Assessment of Knowledge on Breast cancer risk factors and the practice of breast self-examination among college educated female administrative employees in Fayoum University.

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ABSTRACT

Background: Breast cancer is the most common cancer among women worldwide and it is the most prevalent cancer among Egyptian women. The very important factor in the prevention of progression of it is increasing the breast cancer awareness.

Objectives: to asses level of knowledge on breast cancer risk factors and breast self-examination and also to determine if BSE is practice by target population and its attitude towards it.

Methods: a cross-sectional descriptive study conducted on 89 female administrative employees working in Fayoum University from medical colleges. Data was obtained through the use of a structured questionnaire to measure the knowledge about breast cancer risk factors, knowledge about breast self-examination (BSE), attitude and practice.

Results: Out of 89 study participants, the majority (87.6%) had heard about breast self-examination. Regarding the overall knowledge on breast cancer risk factors there were 9% had very good knowledge. There were more than 60% of participants who had either very good or good knowledge on BSE however, only 37.1% of the participants recognized that inspection and palpation together, are the methods of breast examination. Regarding the attitude toward BSE, 97% of our participants had satisfied attitude.

Practicing BSE had a low percentage, about 38% with only 12.6% participants performing BSE regularly.

Conclusion: few of our participants had very good knowledge about breast cancer risk factors. Although they have satisfactory attitude they do not perform BSE and the main reason for not performing BSE is the lack of specific training programs.

KEY WORDS: Breast, Cancer, BSE, Knowledge, Female

INTRODUCTION

Breast cancer is the most widespread malignant tumor worldwide in women contributing more than 25% of the total number of new cancer cases diagnosed in 2012 *(Ferlay, et al., 2014).* In 2012 about 1.7 million new cases of breast cancer diagnosed and 521.900 deaths *(Naderimagham, et al., 2014 and Torre, et al., 2015)* and in 2015, 570,000 women died from breast cancer that is approximately 15% of all cancer deaths among women. Each year, the burden of breast cancer is increased as about one and half million new cases of breast cancer are diagnosed annually, worldwide *(WHO, 2015).*

In Egypt, 32% of cancer in females is breast cancer. It is the most prevalent cancer among Egyptian women. In comparing cancer profile between Egypt, the United States and Europe the median age at diagnosis for breast cancer in Egypt was ten years younger than in the United States and Europe *(Ibrahim, et al., 2014).* Low breast cancer awareness, as well as social and cultural factors are suggested to play crucial role in late presentation of breast cancer among Egyptians *(El-Shinawi, et al., 2013).*

Direct causes of breast cancer are not known, but the risk factors that increase women's chance to develop breast cancer are relatively known and some are modifiable by proper health education and awareness. Risk factors of breast cancer include age, family history, menstrual history, lifestyle related risk factors; as oral contraceptive, no practicing of breast feeding, smoking, alcohol consumption, obesity and high fat diet *(Nindrea, Aryandono and Lazuardi, 2017).*

In its early stages, breast cancer is usually asymptomatic. As the tumor grows, main symptoms start to develop, such as a lump in the breast, in the axilla, or both. As the disease progresses, the symptoms of advanced breast cancer may appear in the form of bone pain, breast pain or discomfort, skin ulcers, swelling of the lymph nodes in the axilla and loss of weight *(National Cancer Institute, 2017).*

Detecting the early signs of breast cancer in the early stages plays a key role in its early diagnosis, appropriate treatment and decrease mortality rate. In addition, early diagnosis can prevent additional costs related to chemotherapy in late stages of the disease and improves patients' quality of life *(Kwok, et al., 2015).* To achieve early detection, women must be aware of breast cancer risk factors and able to recognize its early symptoms. Detection of early symptoms can be achieved through performance of routine screening which include breast self-examination (BSE), clinical breast examination and mammography *(Kwok, et al., 2015).* The most effective method is Mammography, but it is costly, while BSE has no cost *(American Cancer*

Society, 2015). For that reason, BSE is the recommended method in developing countries.

There are very few studies in the literature that assessed the knowledge of breast cancer

METHODOLOGY:

We conducted a descriptive cross-sectional study of breast cancer knowledge and BSE practices among college-educated female employees in Fayoum University from May 2017 till May 2018. We choose all the employees working in medical related colleges (89 participants). No sampling was done since there were a small number of employees.

