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Knowledge of Risk Factors and Early Detection Signs of Breast Cancer by Students at Nursing and Midwifery Training Institute (IFSIO) in Parakou (Benin)

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Abstract

Introduction: Breast cancer is the most common cancer in women.

Objective: Assess the knowledge level of risk factors and warning signs of breast cancer among students of the Nursing and Midwifery Training Institute (IFSIO) at Parakou in 2016.

Methodology: It was a descriptive cross-sectional study with prospective data collection conducted from February 6 to February 20, 2016 on the first and second year students of IFSIO of Parakou, who have not yet received courses of breast cancer.

Results: The participation and completeness rate was 76.08% (159 students). There were 85 male students and 74 female students, a sex ratio of 1.15. The average age of the students was 20.01 ± 2.02 years. Student sex was not associated with knowledge of risk factors for breast cancer (p=0.223) and knowledge of early warning signs of breast cancer (p=0.127). Sixteen percent (16%) of the students knew at least 4 breast cancer risk factors. Obesity, delay in first pregnancy, infertility and age were recognized as breast cancer risk factors, respectively by 26.42%, 30.82%, 37.11%, 37.74% of students. Few students (36.48%) knew at least half of the breast cancer warning signs. The main sources of information were the media (television and radio: 73.58%) and health workers (52.83%).

Conclusion: These findings suggest the need for awareness of the students of Parakou on knowledge of risk factors and breast cancer warning signs.

Introduction

The number of new cancer cases continues to increase in worldwide with breast cancer on the frontline [1]. In 2012, the cancer was a leading cause of death worldwide (8.2 million) and 64.9% of these deaths have been recorded in the least developed regions of the world [1]. In particular the majority (69%) of all breast cancer deaths occur in developing countries [2].

In Benin breast cancer comes to the forefront of the cancers in women with 44.3% of cases. The consultation period after the appearance of the first signs is most often between one and six months (32.2%), but also goes beyond three years (26.1%). Most gynecological and breast cancers are diagnosed at an advanced stage (65%). Five year survival is 42% [3]. This can be explained mainly by the lack of early detection programs, the lack of infrastructure for diagnosis and treatment appropriate, and the expensive treatment [2]. Early diagnosis of breast cancer allows a more favorable prognosis.

In an environment where late consultation is predominant and where most breast cancers were detected accidentally by women themselves [3], there is an urgent need for awareness of breast cancer risk factors and its early detection measures. It is easier to get a change in behavioral change by youth outreach activities. On the other hand the awareness of older women can be done through their younger children as students.

A baseline report on the current level of knowledge would be vital to an effective outreach program, that's why the purpose of our study was to assess the knowledge level of risk factors, a method of early detection and signs of breast cancer among students of Nursing and Midwifery Training Institute (IFSIO) of Parakou in Northern Benin. They were first and second year's students and had not yet received a course on breast cancer; they were therefore comparable to other students of the University of Parakou.

Study Method

It was a descriptive cross-sectional study with prospective data collection conducted from February 6 to February 20, 2016 on first and second year's students of the Nursing and Midwifery Training Institute (IFSIO) who have not yet received courses of breast cancer at the University of Parakou. The University of Parakou is one of the big and prestigious Universities located in Northern Benin. We have included all IFSIO students for 3 months at least before the survey beginning.

Non-inclusion criteria were: subjects who did not consent to participate in the survey; subjects who were not available the surveyed days. Sampling was exhaustive.

Students were approached at the end of the class. A questioning on the socio-demographic data, knowledge of risk factors, signs of early warnings of breast cancer, breast self-examination; sources of information. We were inspired by a questionnaire developed by a multidisciplinary research team [4] to design our survey form.

The collection team was composed of four investigators divided into 2 pairs. Each team consisted of a medical student and a student at the end of training in epidemiology. Before the start of the survey the investigators were trained for a day.

Double data entry was made in the Epi Data 3.1 software French version. The data analysis was made using the software Epi info version 3.5.2.

Results

Participation and completeness rates

On 209 first and second year students at the IFSIO in the University of Parakou in 2016, 28 did not participated in the survey representing a participation rate of 86.60%. In addition, 22 of the 171 students who received the survey questionnaire did not completely answer the questionnaire representing a completeness rate of 87.85% (159/181).

In total, 159 students were finally included in analysis giving a participation and completeness rate of 76.08%. These data are presented in the flowchart (Figure 1).

