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BSE Practice and BSE Self-Efficacy among Nursing Students in Aceh, Indonesia

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Purpose: To survey the level of BSE practice among female nursing students in Aceh, and the degree of self-efficacy in those who did practice it.

Method: Seventy-six nursing students from the Public Nursing College, Syiah Kuala University in Aceh who met the inclusion criteria were recruited. Stratified proportionate random sampling was used to determine the required number of first, second, and third year students. BSE self-efficacy of the students was measured by the BSE Self-Efficacy Questionnaire which was modified from an existing tool developed by Khatun (2010). In addition, the students' doing BSE or not was measured by BSE Practice Questionnaire which was developed by the researcher. The data were analyzed by using descriptive statistics.

Result: Only 39.5% of the students practiced BSE with more than half of the students saying they did not practice BSE (60.5%). The main factors that influenced the students' performing BSE were not having a family history of breast cancer, single, and no history of breast illness. Among the thirty students who practiced BSE, most of them did not practice it routinely (70%), nor at the correct time (86.7%), and their confidence in performing BSE was at a moderate level overall, with a high level for BSE procedural efficacy and moderate level for barrier management efficacy.

Conclusion: A majority of the Acehnese nursing students did not practice BSE, and those who did had only a moderate level of BSE self-efficacy. Therefore, the results of this study suggest emphasizing the need to teach nursing students about BSE in their undergraduate courses, with future follow-up research regarding the success of the educational program.

Keywords: practice, self-efficacy, breast self-examination (BSE), nursing students

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Introduction

Breast cancer is a serious global disease occurring in a large number of women (Banning & Hafeez, 2010), and it is the second leading cause of death in women (Memis, Balkaya, & Demirkiran, 2009). According to the American Cancer Society (ACS 2007), about 1.3 million women are diagnosed with breast cancer annually and about 465,000 die from the disease.

Breast cancer is the leading cause of death in young women where 5% to 7% of all cancers occur in women between 15 and 29 years old. A rather lower proportion of only 2.7% of all breast carcinoma cases occur in women at the age of 35 years old or younger, and 0.6% cases occur in women younger than 30 years (DiNubila et al., Weber-Mangal et al., as cited in Axelrod et al., 2008). In Indonesia, the incidence of developing breast cancer among women is about 26 per 100,000 women (Ministry of Health Republic of Indonesia, 2010), and the incidence is higher in Indonesian women under 25 years old (Sutjipto, 2010).

Three basic methods are employed in diagnosing breast cancer early, mammography, clinical breast examination (CBE), and breast self-examination (BSE) (ACS, 2010). In a developing country, BSE is a simple, inexpensive, non-invasive, and non-hazardous method. Women should be advised to perform BSE (Dahlui, Al Sadat, Ismail, & Bulgiba, 2011). Women who perform BSE are more familiar with their breasts, they can be more aware of emerging signals of potential problems happening in their breast, and thus be in a position to seek appropriate health care earlier than would occur otherwise (Memis, Balkaya, Demirkiran, 2009). The ACS (2010) recommends that all women should have information about the benefits and limitations of BSE, and should begin BSE at the age of 20 years.

Various studies have found that BSE is significantly higher among nursing students than other women. Alsaif (2004) found that 66% of 149 Saudi female nursing students performed BSE regularly, and approximately 62% of those who performed BSE said that they learned the information regarding BSE in their college curricula. Similarly, Bassey, Irurhe, Olowoyeye, Adeyomoye, and Onajole (2011) found that the BSE practice of nursing students was substantially good (80.2%), because the nursing students had high knowledge of breast cancer and BSE (97.3%), and understood how to do BSE correctly (85.6%). Not all studies have had positive findings; however, as a different study found that although 80% of Turkish female nursing students performed BSE, only 19% used the correct BSE technique (Memis,

Balkaya, & Demirkiran, 2009).

According to the SCT, behavioral change depends on several factors including environment, people and behavior (Bandura, 1997). Perceived self-efficacy influences the choice of behavioral settings. People believe that a particular behavior will produce a certain outcome (Bandura, 1977). Further, Bandura (1997) reported that self-efficacy beliefs can enhance human accomplishment and influence the choice and the course of action they pursue. They tend to select activities in which they feel competent and confidents and avoid those in which they do not feel so.

