Knowledge and Practice of Breast Self Examination among Female Students in a Sub Saharan African University

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Background: Breast cancer is the most common cancer among women in many parts of Africa. Facilities for screening and early detection are extremely limited yet early diagnosis improves survival. This study explored the practice of Breast Self Examination among female university students as a means of screening and early detection in a low resources environment.
Subjects andMethods: A cross sectional descriptive study at a Sub Saharan university. A call for volunteers to the study was made; a pretested standardised questionnaire was used for data collection. The process was limited to an interview and a physical examination. IRB approval was granted before the study began.
Results: A total of 320 participants volunteered, 314 were recruited. The majority were aged between 21 and 25. The range was between 19 to 31 years. There was a high awareness of Breast self Examination (BSE) of 81.5%, 30% had ever performed a BSE, 14 % performed it regularly, 8% knew the correct monthly timing, the technique was accurately demonstrated by 1% of participants. 4.8 were found to have breast lumps.
Conclusion: There is a likelihood of most young women in the country practicing BSE inadequately. There is a need for widespread BSE campaigns emphasizing the correct technique and a need to evaluate BSE efficacy. The prevalence of breast lumps among young women attending this university was comparable to other community prevalence studies in this age group.

Introduction

Breast cancer is the most common cancer among women is many parts of Africa and a lead cause of cancer mortality in African women[1]. The incidence in Uganda is rapidly raising[2], though mass screening with use of mammography has been effective in the more affluent countries, it is not readily available to most of the women in Sub Saharan Africa[3,4] .

The peak of Breast Cancer in a recent Ugandan study[5] is in the 3rd decade of life, therefore necessitating mass screening and awareness campaigns among younger women than the model in western countries. Mammogram guidelines indicate that a mammogram is appropriate only in women above 35 years old[6] due to breast density in the younger women making visualization of present lesions and interpretation difficult and therefore unreliable. The available options left are ultrasound scan and Breast Self Examinations (BSE). Breast Self Examination is appealing as a routine screening method because the examination has no financial cost (apart from the initial instruction sessions) and can be conducted in private[7]. Most studies on the effectiveness of BSE have been observational. They suggest that these women are more likely to find their breast tumour themselves, that the tumours tend to be smaller and that these women have an increased survival[8,9] . This study investigated the knowledge, frequency and quality of practice of Breast Self Examination among university female students.

Methods

A cross sectional study carried out at Makerere University an 80-year-old institution over a 10-day period. A call was made for students to participate. Participants were enrolled consecutively until the minimum required sample size was reached. Participants were residents in designated halls of residence. A total of 1400 students were on the residents register on the camps. 320 volunteer participants were interviewed using a pretested standardized questionnaire and were physically examined, for possible breast pathology including lumps, nipple discharge and any other related pathologies. In the interview sessions the participants were asked to demonstrate how they normally examine their breasts (if they did) before the investigator.

Variables in the questionnaires included demographics, frequency on Breast Self Examination, timing, consistency, action taken when an abnormality was thought to be found and the interval between noticing and taking action especially in consulting a health professional and what type of professional. The reasons for delay were solicited. For data entry and analysis STATA 8.2 package was used. Proportions were compared using Fischer's exact test. Consent was sought from all the participants; Institutional Review Board approval was sought prior to carrying out the study.

Results

The data was collected over a period of 10 days in the month of April 2009. A total of 320 participants were recruited and due to recording errors, analysis was carried out on the results of 314 of them. Table 1 sumarizes the demographic character of the study population. Their mean age was 21.9 years with 83.4% being in the 21-25 years age group.

Table 1. Demographics of the Study Population, Awareness and BSE performance

Characteristic	Frequency	%
Age in Years	21.9 (mean)	**1.53 (sd)**
≤ 20	45	**14.33**
21-25	262	**83.44**
26-30	6	**1.91**
≥ 30	1	**0.31**
Tribe		
Ganda	115	**36.62**
Ankole	34	**10.83**
Teso	26	**8.28**
Nyoro	14	**4.46**
Others	125	**39.8**
District of Residence		
• **Kampala**	141	**44.9**
• **Wakiso**	38	**12.1**
• **Others**	135	**43.0**
Parity		
• **Nulliparous**	**284**	**90.45**
• **Parous**	**30**	**9.95**

Table 2. BSE Awareness and Performance

Characteristic	Frequency	%
Heard about BSE (n=314)		
Yes	255	81.21
No	59	18.79
Rationale for doing a BSE (n = 254)		
To screen	110	43.31
To diagnose	107	42.13
Do not know	37	14.57
When BSE should be performed n=254		
Know when	20	7.87
Know wrong timing	59	15.36
Don't know	195	76.77
Breast self technique examination described correctly n= 254		
Could not describe at all	220	86.67
Described a few steps accurately	31	12.07
Described entire technique accurately	3	1.18
Ever performed a BSE		
Yes	96	37.65
No	159	62.35
Regularity of performance of a BSE(n=96)		
At least monthly	45	46.88
Occasionally	51	53.13
Twice a month	5	22.73

Table 3.

