미주 한인 여성의 유방암 검진에 대한 의식과 태도 조사

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Awareness of and Attitude Toward Breast Cancer Screening Influences the Rate of Breast Cancer Screening in Korean American Women in the U.S.

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요 약

유방암은 아시아계 미국인 여성에게 가장 흔한 질병이다. 유방 환영술을 통한 조기검진은 유방암의 치료 효과와 생존율을 높이는 측면에서 중요하다. 그러나, 많은 연구에서 아시아계 미국인은 다른 인종에 비해 낮은 유방 검진율을 나타냈다. 본 연구는 미주 한인 여성들의 유방암 검진율과 유방암 조기 검진에 대한 인식 정도와 태도 실태 조사를 위함 문헌 고찰 연구이다. 이 연구는 미국에서 연구 되어진 16개의 연구를 바탕으로 미국에 거주하는 한인 여성들의 유방암 검진율과 인식 및 태도를 분석 조사하였다. 연구 결과, 한인 여성들은 지속적으로 낮은 유방암 검진율을 보여주었다. 특히, 사회 통계학적 요소, 문화적 적응, 건강 신념, 그리고 문화적 신념과 같은 다양한 변수들이 유방암 검진율과 통계적으로 유의한 관계가 있음을 나타냈다. 또한, 연구 결과, 미주 한인 여성의 유방암 검진의 중요한 인식 형상을 위하여, 문화적 민감성을 바탕으로 한 적절한 교육 프로그램의 다각적 접근이 필요로 되어 있다.

핵심어: 미주 한인 여성, 유방암 검진, 지식, 인식

Abstract

The most common cancer in Asian American women is breast cancer. Early detection through mammography is crucial as it increases treatment options and saves lives; however, many studies described the lower breast cancer screening rates in Asian American women compared to other population in America. The purpose of this review was to synthesize literature on how awareness of and attitudes toward breast cancer screening influence the rate of breast cancer screening in Korean American women in the U.S. The analysis of the reviewed literature focused on the influence that awareness of and attitudes toward breast cancer screening have on the rate of breast cancer screening in Korean American women by reviewing 16 studies in the U.S.A. This study shown the lower breast cancer screening rates in Korean

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American women in the U.S.A. Specifically, diverse variables such as sociodemographic factors, level of acculturation, health beliefs, and cultural beliefs had a statistically significant association with the utilization of breast cancer screening. In addition, knowledge towards breast cancer screening found the notable factor to affect obtaining breast cancer screening as a strong predictor. Furthermore, education had a significantly positive correlation with breast cancer screening behavior. From the findings of these studies, implementing multifaceted approach using appropriate educational programs based on cultural sensitivity is essential to decrease barriers and improve the awareness of the importance of mammogram screening.

Keywords: Korean American Women, Breast Cancer Screening, Knowledge, Awareness

1. Introduction

The American Cancer Society states that breast cancer is the most frequently diagnosed cancer and the second leading cause of cancer death in American women [1]. It is estimated that 246,660 women will be diagnosed with invasive breast cancer and 61,000 women are expected to be newly diagnosed with situ breast cancer in 2016. This high incidence and mortality rate are associated with increased medical costs. In 2013, total health care expenditures for all types of cancer were estimated to be $74.8 billion including hospital outpatient, office-based provider visits, and inpatient hospital stays [1].

1.1 Significance of Breast Cancer Screening

Five-year survival rates of breast cancer are significantly associated with the stage at diagnosis: 83% for stage I, 74% for stage II, 57% for stage III, and 27% for stage IV [2]. Early detection of breast cancer is an important factor to improve the chance for survival. From these reasons, women at the age of 40 and older are recommended to go for a mammography screening and at the age of 45 should be screening annually in accordance with the guidelines from the American Cancer Society [1]. The American Congress of Obstetricians and Gynecologist recommended that mammography screening be offered annually to women beginning at age 40 [3]. The goal of Healthy People 2020 is to improve preventive cancer screening for breast, cervical, or colorectal cancer and access to comprehensive health care services to achieve the best health outcomes. However, the overall breast cancer screening rate was 72.4% (lower than the Healthy People 2020 target range of 81.1%). The ethnicity group that has the lowest breast cancer screening was Asian American women compared to that of White and Black women [4].
1.2 Target Population