Figure 1: Flow diagram of students selected, surveyed and included in the analysis at IFSIO in the University of Parakou in 2016.
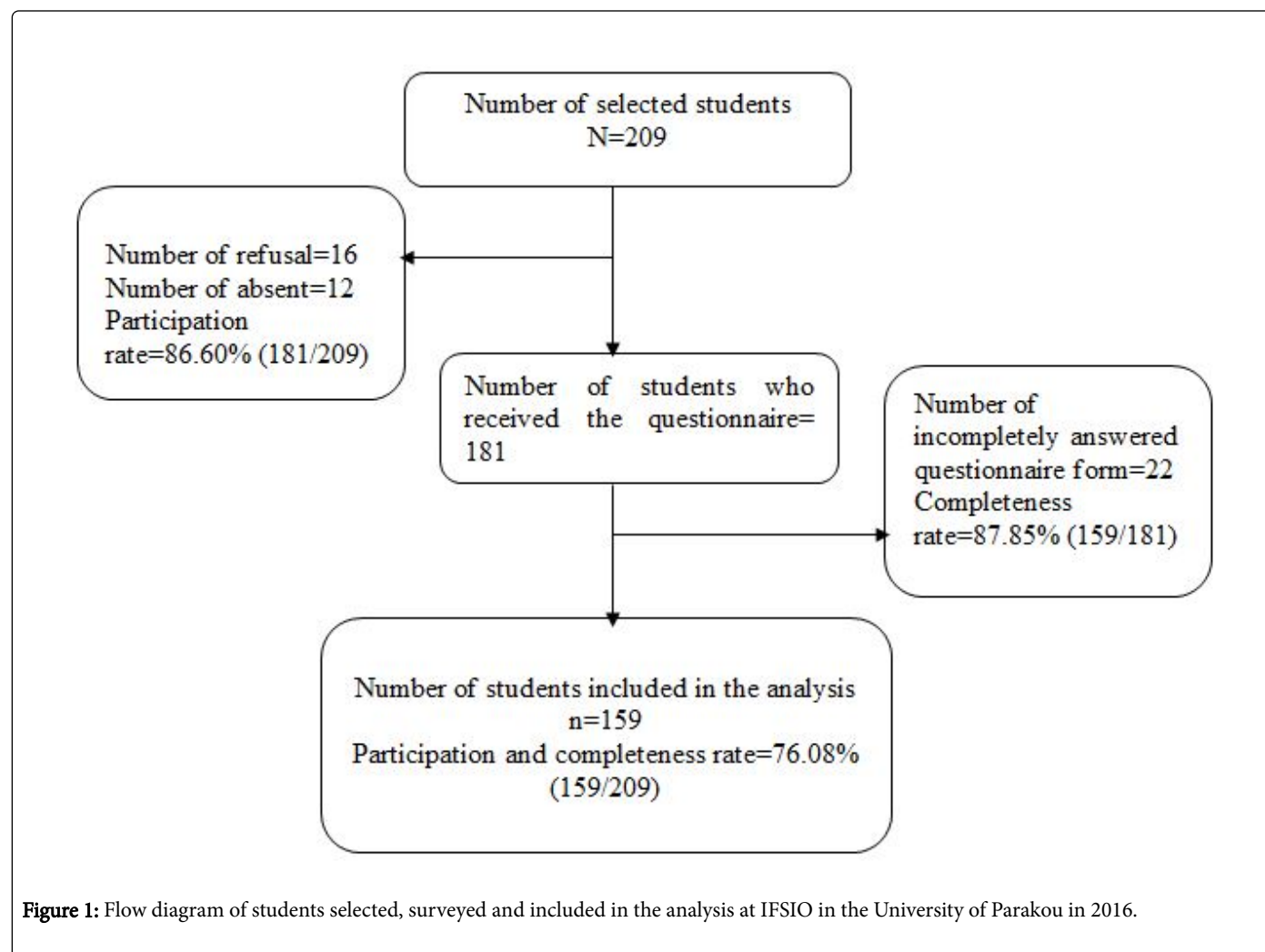
Socio-demographic and academic characteristics

The sample was made up of students of first and second year of study (80/159; 50.31%) and (79/159; 49.69%) respectively. The respondents were divided into 85 male students and 74 female students representing a sex ratio of 1.15.