	Frequency	Percent (%)	Average size of the lumps(cm)
Awareness of the breast lump(n=15)	5	33	2.4
Not aware			
Aware	10	67	3.4
Detection (n=10)			
Coincidental	2	20	2
By breast self examination	8	80	4
History of Seeking Help(n=10)			
• From a health professional	7	70	-
• From a non-health professional	2	20	-
• Did not seek help	1	10	-
Timing between detection and seeking help (n=9)			
• Immediately	7	78	-
• After sometime	2*	22	-

**The two participants who took time between finding the breast lump and seeking help spent 1month and 2years. The reasons where that one was scared and the other thought it was a 'normal' finding.*

Discussion

This study involved university students, the demographics are what was anticipated. The mean age was in the early twenties. Most were nulliparous and most of them being 'direct' university entrants, they were not expected to have started families. The district of residence and ethnicity is a general reflection of who may have access to tertiary education in the country and reflection of the dominant ethnic groupings in terms of numbers. The Ganda and Nkole contribute close to 45% of the general population[12].

Practice of BSE

In this study, the level of awareness was high; but the knowledge of the technique and practice ratios was poor.

The knowledge awareness of BSE was over 80% similar to figures cited in other studies such as by Demirkiran in 2007 performed among Turkey nurses. It is important that the awareness of BSE translates into adequate or appropriate practice early detection of breast lumps. Most cancerous breast lumps are self discovered, but it is important that these lumps are discovered in the early stages when they are still small. Tumors detected at 2cm in diameter allow women more treatment choices and a greater chance of long-term survival[13] . In this study, lump sizes ranged from 2.4cm to 3.4 cm on average. They were smaller (2.4cm) for those who has lumps but were not aware of them and had not practiced BSE, and they averaged 3.4cm for those that were aware, they had the lumps. Is it possible that correctly performed BSE (correct technique and regular and timing could pick lumps less than 3.4 cm in our context?.

Breast Self Examination should be practiced correctly and this involves a number of aspects; frequency, timing, a correct technique consistent application of it as well as acting on any positive findings without much delay. In published work, women who practice BSE tend to be younger, pre menopausal and of a higher socio economic status[14,15] . Possibly this has to do with access and exposure to health talk information through the media, peers and health workers. This description agrees with the demographics of this study even though, selection of this study population was self fulfilling.

Role of university graduates in society

University students are thought to be the more enlightened and empowered lot living in an area with good geographical access to health care facilities. The less empowered and less exposed rural women face a lot more barriers to not only seeking professional attention but also access to knowledge of Breast Self Examination. The lack of empowerment and the subsequent missed opportunities for early detection is owed to lack of information, knowledge and opportunities for screening. Yet BSE is considered a reliable self screening tool for early detection of Breast cancer in less privileged communities[11].

Utility and efficacy

Whereas, in the Sub Saharan Africa there is limited resource for health care including Human Resources for Health, most resources are dedicated to infectious diseases such as HIV/AIDS, malaria and tuberculosis, this creates a scenario of neglect of surgical conditions in which Breast Cancer would fall for that matter. It is imperative therefore that we heighten awareness of breast cancer and better still advocate for use of low cost interventions, but also investigate the efficacy of these low cost interventions.

Delay

In this study, only two women had self discovered lumps; one took a month before seeking professional help. In some of the literature reviewed, it is not a significant delay. The second sought help after 2 years. This is considered a significant delay[16] . The reasons cited for delay; the first was scared and the second thought it was normal to have a lump in the breast. Factors that influence seeking help for women that self discover lumps range from sociodemographics (age) to women's knowledge and beliefs, social and psychological factors, health service issues, health seeking habits, among others[17,18] .

Owing to the small numbers in this study, we may not make strong inferences as to what reasons would prevent Ugandan young females from seeking help for self discovered lumps but these findings give us an idea and are similar reasons to those found elsewhere[17,~~17~~18,19,20].

Conclusion

The level of awareness of BSE was high but the knowledge and practice ratios were poor, we therefore advocate for and encourage use of BSE though we need studies to prove that it has an impact on survival in our context, given that it is the only method that is affordable for wide spread use in resource limited settings.

An optional module on female health education that includes Breast health should be introduced at the universities possibly in the first year of study, in resource limited environments.