Asian Americans are the fastest growing population in the U.S. community, representing 20.0 million people out of 318.7 million people in U.S.A. in 2014 [1]. The Asian American population increased from 2.8% to 4.2 % of the total U.S. population between 1990 and 2000 [2]. This trend regarding rapid increasing numbers of the general Asian American population is driven by immigration [1].

Asian American women are also commonly diagnosed with breast cancer [1]. The report describes that 57,740 newly diagnosed breast cancer cases and 16,910 breast cancer deaths are estimated among Asian American, Native Hawaiian, and Pacific Islander women in 2016 [1]. In addition, Asian American women, including Korean American women, have the lowest cancer screening rate and early detection rate compared to other ethnic groups [5].

Korean American immigrant women have one of the lowest breast cancer screening rates in the U.S. [6]. Lee et al. (2015) showed that only 58% to 70% of Korean American women underwent mammography screening and 67% of Korean American women had a clinical breast exam at least once in their lifetime. This lower screening rate can result in increased incidence and mortality rate of breast cancer for Korean American women. A study in California states that foreign-born women have a lower survival rate compared to U.S.-born women who are more likely to be diagnosed with breast cancer at a localized stage [1]. In addition, Korean American women are likely to be diagnosed at a later stage compared to non-Hispanic Caucasian women, who have a higher incidence of breast cancer than that of Korean American women [7]. Therefore, early detection through breast cancer screening is an important contributor to decrease the mortality rate among Korean American women.

Few studies have examined breast cancer screening focused on Korean American women. In addition, there are limited state and national health surveys for Asian American women regarding breast cancer screening [8]. Therefore, the key purpose in conducting this integrative review is to assess and evaluate how the awareness of and attitude toward breast cancer screening influences the rate of breast cancer screening in Korean American women in the U.S. community.

2. Methods

To compile a broad range of published literature related to the subject, the keywords “Korean American women”, “breast cancer screening”, “mammography”, “knowledge”, and
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"awareness" were searched on the PubMed database, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and general Internet database with Google Scholar in September and October 2016 for published articles in the U.S.

2.1 Inclusion and Exclusion Criteria

Records identified through databases searching PubMed and CINAHL (n=57 Articles reviewed)

Additional records identified through Google Scholar and general search (n=2 Articles reviewed)

Records accepted after on-screen assessment of titles & abstracts excluding duplicates: 34 Articles (n=25)

Articles excluded (3 Articles)
- The paper is not a primary research (n=1)
- Study population is not met (n=2)

Eligible for Abstract Review (n=22)

Articles excluded (6 Articles)
- Primary focus not solely on breast cancer screening (n=6)

Studies included in full review (n=16)

Studies focusing specifically on breast cancer screening of Korean American women (n=16)

[Figure 1] PRISMA flowchart for the inclusion and exclusion of studies used in this integrative review
Research reports published with full texts and Peer-reviewed articles that are written in English were included in the review. Studies published in languages other than English and with populations of non-Korean American immigrant women were excluded. With the above specific keywords and criteria, fifty-nine articles were found for the following databases: thirty-eight articles from PubMed, nineteen articles from CINAHL, and two articles from Google Scholar. Out of those fifty-nine articles, twenty-eight duplicated articles and six irrelevant articles were excluded. In addition, one integrative review articles, and two articles with a non-relevant study population were not included. Of the twenty-two articles for eligible abstract review, six articles were excluded because the focus of the articles includes a diverse preventive screening including breast cancer, cervical cancer, and colorectal cancer, which has a broader focus than the selected topic. From these specific criteria, sixteen articles were reviewed as relevant articles to conduct this integrative review as shown in Figure 1.

