

RESEARCH COMMUNICATION

Factors for Performing Breast and Cervix Cancer Screening by Iranian Female Workers: A Qualitative-model Study

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Abstract

Breast and cervical cancers impose large costs on society. Performing breast and cervical cancer screening tests (BCCST), considered as a health promotion behavior, is therefore important. This qualitative study based on the "integrated model of planned behavior and self-efficacy (PBSEIM)" was conducted to assess influencing factors. A total of seventy female workers aged between 20-45 years from Tehran suburban factories were recruited by purposeful sampling to participate in ten focus group discussions. Data were analyzed using the conventional content analysis method. The majority had an appropriate attitude toward BCCST, stressing the importance of family's especially husband's encouragement as the subjective norm. Low knowledge, depression, fatigue, shyness and fear of examination and diagnosis of cancer, poor quality of services and financial barriers were mentioned as effective negative factors. The majority reported low self efficacy for planning to perform the behavior and had no intention to undergo screening in the next three months. So interventions are necessary to overcome effective barriers and improve women's health.

Keywords: Breast and cervix screening - planned behavior model - self efficacy - female workers - health behavior

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Introduction

Prevention and early diagnosis of cancers are the vital factors in control of disease and increase life expectancy. Performing cancer screening tests can decrease cancer related mortality and morbidity (Ali and Khalil, 1996; McDonald et al., 2004).

Breast cancer is one of the most detectable cancers and it is a common cause of death among women across the world. Breast cancer is a common cancer in Asia and in Iran. Incidence of breast cancer among Iranian women is 22/ 1000 and its prevalence is 120 / 1000 (Mousavi et al., 2007). Age and sex of the women are two main factors in this disease. Incidence of breast cancer increases after 35 years (Hortobagyi et al., 2005; Anderson et al., 2005). Average of breast cancer in developing countries including Iran, is about one decade lower comparing to developed countries (Harirchi et al., 2000; Nokiani et al., 2007). Although early breast cancer detection methods such as breast self examination, clinical examination and mammography can decrease mortality of this cancer, people in developing countries have inadequate information about screening methods (Moghadam, 1998; Rutlege et al., 2000; Ameri, 2002; Chong et al. 2002; Farshbaf Khalili et al., 2009) and a limited number of women perform breast self examination or refer for breast-clinical examination or mammography (Shahhoseini, 1998; Twinn et al., 2002) and so public education about

early diagnosis of breast cancer is important. Promotion of this behavior among women requires an assessment of related effective factors on the behavior.

Cervical cancer is the third most common cancer among women and the second most frequent cause of cancer-related death (National cancer Institute, 2011). In developing nations, it is often the most common cause of cancer-related death among women and a leading cause of death overall. Cervix cancer is the forth common cancer among Iranian women (Arbyn et al 2008). The most common age for detecting invasive cervical malignancy is between 35 to 65 years, and for detecting non-invasive one is between 10 to 15 years earlier and low social status is the risk factors for cervix cancer (Olson et al., 2001). Pap smear as a test for cervix cancer screening aims to detect this cancer in early stages (Renshaw et al., 1997). It is a simple, cheap, and with no side effect test (Blesch and Prohaska, 1991). Performing this test is considered as a health promotion behavior (Ceylan et al., 2005). Cancers imposes a lot of costs to the family and society including costs related to treatment, care and absence from work (Brown et al., 2001).

Regarding to growing prevalence of breast and cervix cancers in Iran, studies about effective factors on the BCCS behavior, based on psychosocial models of health behavior are necessary for planning of interventional programs (Azaiza and Cohen, 2006).

Model of planned behavior (PBM) is an appropriate

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psychosocial model for prediction of behaviors and for appropriate planning of educational programs. Attitudes, subjective norms, perceived behavioral control are three main effective factors on intention to performing a behavior (Ajzen, 2011).

Some researchers believe that adding self-efficacy construct to PBM can increase predictability of behaviors by the model (Peterson and Berdew, 2004). Self-efficacy has a root in social cognitive theory of Bandura (Bastable, 2003) and shows a model of behavior for which the main construct is self-efficacy (Bandura 1997). Self-efficacy affects behavior change and therefore plays an important role in planning of educational programs (Pajaras and Schunk, 2000).

Long working hours of female workers and so time limitation for self care may make these women vulnerable for disease. Besides, Female workers have an important role in health status of country (Chee et al., 2003). Therefore, this study aims to demonstrate effective factors on BCCST of female workers using the psychosocial model and using a qualitative approach. Qualitative research makes possible rich descriptive and deep understanding of a phenomena and human experiences (Polite, 1999).