These respondents were predominantly single (156/159; 98.11%) or Christians (126/159; 79.25%). The average age of respondents was 20.01 ± 2.02 years with extremes of 15 years and 27 years.

Those aged 20 years and over were 55.35% of the sample. Data are presented in Table 1.

Variables	Numbers	Proportion (%)
Sex		
Male	85	53.46
Female	74	46.54
Age in years		
<20	71	44.65
≥ 20	88	55.35
Marital status		
Single	156	98.11
Married	3	1.89
Religion		
Christian	126	79.25
Muslim	33	20.75
School year		
1st year	80	50.31
2nd year	79	49.69

Table 1: Distribution of IFSIO Parakou students by socio-demographic characteristics in 2016 (N=159).

Student sex was not associated with knowledge of risk factors for breast cancer (p=0.223).

And also knowledge of early warning signs of breast cancer (p=0.127) (Table 2).

Variables	Sex		OR	IC95%	p
	Male N (%)	Female N (%)			
Knowledge of risk factors for breast cancer					
Oui	56 (65.88)	56 (75.68)	0,62	[0.29,1.31]	0.22
Non	29 (34.12)	18 (24.32)	1		
Knowledge of early warning signs of breast cancer					
Oui	53 (62.35)	55 (74.32)	0,57	[0.27,1.19]	0.13
Non	32 (37.65)	19 (25.68)	1		

Table 2: Distribution of IFSIO Parakou students by sex and knowledge of breast cancer in 2016 (N=159).

Knowledge of breast cancer risk factors

More than 2/3 of respondents knew at least one breast cancer risk factor (113/159; 71.07%). About 16% of the students knew at least 4 breast cancer risk factors.

Table 3 provides information on the different risk factors reported by the surveyed students: Obesity (42/159; 26.42%), delay in first pregnancy (49/159; 30.82%), infertility (59/159; 37.11%) and age (60/159; 37.74%) were the main breast cancer risk factors.

Variables	Numbers	Proportion (%)
Obesity	42	26.42
Extended breastfeeding	14	8.81

Early menarche	25	15.72
Delay in first pregnancy	49	30.82
Infertility	59	37.11
High age of women	60	37.74
Multiparity	22	13.84

Table 3: Distribution of IFSIO Parakou students by breast cancer risk factors reported in 2016 (N=159).

Knowledge of early breast cancer warning signs

Over ¾ of surveyed students knew at least one early breast cancer warning sign (77.36%). More than 1/3 of the respondents (36.48%) knew at least half of the warning signs and 4.40% they knew all the warning signs of this condition.

Table 4 shows the different mentioned signs. Painless bump on breast (52.20%), breasts swelling (40.25%), change in breast skin (42.14%) as well as breast pain (49.06%) were the main signs of early warning of breast cancer recognized by the respondents.

Variables	Numbers	Proportion (%)
Painless bump on the breast	83	52.2
Breast swelling	64	40.25
Change in breast skin	67	42.14
Nipple discharge	33	20.75
Nipple retraction	35	22.01
Fever/cold/presence of wound on the breast	60	37.74
Breast pain	78	49.06

Table 4: Distribution of IFSIO Parakou students by knowledge of early breast cancer warning signs in 2016 (N=159).

Perception about breast self-examination for early detection of breast cancer

Most students (92.45%) recognized self-examination as a method of early detection of breast cancer. More than a third of the respondents knew that breast self-examination should be done 2 to 3 days after menstruation (42.14%) and that menopausal women should choose a fixed day in the month for self-examination (38.36%).

More than half of the students (59.75%) knew standing in front of a mirror to examine the breasts. Table 5 summarizes this information.

Variables	Effective	Proportion (%)
Breast auto palpation 2 to 3 days after menstruation	67	42.14
Menopausal women one day a month	61	38.36
Position during breast self-examination		
Standing in front of a mirror	95	59.75
Laying	43	27.04
During bath	21	13.21

Table 5: Distribution of IFSIO Parakou students by their knowledge on breast self-examination in 2016 (N=159).

Breast cancer information sources

The main sources of information were the media (television and radio: 73.58%) and health workers (52.83%).