3. Results

3.1 Sample Sizes and Study Location

Sample sizes in the sixteen studies ranged from 100 to 459 subjects, with an age range of 20 to 90 years. Only two studies performed a power analysis to determine sample size [9, 10]. All sixteen studies were conducted in the U.S. Five studies were conducted in Chicago [5, 11-14]. The second most frequently used location was Los Angeles County [8, 9, 15, 16]. Two studies were conducted in Maryland [2, 17], and one study was conducted in Washington D.C.[18]. The rest of the study locations were South eastern U.S. city [7], Northeastern U.S.[6], and Midwest suburban area [19]. However, one study did not provide the specific area of the U.S. [10].

3.2 Research Methods

Of the sixteen reviewed articles regarding breast cancer screening in Korean American women, nine studies focused on mammogram in Korean American women [2, 9-12, 14, 15, 17, 19]. Of the remaining seven studies, three studies described the use of breast self-exam (BSE), clinical breast exam (CBE), and mammogram [5, 13, 16], and four studies described the CBE and mammogram [6-8, 18].

All data were generated using quantitative methods: ten descriptive quantitative
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studies [5, 6, 7, 8, 10-13, 15, 17] and six quasi-experimental studies [2, 9, 14, 16, 18, 19]. All ten descriptive quantitative studies used a cross-sectional study design. The data collection methods consisted of a telephone survey [5, 8, 11], semi-structured interview [7, 15], face-to-face interview [13, 17], a self-administered questionnaire [10, 12], and combined self-administered questionnaire and face-to-face interview [6]. Of the six intervention studies, one used the comparison between the intervention group and the comparison group with a telephone survey [18]. The rest of the five intervention studies used a quasi-experimental pre- and posttest design [2, 9, 14, 16, 19]. Two studies used 2-group pre-posttest design [2, 19], two studies used a 1-group design [14, 16], and one study used 3-group pre-posttest design [9]. Using various instruments, these intervention studies assessed the pretest and posttest differences of awareness and attitude toward breast cancer screening between the control and intervention groups. Interventions are described in a later section.

3.3 Research Theories and Instruments

Six studies used the Health Belief Model (HBM) as a theoretical framework [6, 7, 10-12, 16]. The PRECEDE-PROCEED model was used as a framework in two studies [9, 17]. Two studies used the Transtheoretical Model of Behavior Change (TTM) [2, 14]. Furthermore, three studies used a mixed framework; one study used the HBM, Theory of Reasoned Action/Planned Behavior, and PRECEDE model [15], another used the HBM and TTM framework [19], and the third study used the HBM framework and the Cultural Explanatory Model [18]. Three descriptive studies did not provide a theoretical framework [5, 8, 13]. Eleven studies out of total sixteen studies used several existing instruments: Champions’ Health Belief Model instrument [6, 7, 9-12, 14, 17, 19], the Tang et al.’s scale to assess cultural attitudes and belief [10, 14, 19], Suinn-liew Asian Self-identity Acculturation scale (SL-ASIAS) [12, 14, 19], the Powe Fatalism inventory [14, 19], McCance et al.’s breast cancer knowledge scale [7, 10], Miller and Champion’s Knowledge scale [9], and Maxwell et al.’s acculturation scales modified for Korean American women [9]. These instruments provided the reliability and validity tests in the studies. A few studies did not discuss the reliability and validity of measurement even though they used published instruments such as the Adherence Model, Anderson et al.’s Southeast Asians modified scale for acculturation [15], and Hur et al.’s knowledge scale [18]. In addition, two studies used instruments developed by the researchers to conduct the studies without including reliability and validity data [2, 16], and three studies did not explain the instruments used in the study [5, 8, 13].
3.4 Breast Cancer Screening Rates in Korean American Women