Materials and Methods

In this qualitative research, a focus group discussion method was used to explain effective factors on BCCS behavior of female workers based on integrated model of planned behavior and self efficacy. Participants were 70 female workers aged 20-45 years old. The participants were recruited using purposeful sampling method from factories of industrial city of Pakdasht, Tehran. They were selected with maximum diversity regarding their job, age, marital status, and educational status. The discussion sessions were continued until saturation of data was obtained. The sessions were performed in a quiet room in their place of work, by a facilitator and a note-taker. All statement and non verbal language of female workers were written and recorded.

Duration of Sessions was between 60 to 90 minutes. The discussions were performed by few guided questions. The guide questions were piloted in two sessions beforehand to assess credibility and adequacy of the necessary time for discussions. Content analysis was performed after discussions. The transcripts were completed using written and recorded data. The transcripts were read several times to get a correct and deep perception. Then the sentences were analyzed to smallest meaning units (codes). Then they were categorized in subthemes and then they were placed in the elements of integrated model of planned behavior and self efficacy.

To achieve maximum accuracy, data credibility, dependent-ability, transferability and conformability (Polite, 1999) were assessed. To assess credibility of data the researchers considered adequate time for data collection and involved with data for a longtime. Maximum diversity was also considered in sampling. Confirm-ability was assessed and checked by returning the coded transcripts to some participants. To assess

dependability, two colleagues recoded parts of transcripts. Researchers attempted to reduce their pre-assumptions during data collection and data analyzing. Transferability of data was achieved by detailed description of procedures of the study.

The approval of the university ethical committee was obtained for the study. Ethics were considered during the study by describing the aims and details on procedure of the study for participants and taking informed consent from them beforehand.

Results

Seventy female workers from ten factories in the industrial city of Pakdasht Tehran participated in the study (34 ≤ 32 years of age and 36 older; 10 illiterate, 11 primary, 15 middle and 25 high school, 9 university). The extracted codes and subthemes were categorized as the effective factors on BCCS behavior and as the main elements of PBSEIM including: attitude, subjective norm, perceived behavioral control, self efficacy and intention to behavior (Table 1).

First element of PBSEIM: Attitude toward BCCS behavior

The results demonstrated that majority of female workers mentioned that cancer is a disease of old age women. A woman told "*in my opinion young women do not affect by breast or cervix cancer*". More than half of women thought that considering cleanliness and appropriate nutrition are important for cancer prevention. A woman says "*individual health is also important in sexual relation with husband because everything starts from a small wound and then changes to a tumor*" and the other woman says "*because of bad nutrition, the age of cancer comes down*". She said that "*people prefer to eat fast-foods and forget to eat their own cooked meals and therefore cancer is increasing*".

Minority of female workers believes that performing BCCS is necessary for breast and cervix cancers prevention. A woman told that "*Breast cancer may be a mass inside the breasts. Anytime that a woman touches such a mass in her breast, she should refer to a physician for physical exams and prevention*". Other one said "*Medical examinations are important for cervical cancer prevention. Cervix should be checked up to find out any possible wounds*".

Second element of PBSEIM: Subjective norm

Majority of female workers mentioned to family opinions especially husbands' encouragement or discouragement as an effective factor on performing BCCS tests. A woman told "*while women go for the check up, their husbands tell them, you seem healthy. Why do you pay for nothing? They do not permit to pay for these tests*". Another woman told "*Family's opinion and support is important. They should encourage us because they should pay for part of it*". Another one told "*if I refer to physician several times, my husband tells me you brought your sickness from your fathers' home*". Another woman continued "*If somebody encourages me, I will do*".

More than half of women mentioned that history of

Table 1. Categorized Themes and Subthemes based on Elements of PBSEIM for BCCST

Themes	Subthemes
Attitude to BCCST	Cancer is a disease of old age women. Cleanliness and appropriate nutrition are important for cancer prevention. BCCST behavior is effective on cancer prevention
Subjective norm about BCCST	Families', specially spouses' encouragement or discouragement of BCCS behavior. Have a history of cancer in family
Perceived control of BCCST	Preference of treatment to prevention in the community. Devoting a day in year for "women's cancers screening"
Self-efficacy to do BCCST	Individual barriers: Lack of knowledge, Fatigue, Depression. Shyness and fear of examinations, Fear of diagnosis of cancer. Time barriers: Long working hours, Working-leave limitations. Financial barriers: Expensive private BCCS services, Diagnostic examination charges. Service barriers: Availability of screening centers, Low quality public BCCS services, Non attention to clients' dignity and privacy in public BCCS services. Environmental barriers: Considering low priority to women's cancer in the community, limited information dissemination in the community. Increased self-efficacy of female workers by giving information about dangers of cancer. Increased self-efficacy of the female workers by information to workers' families and managers. Increased self-efficacy by providing necessary facilities and working leaves for BCCS behavior
Intention	No intention to perform BCCS in the next 3 months