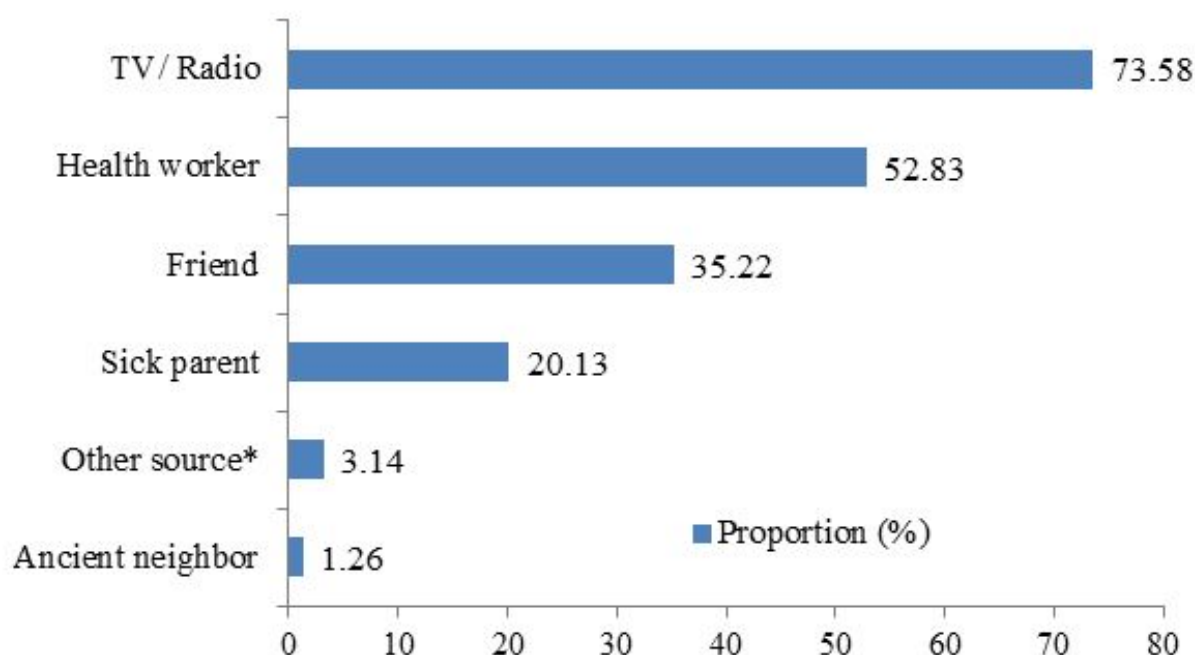Figure 2 shows this information.

Figure 2: Distribution of IFSIO Parakou students by breast cancer information sources in 2016 (N=159) [*Teachers and internet].

Discussion

Knowledge of at least one risk factor in our sample was high. But few students knew at least half of the risk factors. Obesity, delay in first pregnancy, infertility and age were the main known breast cancer risk factors by the respondents. Hailu et al. [5] in their study conducted in a university environment found as main risk factors recognized by the respondents: smoking, alcohol consumption and a diet rich in fat respectively with 71.3%, 44.2% and 38.8%. Early menstruation and a late menopause (39.1%), extended breastfeeding (38.6%), multiparity (36.4%), obesity (21.6%) and age (19.6%) were the main risk factors found by Oluwatosin and Oladepo [4] in a study on rural women in Ibadan, Nigeria in 2006.

More than 2/3 of the students interviewed (67.92%) knew at least one early breast cancer warning sign. This proportion is higher than that found by Oluwatosin and Oladepo [4] (24%).

In our study, more than a third of respondents knew at least half of the breast cancer warning signs. But few of them knew all the breast cancer warning signs. This can be explained by a lack of communication and a lack of awareness program around this pathology under our skies. The ideal would be that a significant number of people know all the breast cancer warning signs.

Painless bump on breast (52.20%), breast swelling (40.25%), change in breast skin (42.14%) as well as breast pain (49.06%) were the main signs of early breast cancer warning recognized by the respondents. Hailu et al. [5] in their 2013 university-based study in Ethiopia found as main early warning signs: breast nodule (76.1%), breast pain (79.1%) and nipple discharge (59.3%). Isara and Ojedokun [6] in his study of college girls in Abuja, Nigeria found that the painless bump was the main early warning sign known (49.4%).