All studies assessed the breast cancer screening rate in Korean American women except one intervention study [14]. A recent descriptive quantitative study [12] showed that 75% of Korean American women underwent mammography screening and 25% of women had never been screened for mammography. This study found that women who had a mammogram were significantly more knowledgeable about breast cancer than were those in the group who had never been screened with a mammogram (p<0.001). Five studies revealed that higher mammography and CBE rates statistically significantly correlated with older age groups (60 years and older) compared to younger age groups (40-59 years old): p<0.005 [17], p<0.001 [10, 12], p=0.002 [20], and p<0.000 [11]. The three studies conducting screening tests using combined CBE and mammography showed that Korean American women had CBE rates of 42% and mammography rates of 48% [8], CBE rates of 67% and mammography rates of 58% [7], and CBE rates of 62.9% and mammography rates of 81% [6]. The other three studies using combined BSE, CBE, and mammography showed the screening rate as follows: BSE of 58.1%, CBE of 53%, and mammography of 39% [5], BSE of 30.9%, CBE of 48.4%, and mammography of 21.9% [16], and BSE of 26.4%, CBE of 26%, and mammography of 10% [13]. In addition, the study of Jeon et al. (2004) and Lett et al. (2009) described that about 65% and 51% had ever had a mammogram respectively.

3.5 Variables regarding Awareness of and Attitude toward Breast Cancer Screening

All studies showed that there were a variety of variables that influenced the breast cancer screening rate in Korean American women. All sixteen studies reported variables which can affect breast cancer screening in Korean American women: Sociodemographic factors, level of acculturation, health beliefs about breast cancer screening, knowledge, access to health care, sources of health information, and cultural beliefs. Thirteen studies reported that familiarity with breast cancer and benefits of screening was a significant predictor of positive breast cancer screening behavior including BSE, CBE, and mammography with p-value of <0.005 or <0.0001 [2, 5, 7-10, 12-14, 16-19]. Eight out of sixteen studies found that regular check-ups or physician recommendation was a strong predictor (p<0.05 or p=0.000) regarding breast cancer screening [2, 5, 6, 7, 8, 12, 15, 17]. Eight studies reported that health beliefs including perceived susceptibility, seriousness, benefits, and barriers were significantly different between women who had breast cancer screening and women who did not [6, 7, 9-12, 14, 19]. These health
beliefs were significantly different between older Korean American women and younger Korean American women in one study: susceptibility (p<0.04), seriousness (p<0.03), benefits (p<0.00), and perceived barriers (p<0.00) [11]. Length of residence in the U.S. [5, 6, 7, 13, 15], encouragement from family members [7, 12], spoken English proficiency [5, 17], employment [2, 6, 8], and married marital status [2, 5, 6, 8] had a significant positive correlation with influence on breast cancer screening behavior in Korean American women in the studies (p<0.05). However, insurance (p<0.02) and cost (OR=2.05) were the only factors with negative correlation with influence on breast cancer screening behavior in Korean American women [8, 15].