cancer in family is effective on performing BCCS tests. A woman stated "*My mother in law has breast cancer, I scared, and I refer for screening regularly*". A minority of participants mentioned to preference of prevention to treatment in the community and family. A woman said "*When we are apparently healthy and suffer from no diseases the family says that why I refer to physician to spend money. This is the reason that we start our treatment when suffer from disease*". The other one said "*paying attention to treatment is more than prevention even in the society, the treatment is more advertised than prevention in the society and families do not understand to refer to physician when they are healthy*". One of women suggested "*A day should be devoted as the woman's cancer screening day*".

Third element of PBSEIM: Perceived control of behavior

Most of women refer to individual barriers such as: lack of knowledge, fatigue, depression, and impatience, shyness and fear from examinations, and illness. A woman says "*the female worker are unaware, because our level of education is low and we have no enough time to watch TV's educational programs which are disseminated on our working time*". She also declared that no education is given to them at their working place. The other woman said "*tiredness does not permit me to think to other issues*,

except resting". A woman declared that "*depression and impatience have great effects, because the person who suffers from depression pays no attention to her health*". Another woman said "*shyness from medical examinations is a main barrier, because most of the girls and women have a shyness preventing them from referring to physicians*". Another one said "*Since there is a fear. Some women are afraid of even the name of the cancer. I fear from cancer and believe that I may suffer from cancer. So it is better never referring to physician to be aware of such a disease*".

More than half of women refer to time limitation due to long working hours, and difficulty to access to health centers because of limited working leaves, as the main barriers for performing BCCS. A woman said "*We are too busy with working and home tasks and find no opportunity to think about ourselves*". Another participant said "*we are working from 6:00 a.m. up to 7:00 pm. Our vacations coincide with public vacation and just some private centers are open*". Another woman stated "*We should refer once for medical test and once more for taking the result of test. We have limited working leave time which we devote for other important issues*".

Half of women referred to high visits charges and screening test as a financial barrier for screening. A woman said "*The female workers cannot refer to private center because of the expensive charges*".

A few numbers of women referred to difficulty in access to the public and private sectors, poor quality of the services provided by public sectors, paying no attention to privacy and dignity of the people as the other barriers. A woman stated "*We have no facilities close to us. We should refer to the public or private sectors which are placed inside the city. So, the distance is long and therefore referring to such a place is impossible*". Another worker said "*There are nearby public clinics, but the services and equipments are not complete and, we have to refer to the private sectors with high quality services*". Another woman told "*If we refer to a center and feel that our privacy is disregarded, then we will not refer to that center again*".

A few number of women refer to limited information concerning to female worker and failure of paying attention to women cancer as an environmental barrier for screening. A woman says "*Information system is very important. We are not aware in proper manner and we are living in a separated place far from everything such as trainings*". The other one continued "*The problem is that radio and TV says a lot of things but the worker who comes to work can not listen to the radio or watch TV*". Another woman said "*most of other issues enjoy high priority such as Influenza type A. We always are taught at our working area, how to prevent Influenza, but no education is given about cancer screening. No priority is considered to this matter*".

Fourth element of PBSEIM: Self-efficacy in performing behavior

Most of the female workers stated that information system, family, and manager as the factors for increasing their capability for planning of BCCS behavior (self-

efficacy). A woman said “*If we are informed about the dangers, we shall certainly plan a day to refer a clinic for the test*”. Another participant said “*The family should also be informed to help us for devoting time and planning for performing the tests and not to be an obstacle*”. Another woman said “*It is better to inform authorities of the factory to facilitate us working leaves for prevention and medical treatments*”.

Fifth element of PBSEIM: Intention to perform behavior

Most of the female workers have not performed any types of BCCS tests such as breast self examination, clinical examination, mammography, and Pap smear. They had also no plan to take these tests within next three months. They declared that “*we have no information about tests and do not think to do such tests in the next few months, because we are busy with a lot of problems*”. A few numbers of female workers performed BCCS tests and intended to refer to a clinic for examinations.

Discussion

This study discusses about the factors affecting on performing BCCS tests by female worker using a qualitative approach and a psychosocial model for the first time across our country.

The result showed that most of female workers had very limited information about BCCS methods. In a similar research on Iranian female teachers, information level of about breast cancer screening tests and its dangers was average (Khalejnezhad and Khalejnezhad 2008). In a Singaporean study less than half of women had information regarding Pap smear (Seow et al., 1995).