According to our study, most respondents had recognized breast self-examination, as a method of early detection of breast cancer (92.45%). Hailu et al. [5] also recorded a high proportion of female students (59.5%) who had recognized self-examination as a method of early detection of breast cancer. Oluwatosin and Oladepo [4] reported a low proportion of women interviewed who recognized breast self-examination as a mean of early detection of breast cancer (6.4%). This can be explained by a poor access to information in rural areas where these studies were conducted.

According to our results 42.14% of students reported that breast self-examination should be done 2 to 3 days after menstruation. For 38.36% of them, menopausal women should choose one day in the month for breast self-examination. These numbers are low but higher than those found by Oluwatosin and Oladepo which were respectively 14.3% and 10.6% [4].

There is a debate in the literature on the effectiveness of breast self-examination in the early detection of breast cancer and the reduction of mortality. Some studies have shown this efficacy [7,8]. But other authors have not found this effectiveness [9,10]. However breast self-examination remains a method of choice for early diagnosis of breast cancer in underdeveloped countries where resources constraints limit the quality of support [11].

The main sources of information on breast cancer were audio-visual mass media (Televisions and Radios: 73.58%) and health workers (52.83%). Isara and Ojedokun [6] in Abuja had found that the main source of information about this condition was the mass media (73.2%) followed by health professionals (17.1%) and parents/friends (6.6%). For Fawzia et al. [12] in Saudi Arabia the main source of information was the audio-visual mass media (radio and television: 56.2%), followed by the print press (newspapers and magazines: 34.8%) then by internet (26.3%). We must note the increasingly vital

role of the media in the information access and integrate them into an awareness strategy on breast cancer.

This breast cancer knowledge survey was conducted among nursing or midwifery students who had not yet received a specific breast cancer course. The results can be extrapolated to all students. However, the sample size is relatively small.

Ethical Aspects

The agreement of local and administrative authorities competent at different levels was obtained before the descent of the collection teams at IFSIO. In accordance with the principle of professional secrecy, confidentiality and anonymity were strictly respected during the survey. Free consent of the subjects surveyed and information anonymity were respected.

Conclusion

The results of this study showed that knowledge of risk factors, early warning signs; early detection of breast cancer was low among students. The main source of information on breast cancer was audio-visual media (television and radio).

References

1. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C (2015) Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. Int J Cancer: E359-E386.

2. WHO. Breast Cancer: prevent and fight against the disease.

3. Tonato Bagnan JA, Denakpo JL, Aguida B, Hounkpatin L, Lokossou A (2013) Epidemiology of the gynecological and mammary cancer to the HOMEL and in the CUGO Cotonou, Bénin. Bull cancer 100: 141-146.

4. Oluwatosin OA, Oladepo O (2006) Knowledge of breast cancer and its early detection measures among rural woman in Akinyele Local Government Area, Ibadan, Nigeria. BMC cancer 6: 271.

5. Hailu T, Berhe H, Hailu D, et al. (2014) Knowledge of breast cancer and its early detection measures among female students, in Mekelle University, Tigray region, Ethiopia. Science Journal of Clinical Medicine 3: 57-64.

6. Isara AR, Ojedokun CI (2011) Knowledge of breast cancer and practice of breast self-examination among female senior secondary school students in Abuja, Nigeria. J Prev Med Hyg 52:186-190.

7. Ellman R, Moss SM, Coleman D, Chamberlin J (1993) Breast self-examination programs in the trial of early detection of breast cancer: 10-year findings. Br J Cancer 68: 208-212.

8. Lam WW, Chan CP, Chan CF, Mak CC, Chong KW (2008) Factors affecting the palpability of breast lesion by self-examination. Singapore Med J 49: 228-232.

9. Semiglazov VF, Sagaidak VN, Moiseyenko VM, Mikhailov EA (1993) Study of the role of breast self-examination in the reduction of mortality from breast cancer. The Russian Federation/World Health Organization Study. Eur J Cancer 29: 2039-2046.

10. Thomas DB, Self SG, Allison CJ, Tao Y, Mahloch J, et al. (1997) Randomized trial of breast self-examination in Shanghai: Methodology and preliminary results. J Natl Cancer Inst 89: 355-365.

11. Anderson BO, Jakesz R (2008) Breast cancer issues in developing countries: An overview of the breast health global initiative. World J Surg 32: 2578-2585.

12. Fawzia H, Shaista S, Maha S, Sherien S (2010) Awareness and knowledge of breast cancer among university students in Al Madina Al Munawara region. Middle East Journal of Cancer 10: 159-166.