UNIVERSITI PUTRA MALAYSIA

FACTORS ASSOCIATED WITH PRACTICE OF BREAST SELF EXAMINATION AMONG FEMALE TEACHERS OF NATIONAL SECONDARY SCHOOLS IN IPOH, PERAK, MALAYSIA

FATIMAH BINTI MOHD ARIF

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By

FATIMAH BINTI MOHD ARIF

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Science

April 2018
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Abstract of a thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science.

FACTORS ASSOCIATED WITH PRACTICE OF BREAST SELF-EXAMINATION AMONG FEMALE TEACHERS OF NATIONAL SECONDARY SCHOOLS IN IPOH, PERAK, MALAYSIA

By

FATIMAH BINTI MOHD ARIF

April 2018

Chairman: Associate Prof. Muhamad Hanafiah bin Juni, PhD
Faculty: Medicine and Health Science

Millions of people in this world suffer from cancer. Malaysia is one of those developing countries affected by a high incidence of breast cancer. Therefore, promoting Breast Self-Examination as part of breast cancer awareness programme is important. Breast self-examination will raise awareness about breast cancer and women breast health which are an important contribution to early detection effort. The objective of this study is to determine the factors associated (socio-demographic characteristics, knowledge, belief, access to breast health promotion programme, and breast health history of respondent) with the practice of breast self-examination among female teachers of national secondary schools in Ipoh City, Perak.

This is a cross-sectional study among female teachers in Ipoh, Perak. A random sampling method was used to select eligible female teachers in national secondary schools in Ipoh City, Perak. A total of 510 teachers were included in this study. A validated and reliable self-administered questionnaire was used in this study. The questionnaire obtained information on sociodemographic characteristics, breast health history of the respondent (personal history of breast disease and family history of breast cancer), access to breast health promotion programme, knowledge and beliefs concerning breast cancer and breast self-examination.

Results in this study indicated that the majority of the respondents 388 (76.1%) practise breast self-examination. Most of them were between 41 and 50 years old with the mean age of 41.20±8.79. Only 111 (21.8%) respondents had a family history of breast cancer while 38 (7.5%) had a personal history of breast disease. Overall, this study revealed that most information about breast cancer was provided by health professionals and only minority of respondents went to a previous education programme. According to this
study, there were association between knowledge on signs and symptoms of breast cancer (t=-2.95, p=0.004), risk factors of breast cancer (t=-3.15, p=0.002) and knowledge on breast self-examination (t=-5.01, p<0.0001) with breast self-examination practice. Findings of this study also showed significant association between perceived benefits (t=-2.59, p=0.01), perceived barriers (t=-2.64, p=0.008), confidence (t=-6.74, p<0.0001) and health motivation (t=-3.09, p=0.002) with practice of breast self-examination. Multiple logistic regression analysis yielded four significant predictor variables.

In conclusion, the proportion of female teachers practising breast self-examination was high (76.1%). The factors contributing to practise breast self-examination in this study were marital status, personal history of breast disease, access towards breast health promotion programme such as respondent ever attended previous breast cancer education programme, doctor ever recommended breast self-examination, doctor ever trained proper breast self-examination techniques, doctor ever talk about early detection of breast cancer and respondent ever checked any breast disease by doctors, knowledge, and belief (perceived benefits, perceived barriers, confidence and health motivation). These variables were found to have a significant association with breast self-examination practice. Hopefully, the results can be a baseline for future intervention in attempts to increase breast self-examination practice. This study also suggested by educating respondents with the knowledge that made them understand and aware of breast cancer and the value of breast self-examination. Hence, it is important to plan a strategy based on valuable information gained from this study to develop targeted health education which in turns would have the impacts on the population.
Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

FAKTOR BERKAITAN DENGAN AMALAN PEMERIKSAAN SENDIRI PAYUDARA DALAM KALANGAN GURU WANITA SEKOLAH MENENGAH KEBANGSAAN DI IPOH, PERAK, MALAYSIA

Oleh

FATIMAH BINTI MOHD ARIF

April 2018

Pengerusi : Prof. Madya Muhamad Hanafiah bin Juni, PhD
Fakulti : Perubatan dan Sains Kesihatan

Jutaan manusia di dunia ini telah menghidap penyakit kanser. Malaysia adalah salah satu daripada negara-negara membangun yang terjejas dengan kes kanser payudara yang tinggi. Oleh itu, langkah untuk mempromosikan Pemeriksaan Sendiri Payudara sebagai sebahagian daripada program kesedaran kanser payudara adalah penting. Pemeriksaan sendiri payudara boleh meningkatkan kesedaran tentang kanser payudara dan kesihatan payudara wanita yang merupakan antara penyumbang terpenting dalam usaha pengesanan awal kanser payudara. Objetif kajian ini adalah untuk menentukan faktor-faktor yang berkaitan (ciri-ciri sosio-demografi, pengetahuan, kepercayaan, akses kepada program promosi kesihatan payudara dan sejarah kesihatan payudara responden) dengan amalan pemeriksaan sendiri payudara di kalangan guru wanita sekolah menengah kebangsaan di Ipoh, Perak.