Results of the presents study showed that majority of participants though that they would not be affected by cancer. They felt that cancer is a disease of old age women. A similar Singaporean cervical cancer also revealed that majority of women do not perceived threat of cancer (Seow et al., 1995). Another study demonstrated that young women perceive the threat of cancer and perform the screening tests less than old women (Alam et al., 2007). Hence, regarding to the low knowledge of female workers, educational interventions seemed to be necessary to improve their knowledge. It is demonstrated that theory based educational interventions can improve knowledge and attitude about mammography (Hatafnia et al., 2009) or benefits of performing Pap smear tests (Yakhforooshha, 2007).

Present study showed that opinion of women's family, especially their husbands' opinion about screening tests is effective on performing BCCST. It is demonstrated that women usually perform the tests while a physician asks for it (Brenna et al., 2001) or while they face with a clinical problem (Chong et al., 2002). A study showed that women living with the husband's family have lower knowledge and practice on Pap smear (Holakouee Naeeni et al., 2004).

History of breast or cervix cancers in family was mentioned as an important effective factor on performing BCCS behavior. Other studies also showed that women with the history of breast cancer in their family practice

self-testing and mammography more than others (Rutlege et al., 2001; Farshbaf Khalili et al., 2009).

The results showed that female workers believed that media pays more attention to treatment rather prevention and community prefer treatment to prevention and the benefits of screening tests are not clear enough for people. Therefore, considering an information system to create a positive understanding of the fact that prevention by BCCS is better than treatment seems to be necessary.

Considering a day in year as “BCCST day” was suggested to be effective on promotion of BCCS behavior in the community. Inadequate information of female workers about dangers of cancers and benefits of screening tests was mentioned as an effective barrier for performing the tests. Inadequate information was also a barrier in performing breast examination (Chong et al., 2002; Farshbaf Khalili et al., 2009) and Pap smear test (Morgan et al., 1995).

The result of present study showed that fatigue, depression, and impatience are the individual barrier factors hindering BCCS behavior. Female workers work an average 8 hours per day, and so working tiredness prevents healthy behaviors. Moreover, job dissatisfaction and home problems are the factors which make tiredness and impatience.

Shyness and fear from physical examination were also mentioned as the barriers for performing the screening tests. Anxiety, depression were also demonstrated as the barriers for performing mammography in another study (Montazeri et al., 2005). Fear from painful process of examinations and mammography was also mentioned as the barrier for performing the tests (Cockburn et al., 1997). Shyness, anxiety and fear from examinations as well as fear from finding of an incurable disease were also showed as the barriers for performing pap smear (Holakouee Naeeni et al., 2004; Baghiani Moghadam, 2002; Idestron et al., 2002).

At the present research, long working hours was also mentioned as the barriers for performing BCCST behavior which is consistent with the results of other studies (Holakouee Naeeni et al., 2004; Baghiani Moghadam, 2002). Since female workers spend most of daily hours at their work place and so have limited time to access the screening centers; facilitating some educational or even some simple screening tests may be helpful.

Expensive charge of visits and tests in private sector was mentioned as a barrier for BCCST behavior in this study as well as in other similar studies (Ni-Riain et al., 2001; Holroye et al., 2001; Cary and Taylor, 2003). Poor quality of services and low attention to privacy and dignity of women were also mentioned as the barriers. Unavailability of the Pap smear services was also reported as a barrier (Anya et al., 2005). Quality of provided services in viewpoint of women is effective on performing the tests (Moodley et al., 2006). Therefore, high quality services, paying attention to women's privacy, dignity are from effective factors on attitude and behavior of BCCST.

Considering low priority to women's cancer in the community and limited information dissemination among women were mentioned as the environmental barriers for BCCST behavior. Information dissemination by education

of women about benefits of screening in detecting cancers, using cheap and simple educational methods such as educational booklets may improve public information and promote BCCS programs (Holroye et al., 2001; Moodley et al., 2006). Mass media, especially Radio and TV, play an important role for information dissemination in the society. However, because of limited time of female workers to access Radio and TV educational programs, designing special educational intervention for them at their work place through face to face education, and self learning methods such as poster and pamphlet may be helpful.

The results suggest that awareness of female workers' families and managers is necessary for giving more priority to the women's health and facilitating the behavior. Support of family members and managers increases women's self-efficacy and improves their control on BCCS behavior. It also increases their intention and practice of the behavior.

The results showed that most of the female workers did not perform BCCS tests and had no intention to do the tests in a near future. This is consistent with the results of other study in Iran (Farshbaf Khalili et al., 2009).

This means female workers as a poor social group are vulnerable to women's cancers and needs special educational care interventions. The interventions should be focused on not only their own knowledge and attitude, but also on their families and on their managers, to correct their subjective norms. The interventions that should be concentrate on facilitating these behaviors by overcoming the barriers such as their access to quality services.

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