2; Education and Humanities - 1; Law and Security Studies 1. Administered questionnaires were edited and coded by the investigator with the use of a coding guide. The data in each questionnaire were entered into a computer for analysis using the Statistical Package for Social Sciences (SPSS).

Ethical Consideration

Approval was sought from the Babcock university authority and the Heads of departments before commencement of the study. Informed consent was obtained from the study participants.

RESULTS

The socio-demographic characteristics of male students that participated in the study are presented in Table 1. The respondents' ages ranged from 16-44 years with a mean of 21.3 ± 3.2 . A large proportion (88.6%) were young people aged 24 years and below while few (11.4%) were above 24 years. Respondents within the 16-20 age bracket constituted 44.8%, while those aged 21-25 years were 47.8%. A total of 91.4% respondents were aware of the shape of the testis. A majority could state the function of a normal testis as production of sperm (86.6%) and storage of sperm (67.4%). Only 47.8% could however identify production of testosterone as a function of a normal testis. A majority (68.6%) of the respondents identified gonorrhoea as a disease condition which can affect the testis. Some listed cancer (47.4%), undescended testis (36.2%) and disappearance or absence of testes (24.8%) as disease conditions which can affect the

Table 1. Participants' socio-demographic characteristics
N = 500

Characteristics (Age group)			No	%
16	-	20years	224	44.8
21	-	25years	239	47.8
26	-	30years	28	5.6
31	-	35years	7	1.4
41 - 45years			2	0.4

Mean age = 21.3±3.2 Age range: 16 to 44 years

Table 2. Participants' knowledge about disease conditions which can affect the testis
N = 500

Disease conditions	Responses in %		
	Yes	No	Don't know
Cancer*	47.4	19.4	33.2
Gonorrhoea*	68.6	12.8	18.6
Testicular torsion*	28.2	6.2	65.6
Undescended testis*	36.2	10.2	53.6
Malaria	4.6	71.0	24.4
Disappearance or absence of testes*	24.8	28.2	47.0

* Correct responses

testis. (See details in Table 2).

Only 141 (28.2%) respondents had ever heard about TT. Respondents' sources of information about TT included Friends (36.9%), Health care providers (34.0%), Books (21.3%) Magazine (17.0%), Television (9.2%) and Radio (4.3%) (See Table 3 for details). A large proportion (88.0%) correctly stated testicular pain as one of the symptoms of TT (see details in table 4). Infertility was mentioned by 61.0% as a possible complication of TT. Testicular infection (52.5%) and death of the testis (45.4%) were also identified as possible complications of TT (see table 5 for details). Only 198 (39.6%) respondents had ever heard about TSE. Health care providers (41.4%) topped the list of respondents' sources of information about TSE, followed by books (30.3%), magazine (26.8%) friends (23.7%) and television (15.7%) (See Table 6 for details). Table 7 reveals the knowledge of the participants relating to the focus of TSE. The table shows that a large proportion of the participants reported that the following included the focus of TSE: detection of pain in the testis (87.4%), swelling in the testis (83.3%) and presence of lump in the testis (73.7%).

The FGDs provided opportunities for probing into discussants' level of awareness about disease conditions that could affect the testes including TT. The consensus across the six groups was that sexually transmitted infections such as gonorrhoea and syphilis are health problems which can affect the testes and

the penis. Most discussants across two groups (Science and Technology and Management and Social sciences) further mentioned weak erection, reduced sexual performance, low sperm count, and premature ejaculation as health problems which can affect the testes and the penis. Only three FGD discussants had ever heard about the term "Testicular Torsion"; some other discussants were able to describe some experiences that relates to TT after some probing. A discussant from the faculty of Science and Technology was able to define TT correctly and he narrated his experience as follow:

- *"Testicular torsion is the twisting of the testis... I know someone that has experienced it. He was actually a friend of mine...My friend had a twisted testis and he was rushed to the hospital, he was uneasy, in difficulty and in pain...and the doctor called it testicular torsion".*

Another discussant from the faculty of Management and Social Sciences described TT as follow:

- *"When someone has testicular torsion, I just know that the 'balls' (meaning testes) get twisted, I know this because it happened to someone at Babcock University pre-degree campus during my pre-degree program. So I heard about it then and they operated on the guy".*

Some other participants' experiences that typified TT but which they could not state categorically as being TT included the following:

- *"My cousin suffered from a problem sometimes*

Table 3. Participants' awareness and sources of information about TT

Awareness and sources of information	Responses	
	No	%
Ever heard of TT: n = 500		
Yes	141	28.2
No	359	71.8
Sources of information*: n = 141		
Friends	52	36.9
Health care provide	48	34.0
Books	30	21.3
Magazine	24	17.0
Newspaper	14	9.9
Television	13	9.2
Father	9	6.4
Radio	6	4.3
Mother	5	3.5
Relatives	5	3.5
Others **	4	2.8

* There were multiple responses

**The others included Internet (1.4%), Self experience (1.4%).

Table 4. Participants' knowledge about symptoms of TT
N = 141

Symptoms	Responses in %		
	Yes	No	Don't know
Testicular pain*	88.0	1.4	10.6
Swollen testis*	66.7	7.8	25.5
Lump in the testis	29.8	21.3	48.9
Disappearance of testis	13.5	39.0	47.5
Discharges or pus from testis	29.1	21.3	49.6

* Correct responses

Table 5. Participants' knowledge about the complications of TT
N = 141

Complications	Responses in %		
	Yes	No	Don't know
Testicular infection*	52.5	13.5	34.0
Death of the testis*	45.4	12.8	41.8
Infertility*	61.0	8.5	30.5
Gonorrhoea	22.7	36.9	40.4
HIV/AIDS	10.6	52.5	36.9

* Correct responses

Table 6. Participants' awareness and sources of information about TSE

Awareness and sources of information	Responses	
	no	%
Ever heard of TSE : n = 500		
Yes	198	39.6
No	302	60.4
Sources of information*: n = 198		
Healthcare provider	82	41.4
Books	60	30.3
Magazine	53	26.8
Friends	47	23.7
Television	31	15.7
Newspaper	25	12.7
Mother	19	9.6
Radio	14	7.1
Father	12	6.1
Relatives	8	4.0
Others **	12	6.0

* There were multiple responses.