Kajian ini adalah kajian keratan rentas dalam kalangan guru wanita di Ipoh, Perak. Satu kaedah persampelan rawak digunakan untuk memilih guru wanita yang layak menyertai kajian ini di sekolah-sekolah menengah kebangsaan di Ipoh, Perak. Seramai 510 orang guru diperlukan dalam kajian ini. Soal selidik sendiri yang telah disahkan dan diuji kebolehrpecayaan telah digunakan dalam kajian ini. Soal selidik ini akan mempunyai maklumat tentang ciri-ciri sosiodemografi, sejarah kesihatan payudara responden (sejarah penyakit payudara dan sejarah keluarga yang menghidap kanser payudara), akses terhadap program promosi kesihatan payudara, pengetahuan dan kepercayaan tentang kanser payudara dan pemeriksaan sendiri payudara. Keputusan kajian ini menunjukkan bahawa majoriti responden 388 (76.1%) melakukan pemeriksaan sendiri payudara. Kebanyakan mereka berusia di antara 41 hingga 50 tahun dengan purata usia 41.20±8.79. Hanya 111 (21.8%) responden yang mempunyai sejarah
keluarga menghidap kanser payudara manakala 38 (7.5%) mempunyai sejarah peribadi penyakit payudara. Keseluruhannya, kajian ini menunjukkan bahawa kebanyakan maklumat mengenai kanser payudara dan pemeriksaan sendiri payudara diberi oleh golongan profesional kesihatan dan hanya minoriti responden yang pergi ke program pendidikan terdahulu. Berdasarkan kajian ini, terdapat perkaratan antara pengetahuan mengenai tanda-tanda dan gejala kanser payudara (t=-2.95, p=0.004), faktor risiko kanser payudara (t=-3.15, p=0.002) dan pengetahuan mengenai pemeriksaan sendiri payudara (t=-5.01, p<0.0001) dengan amalan pemeriksaan sendiri payudara. Penemuan kajian ini juga menunjukkan kaitan yang signifikan antara merasakan faedah (t=-2.59, p=0.01), merasakan halangan (t=-2.64, p=0.008), keyakinan (t=-6.74, p<0.0001) dan motivasi kesihatan (t=-3.09, p=0.002) dengan amalan pemeriksaan sendiri payudara. Analisis regresi logistik menunjukkan empat pemboleh ubah ramalan yang ketara.

Kesimpulannya, perkadaran guru perempuan yang mengamalkan pemeriksaan sendiri payudara adalah tinggi (76.1%). Faktor-faktor yang menyumbang untuk mengamalkan pemeriksaan sendiri payudara dalam kajian ini adalah status perkahwinan, sejarah peribadi penyakit payudara, akses terhadap program promosi kesihatan payudara seperti responden pernah menghadiri program pendidikan kanser payudara terdahulu, doktor pernah mengesyorkan pemeriksaan sendiri payudara, doktor pernah melatih teknik pemeriksaan sendiri payudara yang tepat, doktor pernah bercakap mengenai pengesanan awal kanser payudara dan responden pernah memeriksa sebarang penyakit payudara oleh doktor, pengetahuan dan kepercayaan (merasakan faedah, merasakan halangan, keyakinan dan motivasi kesihatan). Pembolehubah ini didapati mempunyai kaitan yang signifikan dengan amalan pemeriksaan sendiri payudara. Hasil dari keputusan kajian ini diharap dapat menjadi panduan untuk intervensi masa depan dalam percubaan untuk meningkatkan praktik pemeriksaan sendiri payudara. Kajian ini juga dicadangkan dapat mendidik responden dengan pengetahuan yang membuat mereka faham dan mengetahui tentang kanser payudara dan nilai pemeriksaan sendiri payudara. Oleh itu, adalah penting untuk merancang strategi berdasarkan maklumat berharga yang diperoleh daripada kajian ini untuk membangunkan pendidikan kesihatan yang dapat memberi impak kepada populasi.
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I certify that a Thesis Examination Committee has met on 5 April 2018 to conduct the final examination of Fatimah binti Mohd Arif on her thesis entitled "Factors Associated with Practice of Breast Self-Examination among Female Teachers of National Secondary Schools in Ipoh, Perak, Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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<td>Adjusted Odd Ratio</td>
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<td>ATM</td>
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CHAPTER 1