DATA ANALYSIS:

Knowledge section: Categorical responses (correct/incorrect/Don't know) were applied for the knowledge items. One mark was given for correct answer, and zero for don't know or incorrect answers. Knowledge questionnaire included three areas, Knowledge of breast cancer risk factors (17 questions), Knowledge of breast self-examination (4 questions) and Knowledge about performance of BSE(8 questions). The maximum obtainable score is 29 the least being 0.

Attitude section: Attitude towards BSE was covered through 6 different questions. A positive attitude was given '2 marks', indifferent attitude '1 mark' and negative attitude 'zero mark'. The maximum obtainable score is being 12 and the least being 0.

including risk factors and BSE among women in Egypt and none among Fayoum females Therefor a strong need is present to assess the knowledge and practice regarding BSE locally.

A specifically designed self-administrated close ended questionnaire was developed to cover the socio-Demographic characteristics, reproductive history, family history of breast cancer, knowledge of participants on both (breast cancer risk factors and breast self-examination), attitude towards BSE and practice.

BSE practices section: 4 questions were applied with one for correct practice and zero for other responses with a maximum possible score of 4.

The overall knowledge and practice of the study participants were assessed using the sum score of all items and categorized into four levels (Very good : $\geq 75\%$, Good : 50% - 74% ,Poor : 25% - 49% and Very poor : $\leq 24\%$)

The overall attitude of the study participants were assessed using the sum score of all items and categorized in to two levels (Positive attitude: $\geq 50\%$ and Negative attitude: < 50%)

Statistical Analysis:

Data was analyzed using the statistical package SPSS version 18. Data was analyzed using descriptive statistics including frequency

distribution, percentages, means and standard deviations.

Ethical Consideration

This study was reviewed and approved by the Faculty of Medicine, Fayoum University

Research Ethical Committee In addition, the purpose of the study was explained to all participants and confidentiality was assured, an oral informed consent was obtained and the survey tool was anonymous.

RESULTS

In our study there are 89 study participants. We collected information on their relevant socio-demographic characteristic in Table 1 which shows that the mean age of our study participants was 36.3 ± 7 years. With regard to their marital status, 86.5% of the participants were married at one point of time and out of

them, 80.9% had children. . The mean age of first pregnancy was 24.8 ± 3.56. Only 6.9% from them had more than 3 children. 20.2% of our participants had Family history of breast cancer with first degree relative in 55.6% of them.
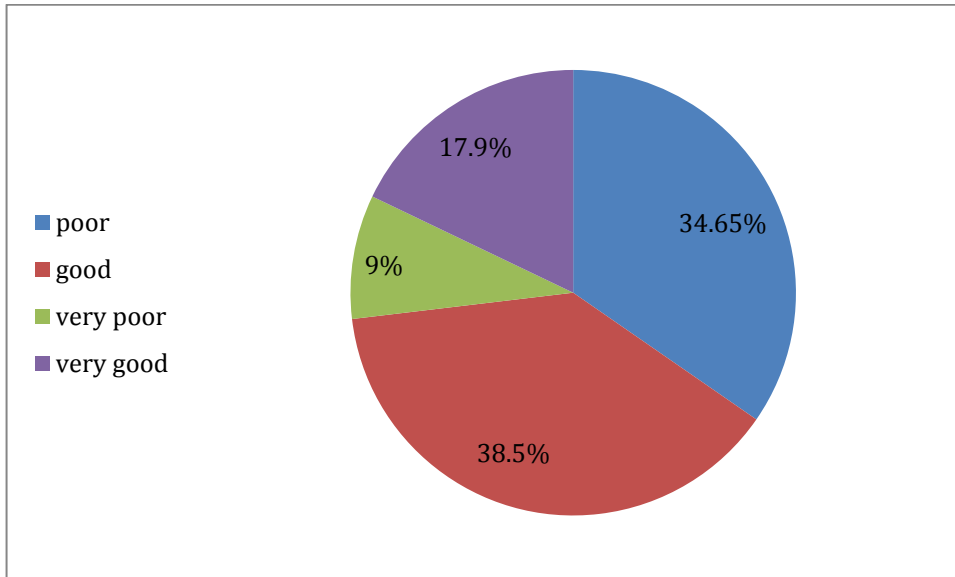
Table (1) Relevant socio-demographic characteristic of study participants