** The others included Self consciousness (2.0%), Church (1.0%), Internet (1.0%), Girl friend (0.5%), and Health Journals (1.5%)

Table 7. Participants' knowledge about the focus of TSE
N = 198

Focus of TSE	Responses in %		
	Yes	No	Don't know
Size of testis*	80.8	5.6	13.6
Shape of testis*	78.3	9.1	12.6
Weight of testis*	51.5	18.7	29.8
Groin examination	42.4	14.6	43.0
Swelling in the testis*	83.3	3.6	13.1
Absence of testis*	57.6	12.1	30.3
Presence of lump in the testis*	73.7	5.6	20.7
Pain in the testis*	87.4	4.0	8.6
Sore in the testis*	66.2	10.1	23.7

* Correct responses

ago; he had pain and swollen testis and they had to operate it, but I can't remember the name of the condition or the name of the operation. It was my mum, a nurse, that took him to the hospital. It happened like two years ago when my cousin was 18years old. He was really in severe pain; it suddenly happened after he woke up".

- "I heard from some people in my village that the testis can swell and it will be painful and it wakes you up and you won't be able to move".

- "I know a 4 year old kid who was having testicular pain and swelling, he was taken to UCH; he was operated on and he later recovered".

- "I went to visit my aunty who is a nurse in a hospital. When I got into the ward, I saw a patient that was about to be operated on; his testes was swollen up and he was in pain. So I asked my aunty what exactly was his problem and she mentioned the name of the disease but I can't remember now".

The focus group discussants were requested to share their experiences relating to their sources of information relating to TT or testicular disorders in general. A "friend" and a "family member" were the two sources of information widely mentioned by the respondents that had heard about testicular torsion. Other participants who were aware that there could be

testicular pain and/or swelling said that their major sources of information were people who were close to them (including friends), Discovery TV (a satellite television network), magazines, health books and internet. A discussant from the Faculty of Science and Technology said that *“Discovery TV taught us a lot about testicular disorders”*. Another discussant from the Faculty of Management and Social Sciences mentioned *“medical practitioners”* as another source of information; he said

- *“Some of us have medical personnel as friends or family members who tell us about such disorders”.*

Few discussants had heard about the term Testicular Self-Examination across all the six groups. Most discussant across the six groups said they carry out personal examination of their genitals. One discussant from the Faculty of Science and Technology said he was taught TSE by his aunt who is a nurse. The discussant stated that:

- *“My aunt said that it does not have to be everyday, but at least once a week, when one is taking his bath or before you sleep. She said that I should hold my penis up and check all part of the testis. If I am feeling pain or discover any swelling in my testes I should let the medical doctor/nurse know. It might not be anything and it could also be something just as in case of cancer or lump”.*

Another discussant from the Law and Security Studies said:

- *“I heard about it from my mum; she told me to be examining it every morning, if it is actually increasing in size or maybe one “ball” is just shrinking or whether it is present or not”*

Another discussant from the Faculty of Management and Social Sciences said:

- *“I heard about it from my personal doctor; he said I should be checking myself to be sure I don't have pain, swelling or rashes”.*

Implications of the findings for health education and mass media

All educational programmes irrespective of the adopted strategy relating to TT and TSE should focus on the following four key issues or evidence-based information:

- TT is a threat to men's reproductive health;
- TT is curable if detected and treated early;
- Undetected and unmanaged TT can lead to testicular damage and infertility;
- TSE is effective in promoting testicular salvage rate.

Public enlightenment through the mass media is a useful health education strategy. It had been widely

used to disseminate information successfully through the use of several media especially television and radio programmes to raise people's awareness and knowledge about family planning (Iyaniwura, 2004; AHI, 2002) and HIV/AIDS (Fawole et al., 1999; Ajuwon et al., 2003; FMOH, 2003). Its principles could be harnessed to upgrade the general populace's knowledge about complications of TT and importance of TSE.

CONCLUSION

The level of awareness and knowledge about testicular torsion and testicular self-examination is low among the study population. Likewise the use of radio and television as sources of information about TT and TSE was low. The findings of this study constitute a useful data bank for the design and development of public enlightenment programmes through the mass media especially on radio and television such programmes should aim at upgrading the knowledge and skills of people on men's health.

RECOMMENDATIONS

The recommendations based on the findings of this study are as follow:

1. Public enlightenment programmes should be design, developed and broadcasted through the mass media especially on radio and television that will reach majority of the population, such programmes should aim at upgrading the knowledge and skills of people on men's health generally and focusing on cases that require urgent attention such as testicular torsion and how to perform Testicular Self-examination.
2. There is the need to design, produce and distribute educational materials such as posters, handbills and booklets which focus on TT and TSE specifically targeted at young persons in schools.
3. Advocacy and sensitization of policy makers in the Ministries of Health and Education at various levels are needed to influence them to include adolescent male reproductive health issues, including testicular health education in the national reproductive health policy.

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