INTRODUCTION

1.1 Background

Millions of people in this world suffer from cancer, accounting for 14.1 million new cases occurred in 2012 (Ferlay, Soerjomataram, Ervik, Dikshit, Eser, Mathers et al. 2013). Cancer can be defined as a disease involving abnormal growth of cells which have potential to kill or invade other cells. There are more than hundred types of cancer. This is because the aggressive cells can affect almost any parts of the body. Cancer was named according to the origin where the cancer cell starts to reproduce uncontrollably, for example, lung cancer, skin cancer, prostate cancer, and colon cancer (National Cancer Institute 2014). Accordingly, breast cancer occurs in the breast cells. Of all types of cancer, breast cancer is the most common cancer amongst women. A rapid increase in the incidence of breast cancer can cause a serious health problem and lead to death. In 2015, deaths from breast cancer involve 570,000 women that are approximately 15% of all cancer deaths amongst women (World Health Organisation 2017).

In addition, the world faces a substantial economic burden from breast cancer. It mostly affects the developing countries. Malaysia, for example, is one of those developing countries affected with a high incidence of breast cancer. According to the World Health Organisation - Cancer Country Profiles, (2014), breast cancer is the leading cancer that occurs among women with 5410 total number of cases documented, which is 24.5% of all cancer cases in Malaysia (WHO 2014).

Many efforts have been implemented to reduce the burden of breast cancer amongst the population in Malaysia. The Ministry of Health (MOH) uses two approaches in breast cancer prevention programmes, which are the primary and secondary prevention. Apparently, primary prevention is relevant during the beginning part of the prevention programme with the aim to improve breast health amongst Malaysian through education and awareness programmes. Meanwhile, the secondary prevention through early detection efforts includes early diagnosis, screening, and early treatment to improve prognosis (WHO 2016).

Through screening, breast cancer can be diagnosed early among individuals who do not have signs or symptoms of breast cancer (American Cancer Society 2017). Therefore, it is beneficial to the patients as there may be more treatment options available to prevent breast cancer complication. Regular breast cancer screening, especially for high-risk individuals, can detect cancer when it is still small and confined within the breast (American Cancer Society 2017). Unfortunately, in absence of any early detection,
patients are diagnosed at the very late stage and usually lead to poorer chances for survival (Caplan, 2014).

The breast cancer screening can be achieved by performing mammography, clinical breast examination (CBE), and breast self-examination (BSE). The mammogram is one of the vital parts of early diagnosis of breast cancer as it is specialized in medical imaging. However, it is expensive to use and indicated only to women in ‘high risk’ group. In contrast, CBE is performed by a healthcare professional who is trained for breast evaluation.

As for BSE, originally it was suggested as part of breast cancer screening method and applied under the assumption that BSE would increase early detection which then, improve prognosis. However, data from two large trials do not suggest a beneficial effect of screening by breast self-examination whereas there is evidence for harms (Cochrane Collaboration 2008). Experts have discussed the application of BSE. Many research studies have been conducted. Following that, BSE was introduced to the new concept of breast self-awareness because there is still value in BSE practice. Awareness in this context means to provide information with the aim for early diagnosis and reduction of the risk and to improve survival of breast cancer patients and maintain a good quality of life for them. MOH has taken a wise step to emphasise and promote BSE as part of breast cancer awareness programmes to all women since 1995 (Dahlui, Ramli, & Bulgiba, 2011). In addition, BSE is considered as the most applicable and easiest method for early detection of breast cancer disease.

Despite the benefits of BSE, its prevalence of practice is still low. This statement refers to the previous study, in which, only 27.8% female adolescents practised BSE (Che, Coomarasamy, & Suppayah, 2014). A similar situation was found in Klang Valley, Selangor, where 45.5% out of 842 respondents from nine universities ever practised BSE in the past years (Abu Samah, Ahmadian, & Latiff, 2015).

It is important that all women have basic knowledge about breast cancer and BSE before practising BSE. In this study, the Health Belief model was used as the theoretical framework to examine belief. Other variables that might contribute to BSE practice, such as access to breast health promotion programme, socio-demographic characteristics, and breast health history, were also included in this study. Our target population in this study was female teachers. Since teachers have very important responsibility and play a role in the Malaysia society, assessment of their knowledge, belief, and practice is essential to provide an information base regarding the study population. Therefore, this study aims to determine factors associated with the BSE practice amongst female teachers from national secondary schools in Ipoh City, Perak. The implication of the study would be the need for intervention, especially amongst female teachers in Perak.
1.2 Problem Statement

High prevalence of breast cancer amongst Malaysians has been noted in various studies (Malaysian National Cancer Registry Report (2007-2011), 2015). In order to reduce morbidity and improve the prognosis of breast cancer, there is an urgent need to create awareness and encourage breast screening amongst the population. In the previous years, BSE was considered as a screening method. These days, BSE is acknowledged as part of breast self-awareness which is also important as an early detection effort. BSE as educational important awareness because the risk of breast cancer is not the same for all women. Most women who get breast cancer have no known risk factors. Some factors influence risk more than others, and risk for breast cancer is due to a lot of factors. Having a risk factor does not mean someone will eventually get the disease, and not all risk factors have the same effects (Centre for Disease Control and Prevention 2017).