Variable		Medical (N=89) (28%)
Age (years)	Mean ± SD	36.27 ± 7
Age at menarche (years)	Mean ± SD	12.91 ± (1.20)
Age of first pregnancy (years)	Mean ± SD	24.88 ± (3.56)
Marital status		
Single		12 (13.5%)
Ever married		77 (86.5%)
Have children		
Yes		72 (80.9%)
No		17 (19.1%)
Numbers of children		
Less than 3 children		67 (93.1%)
More than 3 children		5 (6.9%)
Family history of breast cancer		
Yes **No**		18 (20.2%) 71 (79.8%)
First degree relative **Others**		10 (55.6%) 8 (44.4%)

Out of the 89 study participants in the study, 78 participants heard about breast self-examination, representing (87.6%) and we do results only for these participants.

The overall knowledge on breast cancer risk factor and the score was assessed based on the

4 levels as described in methodology and is presented in Figure 1 which shows that Out of the 78 participants, only 17.9% had very good knowledge about breast cancer risk factors, while about 44% had either poor or very poor knowledge (score less than 50%).

(Figure 1) overall knowledge of study participants on breast cancer risk factors

The level of knowledge for different risk factors of breast cancer are presented in Figure 2 which shows that most of participants were aware that being a woman is a risk factor of breast cancer, (92.6%). While regarding early

menarche, as a risk factor only 6.7% were aware of it, 10.4% as regards late menopause and 17% for Childlessness or Birth of first child after the age of 30 years.
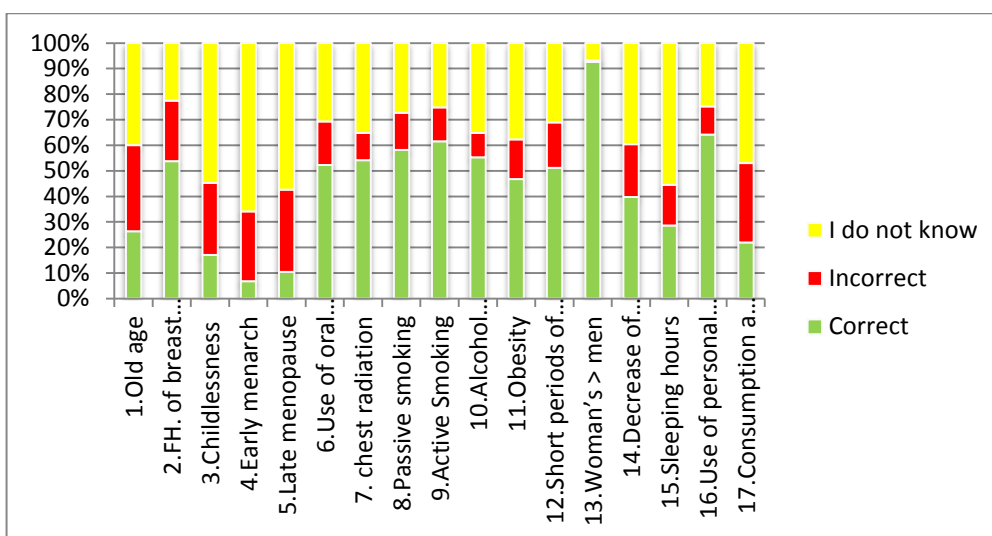

Figure (2) Knowledge of study participants on types of risk factors of breast cancer