References

1. Parkin DM, Bray F, Ferlay J, Pisani P. Estimating the world cancer burden: Globocan 2000. *Int J Cancer* 2001; 94: 153–156.
2. Wabinga HR, Parkin DM, Wabwire-Mangeni F, Nambooze S. Trends in cancer incidence in Kyadondo county, Uganda, 1960 – 1997. *British Journal of Cancer* 2000; 82:1585-92
3. Anderson BO, Braun S, Carlson RW, Gralow JR, Lagios MD et al. Overview of breast health care guidelines for countries with limited resources. *Breast J* 2003; 9 (suppl 1): S42-50
4. Duffy SW, Tabar L, Vitak B, Warwick J. Tumor size and breat cancer detection: what might be the effect of less sensitive screening tool than mammography? *Breast J* 2006; 12(suppl 1): S91-95
5. Gakwaya A, Kigula-Mugambe JB, Kavuma A, Luwaga A, Fualal J, Jombwe J, Galukande M and Kanyike D. Cancer of the breast: 5-year survival in a tertiary hospital in Uganda. *British Journal of Cancer* 2008; 99: 63 – 67.
6. Gakwaya A, Galukande M, Luwaga A, Jombwe J, Fualal J, Kiguli-Malwadde E, Baguma P, Kanyike A, Kigula-Mugambe JB. Breast Cancer guidelines for Uganda (2nd Edition 2008). *African Health Sciences* June 2008; Vol 8 N0 2: 126 -133
7. Hackshaw AK, Paul EA. Breast Self Examination and death from breast cancer: a meta analysis. *BJC*. 2003; 88: 1047 – 1053.
8. Hackshaw AK. Screening for breast cancer in young women using Breast Self Examination. In evidence guided prescribing of the pill, Hanna ford PC Webb AMC (eds). 1996. Royal College of general Practitioners. Parthenon Publishing Group, Lancs, UK.
9. International Agency for Research on Cancer (IARC). Efficacy of screening by self-examination in Hand book of Cancer Prevention. 2002. Vol 7. Breast cancer Screening, Vainio H, Bianchini Freds. Lyon France. IARC
10. Uganda Bureau of Statistics (UBOS). The 2002 Uganda Population and housing Census – main report: March, Kampala: UBOS. http://www.ubos.org/2002%20census%20Fianl%20Reportdoc.pdf

11. Demirkiran F, Akdolun BN, Memis S, Turk G, Ozvurmas S, Tuncyurek P. How do nurses and teachers perform breast self Examination: are they reliable sources of information? *BMC Public Health* 2007; 7: 96 http://www.biomedcentral.com/1471-2458-7-96
12. UBOS Report 2006. http://www.austria-uganda.at/_ubos_2006 report.htm
13. Chong PN, Krishnan M, HongCY, Swash TS: Knowledge and practice of breast screening amongst public health nurses in Singapore. Singapore Med J 2002; 43: 509-516
14. Le Geyte M, Mant D, Vessey MP, Jones L, Yudkin P. Breast self-examination and survival from breast cancer. *Br J Cancer*. 1992;66:917–918
15. Auvinen A, Elovainio L, Hakama M. Breast self-examination and survival from breast cancer; a prospective follow-up study. *Breast Cancer Res Treat*. 1996; 38:161–168.
16. O'Mahony M, Hegarty J. Factors influencing women in seeking help from a health care professional on self discovery of a breast symptom, in an Irish context. Journal of Clinical Nursing 2009; 18(14): 2020-29
17. Facione NC, Miaskowski C, Dodd MJ & Paul SM. The self-reported likelihood of patient delay in breast cancer: new thoughts for early detection. *Preventive Medicine* 2002; 34: 3978-407.
18. Arndt V, Sturmer T, Stegmaier C, Ziegler H, Dhom G and Brenner H. Patient delay and stage of diagnosis among breast cancer patients in Germany – a population based study. *British Journal of Cancer* 2002; 86: 1034 -1040
19. Abdel-Fattah M, Zaki A.B, EL-Sady, Tongoni G. Breast Self Examination Practice and its impact on Breast Cancer diagnosis in Alexandria, Egypt. *East Mediterranean Health J*. 2000; 6(1): 34 – 40.
20. Boulos S, Godallah M, Negnib S, Breast Screening in the emerging world. High prevalence of Breast Cancer in Cairo, Egypt. *Breast* 2005; 14(5): 340 – 6.
21. Onwere S, Okoro O, Chigbu B, Aluka C, Kamanu C, Onwere A. Breast Self-Examination as a method of early detection of breast cancer: knowledge and practice among antenatal clinic attendees in South Eastern Nigeria. *Pak J Med Sci* 2009; 25(1): 122 – 125.