Raising awareness and promoting BSE practice through public health campaign are important to deal with breast cancer issues. It works as an early step before early diagnosis. BSE can be useful when performed together with CBE and mammography and before being examined by a professional. It is recommended instead of mammography because early detection via mammography is impractical for the economy, especially in developing countries like Malaysia and also not specified for all women. The application of BSE aims to raise awareness amongst women. By performing BSE, women become alert towards their breast health and seek professional opinion (American Cancer Society 2015). Despite that, BSE has its own limitation. According to the Cochrane Collaboration review, BSE shows no reduction in mortality. However, there is still value to the practice of BSE as part of breast self-awareness and it is wrong to conclude that women should not be aware of any breast changes and encouraged to seek medical advice if they detect any change in their breasts (Cochrane Collaboration 2008).

Previous research studies related to BSE practice showed that women who are not aware of sign and symptoms of breast cancer and BSE and have poor knowledge about it, do not practice BSE (Mahdi Tazhibi & Feizi, 2014). Conversely, some studies have shown that women are aware of BSE and breast cancer, yet they do not put them into practice (Abolfotouh, BaniMustafa, Mahfouz, Al-Assiri, Al-Juhani & Alaskar 2015). These studies have clearly indicated that knowledge, belief, and access to health services have an association with BSE practice. Nevertheless, the information regarding the BSE practice and factors associated with it in Perak is still limited. The data available from the current study will be very important for setting up more effective health education programmes because the delay detection of breast cancer causes the treatment to be less effective, decrease the survival rate, and increase the cost medication and treatment.
1.3 Significance and Benefits of the Study

Hopefully, this research will be beneficial for society at large. It was conducted as a significant initiative in determining socio-demographic background, knowledge, and belief about breast cancer and BSE, access to breast health promotion programme and prevalence of BSE practice among female teachers in Ipoh, Perak. Another purpose of this study is to find the association between study variables with the BSE practice so that it can serve as future reference for scientific field. In addition, it is hopeful that further research can contribute and help healthcare professionals to plan for awareness education of breast cancer with the aim to reduce morbidity and mortality caused by breast cancer.

1.4 Research Questions

i. What is the proportion of female teachers practising BSE?
ii. What are the factors associated with BSE practice amongst female teachers?
iii. What are the predictors of BSE practice?

1.5 Research Objectives

1.5.1 General Objective

To determine factors associated with the BSE practice amongst female teachers in national secondary schools in Ipoh City, Perak.

1.5.2 Specific Objectives

a. To determine the proportion of BSE practice amongst female teachers in national secondary schools in Ipoh, Perak.

b. To determine the socio-demographic characteristics (age, race, religion, marital status, level of education) amongst female teachers in national secondary schools in Ipoh, Perak.

c. To determine the general description of respondents (factors associated with the practice of BSE):
   - breast health history of the respondents (personal history of breast disease and family history of breast cancer)
- access to breast health promotion programmes
- knowledge of breast cancer and breast self-examination
- belief (according to Champion Belief Model scale)

d. To determine the association between socio-demographic characteristics, knowledge, belief, access to breast health promotion programs and breast health history of the respondent with BSE practice amongst female teachers in national secondary schools in Ipoh, Perak.

e. To determine the predictors for BSE practice among female teachers in national secondary schools in Ipoh, Perak.

1.6 Research Hypothesis

i. There is a significant association between socio-demographic characteristics, knowledge, belief, access to breast health promotion programs and breast health history of the respondent with the practice of BSE.

ii. There are predictors for BSE practice.

1.7 Definition of terms

Breast Self-Examination
Breast self-exam (BSE) is an action of detecting a painless lump or a tumour which is the sign of breast cancer.

Clinical Breast Examination
A clinical breast examination (CBE) is performed by a healthcare professional specifically trained for breast evaluation. A thorough examination of the breast and underarm area is done to check for abnormalities.

Mammogram
A mammogram is one of the vital parts of early diagnosis of breast cancer. It is specialised in medical imaging and indicated only to women in ‘high risk’ group as it is expensive to use.

Incidence
Incidence is a measure of the probability of occurrence of a given medical condition (frequency of disease) in a population within a specified period of time.

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\text{Incidence rate} = \frac{\text{New cases}}{\text{Population at risk}} \times k
\]
**Prevalence**
The percentage of a population affected by a particular disease at a given time is,

\[
\text{All new and existing cases during a given time period} \times \frac{1}{\text{Population during same time period}} \times 100\%
\]
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