Results of the overall knowledge about breast self-examination was assessed and categorized into 4 levels and presented in Figure (3) where more than 60% of participants had very good and good knowledge on BSE.
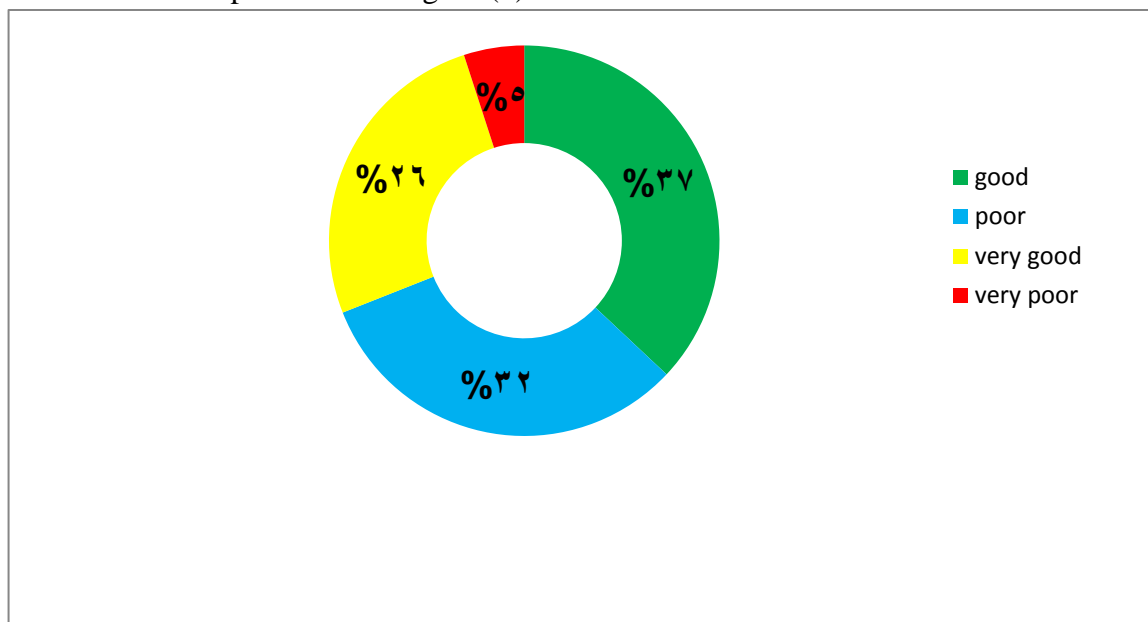

Figure (3) Level of knowledge of breast self-examination among study participants

There were only 16.6% of study participants correctly determined that it is ideal to do breast self-examination before 20 years of age, 44.8% were aware that women should perform breast self-examination monthly, 94.8% agreed that breast self –examination is important for early detection of breast cancer and only 37.1% of the participants said that inspection and palpation together are the methods for performance of BSE. Table (2)

Table (2) Knowledge of participant on Breast self-examination

Knowledge on breast self-examination	Frequency (Total = 78)	% (Total=100%)
1. What is the optimal age to start breast self-examination?		
• <20 years	13	16.6
• >20 years	47	60.2
• I do not know	18	23.1
2. How often a person should perform Breast Self-Examination?		
• One per month	35	44.8
• any time	23	29.4
• I do not know	20	25.6
3. Breast self-examination is important for early detection of breast cancer?		
• Yes	74	94.8
• No	0	0
• I do not know	4	5.1

4. By which of these methods BSE can be done?		
• Only by inspection		
• Only palpation	15	19.2
• By inspection and palpation	13	16.6
• I do not know	29	37.1
	21	26.9

Up to 97%

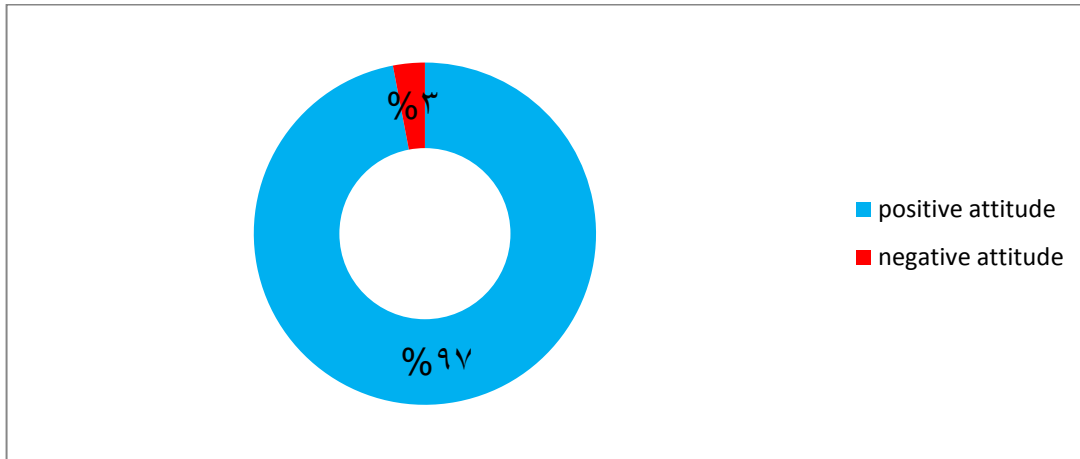of our participants have positive attitude which is represented in Figure (4).