Bandura's concept of self-efficacy consists of two aspects which are extremely important to BSE including the capability in the performance of BSE and the capability in dealing with the possibility of an abnormality (Sanitzer, as cited in Khatun, 2010). The women who perceive fewer barriers when doing BSE and can also manage or overcome those barriers are more likely to perform BSE (Katun, 2010). Furthermore, identifying the reasons for women to perform or not perform BSE is essential as well as acquiring information about their abilities in performing BSE successfully and how they cope with the barriers that frequently appear along with this health practice (Agboola et al., 2009; Anderson, 2000; Champion, 1992).

In many countries, there are cultural attitudes that make women feel uncomfortable to receive information about BSE by male healthcare personnel. As especially important role models in such situations, female nurses must have accurate information and positive attitudes about BSE and should perform it regularly themselves. Therefore, nursing students must be informed in detail about BSE and perform BSE correctly while in school so they are able to educate patients after graduation (Memis, Balkaya, Demirkian, 2009). Additionally, nursing students have a responsibility to give instructions to other women on how to perform BSE correctly in primary health care settings (Alsaif, 2004).

Currently, there is no available data about BSE practice and self-efficacy of Acehnese nursing students, or whether their education is sufficient to impart accurate information, positive attitudes, and BSE skills. Therefore, the aim of the current study was to determine the practice and self-efficacy of nursing students regarding BSE in Aceh, Indonesia and to establish baseline data for further research as well as for new curricular strategies about BSE.

Objectives

To survey the level of BSE practice among female nursing students in Aceh, and the degree of self-efficacy in those who did practice it.

Methods

The participants in the current descriptive study were nursing students from the Public Nursing College, Syiah Kuala University in Aceh, Indonesia. Aceh is the Indonesian province with the largest Muslim population of the country. The Public Nursing College is the biggest and most highly regarded nursing school in Banda Aceh, and has students from every district of Aceh. This study was conducted in January-February 2012.

Sample

First, second, and third year nursing students were recruited for the study using stratified proportionate random sampling. Seventy-six students who met the inclusion criteria were recruited. Written informed consent was obtained from all participants. Their participation was voluntary, and they understood that they could withdraw at anytime they wanted, without any negative consequences. The information they provided was kept confidential, and the researcher used only a code number for each participant. The questionnaire was administered to the students by a research assistant.

Instruments

Data concerning BSE self-efficacy were collected by a BSE Self-Efficacy Questionnaire which was modified from an existing tool developed by Khatun (2010). This questionnaire was checked for content validity by three experts: two from the Faculty of Nursing, Prince of Songkla University, Thailand, and a nurse who works in the Cancer Center of Songklanagarind Hospital, Thailand. The questionnaire was translated into an Indonesian version and checked for its reliability using 20 nursing students from another nursing college. The Cronbach's alpha coefficients of total BSE self-efficacy, BSE procedural efficacy, and BSE barrier management efficacy were 0.90, 0.91, and 0.62, respectively. The Cronbach's alpha coefficients based on the entire subjects yielded the total BSE self-efficacy, BSE procedural efficacy, and BSE barrier management efficacy scores of 0.88, 0.85, and 0.68, respectively.

The questionnaire was comprised of two dimensions, procedural efficacy and barrier management efficacy. Procedural efficacy measured competence in the procedures of BSE, and consisted of 13 items (1-13), and the barrier management efficacy section measured competence at BSE barriers management, and consisted of 7 items (14-20). The ratings were based on a five-point Likert scale: 1 strongly disagree, 2 disagree, 3 not sure, 4 agree, and 5 strongly agree. The possible mean score for each item thus ranged from 1-5, and was interpreted using three levels; low (1.00-2.33), moderate (2.34-3.67), and high (3.68-5.00).

The students' BSE performance habits were measured using a short, 3-item questionnaire, which asked them about if they performed BSE at all, and if so the frequency and timing of the examinations.

Additionally, a Demographic Data Questionnaire (DDQ) was constructed by the researcher, comprised of 11 questions related to the participants' socio-demographic characteristics and health information including age, current marital status, breast illness history, family history of breast cancer, friends' family member history of breast cancer, menstrual history, breast cancer and BSE information, birth control method used, experience of pregnancy, experience of child birth live (partum), and experience of abortion.

Analysis

Descriptive statistics were used to describe the practice and level of self-efficacy regarding BSE. Demographic and health information data and BSE practice were analyzed by using frequencies, percentages, means and standard deviations. BSE self-efficacy was analyzed using mean and standard deviation.

Results

Students' Characteristics

Demographic characteristics and health information of the samples are shown in Table 1. The average age of the students in this study was 19 years old. All were single and had no history of breast illness. Most did not have a family history (96.1%) or friends' family history (80.3%) of breast cancer. Additionally, most of them had received information about breast cancer and BSE from books (47.4%).