3.6 Knowledge and Attitude toward Breast Cancer Screening as a Result of Intervention

All of the six intervention studies conducted education programs, provided DVD education material, or combined education with providing low-cost mammography [2, 9, 14, 16, 18, 19]. The education programs were conducted by bilingual and bicultural health educators at Korean churches, Korean community centers, doctors' offices, individual homes, or senior centers. Three studies reported that the educational intervention programs were composed of 45 minutes [14, 19] and 90 minutes [2], whereas the others did not provide the duration of educational intervention [9, 16, 18].
The methods of education regarding breast cancer screening knowledge were different in all six studies. Two studies were focused on cultural beliefs such as preventive health orientation, fatalism, and modesty [14, 19]. Another three studies were focused on providing information on breast cancer and the importance of screening behaviors and all three studies provided free breast cancer screening services [9, 16, 18]. The last intervention study was focused on providing small group educational presentations and educational materials through bimonthly meetings from March 2003 to June 2003 [2]. Five studies used a length of intervention range from 2 weeks to 24 weeks, while one study did not explain the length of the intervention period [18]. Findings in two studies showed a significantly increased number of breast cancer screenings or intention to seek screening in the intervention group compared to the control group with a p-value of <0.01 [2, 18]. One study showed statistically significant increases in mammography use between 16-24 weeks within the intervention group (p<0.001) and the control group (p<0.05) during the intervention period, while there were no significant differences in mammography use at the baseline [19]. In addition, the intervention group was more knowledgeable on breast cancer screening and had more positive attitudes toward breast cancer screening services compared to the control group: p<0.0001 [18], p<0.01 [14], and
The sixteen studies examined the awareness and attitudes on breast cancer screening for Korean American women. The predominant methodologies were quantitative descriptive and quasi-experimental designs. The most common part of the theoretical framework was the Health Belief Model to guide breast cancer screening behavior in Korean American women. Most studies used published instruments. For two studies, authors developed their own instruments without validity and reliability data [2, 16], and three studies did not publish the instruments [5, 8, 13]. The findings described that the breast cancer screening rate in Korean American women was below the Healthy People 2020 target goal (81.1%) in most studies. The results of this review highlight that awareness and attitudes had a positive relationship with breast cancer screening utilization in Korean American women. In addition, a variety of variables including sociodemographic factors, level of acculturation, health beliefs, access to health care, sources of health information, and cultural beliefs had a strongly significant association with the utilization of breast cancer screening. These factors in quantitative studies were reported as significantly associated with breast cancer screening (p<0.05). Knowledge was the strongest predictor to positively influence BSE, CBE, and mammogram uptake in most studies. Moreover, all six of the intervention studies found that there was a significant correlation between education and utilization of breast cancer screening. From that result, various educational interventions and low cost services for breast cancer screening were an effective way to increase awareness and provide positive attitudes toward breast cancer screening as well as an increased rate of screening in the intervention studies. In summary, increased awareness and positive attitudes toward breast cancer screening can favorably influence the breast cancer screening rate and early detection of breast cancer in Korean American women in the U.S. Cultural sensitivity through education can lead to improved knowledge and modify the inappropriate inaccurate perceptions of breast cancer and breast cancer screening tests.

4.1 Limitations

There are some limitations in this integrative review related to sampling methods, invalid instrument tools, and outcome biases. Studies that did not employ power analysis may be underpowered. Most studies used convenience sampling which may lead to limited
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generalizability of the results and sampling bias. Moreover, some authors did not mention what instruments were used or explain the reliability and validity of the instruments. Finally, all of the studies used a self-reporting data collection method for breast cancer screening. This could result in outcome bias or inaccurate information.

4.2 Practice Implications

This study suggests location and variety of sociodemographic variables are an important factors the influence breast cancer screening among Korean American women. In particular, new immigrants and younger age groups need to be helped to make the transition into preventive health care practices through a variety of educational strategies. In addition, health care providers need to make efforts to decrease barriers including inappropriate health beliefs, language, and cost in order to increase access to preventive health care. Intervention studies found that a variety of strategies including educational programs and low cost services were effective to increase the breast cancer screening rates as well as to provide positive attitudes toward breast cancer screening in Korean American women. Therefore, the role of health care providers needs to be emphasized to improve the familiarity benefit of breast cancer screening in Korean American women. A multifaceted approach using education about screening guidelines, providing information about BSE, CBE, and referral for mammography from health care providers should be implemented to increase breast cancer screening rates in Korean American women. The reviewed studies were most applicable to states including the Midwest or Western states of the U.S. to conduct surveys and intervention for Korean American women regarding breast cancer screening. Further studies should extend to different locations or conduct further research in locations that have limited attention such as the Northeastern U.S. to evaluate the rate and awareness of breast cancer screening. In addition, studies are needed to develop and evaluate intervention strategies that improve breast cancer screening behavior among Korean American women.

References


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