Figure (4) Attitude of study participants toward BSE

Figure (5) showed that (62%) not performing BSE in spite of the fact that they heard information about it. The most recorded reason for non- practice was the lack of training programs (56.8%) and fear of discovering lump and anxiety (17.4%).
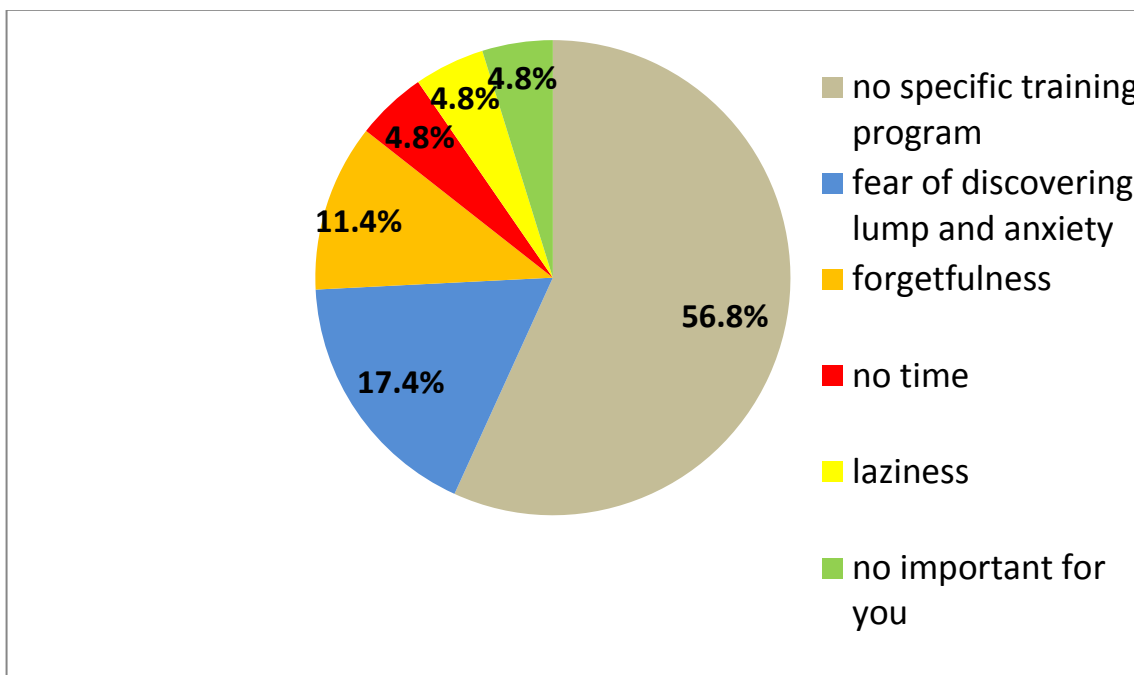

Figure (5) Factors that prevent participants from practice of BSE

Out of the study participants only 30 represented about 38% were practicing BSE. Regarding the practice of BSE there were only 10% of participants had very good practice while the majority of participants about 40% had very poor practice. Table (3)

Table (3) Level of BSE practice of study participants

Practice of breast self-examination	(Total= 30)	100%
Very poor	12	40
poor	10	33.3
Good	5	16.6
Very good	3	10

DISCUSSION

Breast cancer is one of the most common cancers in worldwide *(Ferlay et al., 2014).* That is why women's awareness of breast cancer is very important. The need to assess breast cancer knowledge/attitudes and practice of BSE among female is necessary and recommended. Our present study was conducted to evaluate knowledge, attitude and practice among female employees in Fayoum University. We chose females with college level education, as they expected to be likely the most knowledgeable and with a positive attitude and practice. The current results show a low level of knowledge and demonstrate the importance of implementing awareness program to raise the level of knowledge about breast cancer, practices of BSE and change the attitude and this was considered in a study reported by *Abd El-Aziz, Mersal and Taha, (2011)* in Egypt.

Knowledge assessment

a. Knowledge about risk factors of breast cancer

The result of the current study reported that our participants have limited knowledge about breast cancer risk factors approximately 56% had overall knowledge at or above 50% (good to very good), this is agree with a 65% participants in a study reported by *Yousuf. et al., (2012)* in Saudi Arabia, where 65% from 210 nurses in primary health care centers scored > 50% of the total score for breast cancer risk factors. This is may be due to that the participants in both studies are in contact with the doctors.