Table 1

Frequencies, Percentages, Means, and Standard Deviations of the Demographic Characteristics and Health Information (N = 76)

Characteristic	n	%
Age (years) (M = 19.16, SD = 1.09)		
17	3	3.9
18	21	27.6
19	23	30.3
20	19	25.0
21	10	13.2

Year of Study		
1st year	24	31.6
2nd year	24	31.6
3rd year	28	36.8
Family History of Breast Cancer		
No	73	96.1
Yes	3	3.9
Friends' Family History of Breast Cancer		
No	61	80.3
Yes	15	19.7
Menstrual History		
Regular menstruation	56	73.7
Irregular menstruation	20	26.3
Breast Cancer and BSE Information		
No	38	50.0
Yes	38	50.0
Book	18	47.4
Media Electronic (Television, Internet)	12	31.6
Other (Health Education, Parents, Friends, Newspaper)	8	21.1

Students' BSE Performance

Only a small number of students in this study who practiced BSE (39.5%) while the majority (60.5%) did not. Of the students who had performed BSE at some time, only 2 of them performed it as it should be performed, on a monthly basis, with another 23.3% performing it regularly but only every 2-3 months rather than monthly, and the rest of them only very irregularly. And of these 30 students who practiced BSE at all, only 4 of them understood the correct time to perform BSE was one week after the end of menstruation, with the rest not following any particular schedule in terms of when during the month they did the BSE.

Table 2

BSE Performing Characteristics of Students (N = 76)

BSE Performing Characteristics	n	%
BSE Practice		
No	46	60.5

Yes	30	39.5
Frequency of BSE performing (n = 30)		
Every month	2	6.7
Every 2-3 months	7	23.3
Not routinely	21	70.0
Timing of BSE (n = 30)		
Correct (a week after menstruation)	4	13.3
Incorrect (not any specific day)	26	86.7

Students' BSE Self-Efficacy

The results showed that nursing students had a moderate level of BSE self-efficacy (M= 3.62). Considering each subscale of BSE self-efficacy, the results showed a high level of BSE procedural efficacy (M= 3.68) and moderate level of BSE barrier management efficacy (M= 3.50) (Table 2).

Table 3

Means, Standard Deviations, and levels of BSE Self-Efficacy (N = 76)

BSE Self-Efficacy	M	SD	Range (Min – Max)	Level
Procedural Efficacy	3.68	0.49	2.31 – 4.62	High
Barrier Management Efficacy	3.50	0.46	2.00 – 4.43	Moderate
Total BSE Self-efficacy	3.62	0.45	2.20 – 4.55	Moderate

Table 4

Means and Standard Deviations of BSE self-efficacy by item

BSE Self-Efficacy items	Mean	SD
BSE procedural efficacy items:		
1. I am confident to look visually at my breasts and see unusual or other than normal things about them.	3.99	0.74
2. I am able to notice when my breasts look differently than they usually do.	3.49	0.81

3. I am confident to use the correct part of my fingers when examining my breast tissue.	3.66	0.97
4. I am confident to use the pads of my fingers to check my breast for changes since the last time I checked them.	3.70	0.86
5. I am confident to use the first third part of my fingers to feel my breasts for lumps or masses.	3.70	0.71
6. I am confident to use three different level of pressure to feel my breasts for lumps or masses.	3.54	0.82
7. I am confident to use the pads of my fingers to check all the breast tissue that needs to be checked on each breast.	3.79	0.84
8. I am confident to figure out the normal tissue for me on my own breast.	3.63	0.80
9. I am confident to identify lumps or masses that need to be reported to my physician.	3.67	0.87
10. I am confident to decide what abnormal breast tissue or signs is when I check my breast.	3.36	0.78
11. I am confident to report any changes in my breasts I think my physician should know about it.	3.76	0.81
12. I am confident to tell my physician about concerns I have after checking my breast.	3.89	0.67
13. I am confident to know what I would do if I felt a lump while doing BSE.	3.67	0.81

Table 4 (Continued)

BSE Self-Efficacy items	Mean	SD
BSE barriers management efficacy items:		
14. I am able to perform a breast self-examination because I can manage my available time to practice.	3.37	0.83
15. I am able to perform a breast self-examination because I have a private place to do so.	3.59	0.91
16. I am able to perform breast self-examination because I am not afraid of finding a lump or abnormality.	3.34	0.78
17. I am able to perform breast self-examination because I do not feel embarrassed to do so.	3.86	0.67
18. I am able to do breast self-examination because I do not feel any pain whenever I practice.	3.70	0.71
19. I am able to perform breast self-examination because I can maintain its monthly.	3.30	0.88
20. I am able to choose the best time for me to perform BSE because I know the history of my menstruation periods.	3.39	0.73