The most widely known risk factors by the current participants was being a woman (92.6%) and more than half (53.7%) recorded that 'family history and having a close relative with breast cancer are considered risk factors

for the breast cancer'. However, knowledge of other risk factors of breast cancer was limited as only 10.4% knew that late menopause is a risk factor, (6.7%) for early menarche and (17%) for childlessness or birth of first child after the age of 30 years. These results are nearly similar to a study conducted by **Radi, (2013)** on 200 Saudi females aged 20 and older living in Jeddah, Saudi Arabia shown that (57.5% knew about family history and having a close relative with breast cancer as established risk factors for the disease and the knowledge on other risk factors of breast cancer was limited as only few females knew that late menopause (18.5%), early menarche (17.0%) are risk factors)).

And a study conducted by **Boulos and Ghali (2014)** on 543 female students at non health related disciplines at Ain Shams University, Egypt shown that (63.7% knew about family history and having a close relative with breast cancer as established risk factors for the disease and the knowledge on other risk factors of breast cancer was limited as only few females knew that late menopause (7.4%) and early menarche (7.4%) are risk factors for breast cancer.

The most obvious explanation is that in the local culture a common understanding is that traits and illnesses run in families and breast cancer is always associated with females due to their body structure **(American Cancer Society, 2015).** These results demonstrate

areas of knowledge where more emphasis should be given.

a. Knowledge about breast self-examination

Breast self-examination (BSE) provides a proper method for early discovery of breast tumors, thus knowledge and regular practice could protect women from serious morbidity and mortality due to breast cancer **(Shahbaz and Nisa, 2013).**

In current study there were (86%) from participants had heard about breast self-examination and this is nearly similar to a study conducted on 1,255 Korean women aged ≥30 years by **Yoo et al., (2012)** that shown (of all participants, 88.0% reported that they had heard of BSE). Current result is higher than to a study conducted by **Suh et al., (2012)** in Cameroon that reported only (74.17%) of participants previously heard about BSE.

Out of the women who heard about BSE (94.8%) reported that Breast self-examination is important in early detection of breast cancer and this is higher than a study conducted by **Marzouni, et al., (2015)** included 1020 women over 15 years of age in in Iran that shown (83.3% of participants considered BSE necessary and useful for early diagnosis of BC) and this is very promising result about the level of awareness that might be explain by the socio-demographic difference.

With regard to breast self-examination technique, only 37.1% of participants know

that both palpation and inspection were the ideal methods to detect any change in the breast. This is a very low percentage if we compare it to the a study conducted in 2010 by *Sreedharan, et al., (2010)* in United Arab Emirates that reported 68.8% from its participants know this ideal methods and this is may be due to that the participants were nurses.

Attitude

Our study demonstrated a high positive attitude towards BSE (97%). And, the majority of our participants, about 69%, believe that BSE is not difficult and 62% say that it does not consume of time and this is in agreement with *Haji, (2002).*

Practice

CONCLUSION

This study has shown that despite of high percent of participants had heard about BSE (87.6%) and even though most of participants

RECOMMENDATIONS

Promotion of the awareness program on breast cancer and methods of early detection must be raised especially knowledge about breast self-examination and the corrected methods of performance.

Even though there is a highly positive attitude towards BSE, only 38.1% of the participants practiced BSE, and a much less percentage 12.6% practiced BSE regularly. This is nearly similar to that reported in a study among female university students in Malaysia *(Zavare et al., 2011)* but different from a study conducted in Brazil where more than 79 % of the participants reported performing BSE and this is due to that the awareness about breast cancer has been supported in Brazil as explain in the article *(Freitas and Weller 2016).*

More than half of our participants reported that lack of specific training programs is the main barrier for BSE, similar to some reports from Ajman, UAE *(Al-Sharbatti et al., 2013)* (stated by about 60%), Nigeria *(Bassey et al., 2011)* and Egypt *(Boulos and Ghali 2014) .*

have sufficient attitude toward BSE a few of them have practiced it and most of them practiced it incorrectly.

Further study is needed to detect the knowledge of females in non-medical college and show if there is difference between employee in medical college and other college or not.

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