Discussions

This study found that all of the nursing students were single and had no history of breast illness, and most did not have a family history of, or friends who had a family history of, breast cancer (96.1% and 80.3% respectively). These factors may have affected their BSE

practice, as only 39.5% of the students practiced BSE at all. A previous study found that family history and marital status were significantly associated with BSE practice (Avci, 2008), and married women more frequently practiced BSE on a regular basis. This might be because single women feel taboos about touching or exposing their body parts, or they may avoid BSE because they may be fearful of a diagnosis of cancer (Alkhasawneh, 2007). Among the thirty students who practiced BSE in the current study, most did not practice it routinely (70%), nor at the right time (86%.7), and only 13.3% did BSE at the correct time (a week after menstruation). Our findings are similar to previous studies which also found only a small number of nursing students who practiced BSE regularly (approximately 30%) (Memis, Balkaya, & Demirkiran, 2009; Yousuf, 2010), and a small number of nursing students who did BSE at the correct time in the menstrual cycle (11%-46%) (Bailey; Budden, as cited in Memis, Balkaya, & Demirkiran, 2009). In Yousuf's study, he hypothesized that these low figures might have been because of the young age of the participants (average age of 22), or that they were mostly single (97%). Additionally, Memis, Balkaya, and Demirkiran also suggested that other reasons for not performing BSE could be not having enough knowledge about the BSE procedure, no history of breast illness, forgetfulness, and laziness.

The Acehnese nursing students in this study reported a moderate level of total BSE self-efficacy (M= 3.62) (Table 3). There are several factors that might have contributed to these results. Firstly, the main factor that might have contributed to the moderate level of total BSE self-efficacy scores was the students' knowledge regarding breast cancer and BSE. Most of the students (50%) had received breast cancer and BSE information; the most common source of information was books (47.4%). Previous studies have found that nurses were quite knowledgeable about BSE, and that generally the information was acquired through written media (Budden; Uzun, Karabulut, & Karaman, as cited in Memis, Balkaya, Demirkiran, 2009). The second factor that might have contributed to the moderate level of total BSE self-efficacy was the characteristics of the nursing students. Nursing students have motivation to learn health-related information, because as nurses, they will have the responsibility to give instructions to other women on how to perform BSE correctly in primary health care settings (Alsaif, 2004).

Considering each subscale in the BSE self-efficacy survey, the results showed a high level of BSE procedural efficacy (M= 3.68) and a moderate level of BSE barrier management efficacy (M= 3.50) (Table 3). These findings showed that the nursing students were confident in their ability to perform the correct steps of the BSE procedure; however, they were not sure they could overcome the barriers to performing BSE monthly. It is notable that the students

had a high mean score (M = 3.99) for item number 1 of the of BSE procedural efficacy scale, which asks about detecting breast changes, but a low mean score (M = 3.36) for item 10, which asks about whether they would be confident in their ability to understand if such changes were serious or not. For BSE barrier management efficacy scores, the students had a high mean score (M = 3.86) for item number 17, which indicates that the students did not feel embarrassed when performing BSE, but a low mean score (M = 3.30) for item number 19, indicating they were not sure about practicing it monthly because they cannot find 5 minutes a month to do something like this (Table 4). Bandura (as cited in Bandura, 1989) found that the frequency and proficiency of BSE practice was directly related to the confidence of the woman's ability to perform BSE, and control over fear of the possible negative findings from a BSE. As a result, most of the students did not practice BSE routinely (70%) because they were not confident in performing BSE monthly, and they were afraid of finding a lump or abnormality.

Conclusion

In conclusion, most of the Acehnese nursing students did not practice BSE, and those who did had only a moderate level of BSE self-efficacy. Family history, marital status, and no history of breast illness were significant factors that contributed to the rate of BSE practice. Students' knowledge and students' characteristics also influenced the students' practice and students' self-efficacy regarding BSE.

Practice implications

The results of this study provide useful information for nursing practice; especially it provides baseline data regarding BSE practice and BSE self-efficacy among Acehnese nursing students in Indonesia. The results of this study suggest the need to teach nursing students about BSE in their undergraduate courses should be emphasized. Further, the provision of regular interventions is necessary to increase and build up the students' confidence and the students' skill in performing BSE. Additionally, the findings of this study may provide some basic information for future nursing research regarding the educational program which considers the Islamic culture of undergraduate nursing students in Aceh.

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