

Factors Affecting the Frequency of Breast self-examination in Korean Immigrant Middle-aged Women in the U.S.

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I. INTRODUCTION

Breast cancer is presently the second major cause of cancer death in women and the incidence is known to be increased among middle-aged women(Wiecha & Gann, 1993).

Most breast cancers are discovered by palpation during breast self-examination(BSE) (France et al., 1992). However, despite this fact, the actual number of BSE-detected breast cancers is low, because most women do not perform breast self-examination as recommended.

A 1995 national survey sponsored by the American Cancer Society indicated that 24.8% of women had practiced monthly BSE(Gallup Organization, 1995).

A common reason cited for why so few women perform breast self-examination is lack of knowledge about BSE. Although most women are aware of the general importance of breast self-examination the basic of how and when to perform BSE are not well known (Celetano & Holtzman, 1983). Of those women performing breast self-examination, studies suggest only a small percentage do so proficiently(Champion, 1985; Rutledge, 1987).

Immigrant women have been identified as high-risk population(Meleis, 1991) because of the multiple roles they carry; the work and energy they expend to adjust two sets of cultural patterns that are very opposite; the efforts they expend to try to make their values understood and accepted; the different languages used in their countries and the host countries; and different ways of interacting with others in the new society. All these situation may put immigrant women in a more stressful environment than members in the family, impede their physical and psychosocial health, and consequently the well-being of the entire family. For immigrant women, it is particularly difficult for them to practice health preventive behavior such as BSE by themselves(Mchride, 1988).

There are more researchers paying attention to the health issues of immigrant population, however, little is known about relationships among knowledge, training, proficiency and frequency of BSE in immigrant middle-aged women.

Therefore, the purpose of this study is to (1) describe the relationship knowledge, training,

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proficiency and frequency of BSE as practiced over the past twelve months and (2) determine which of the independent variables are the best predictors of BSE frequency in Korean immigrant middle-aged women.

II. METHODS

1. Design

A descriptive correlational survey design was used to study the relationships among knowledge, training, proficiency and frequency of BSE, with particular interest in the relative effects of the variables upon frequency.

Fifty-eight Korean immigrant middle-aged women were selected using the non-probability convenience sampling method and self-reporting questionnaires were used for data collection.

2. Sample

The subjects surveyed in this study consisted of fifty-eight Korean immigrant middle-aged women ranged from 40 to 60 years of age, who were recruited from Seattle and Tacoma area in the United State, and possessing adequate cognitive ability for understanding and responding to a written questionnaire.

They had no history of breast cancer.

3. Instrument

The instrument was developed based on BSE brochure of American Cancer Society consisting of the 20-item questionnaire(American Cancer Society, 1992).

The reliability of this instrument was 0.814 in Cronbach's alpha value.

Four areas of questions were developed, one area per each breast self-examination variable:

(1) BSE knowledge items assessed basic of BSE

technique and BSE importance relative to aging and general breast cancer knowledge.

(2) BSE prior training items assessed training instruction(extent of training techniques utilized in training by a provider), and training self-instruction(extent of resources utilized in self-instruction).

(3) BSE proficiency was self-assessed defining as confidence in one's ability to perform BSE and distinguish abnormal from normal breast changes.

(4) BSE frequency assessed the number of times performing of BSE by respondents.

4. Data Collection

The investigator contacted with the pastors to explain the purpose of this study, and obtain their permission to survey middle-aged women individuals with their churches. The churches provided a list of names and addresses of the women subjects. The pastors were asked to announce this study and introduce the researcher to those women people. Later, the researcher mailed to 75 eligible subjects with letters and questionnaires, inviting them to participate in the study by returning the "Survey of Breast self-examination". Of these, 58(77%) responded with a completed questionnaire.

The period of data collection was from March 6, 2000 to May 13, 2000.

5. Data Analysis

Quantitative data was computerized by using the Statistical Packages for Social Science (SPSS). Demographic data was reported by frequencies, percentages and mean value.

The Pearson product-moment correlation coefficient was employed to analyze whether there was a correlation between BSE frequency and the related variables, such as knowledge

importance, knowledge technique, training instruction, training self-learning, proficiency and demographic data by the subjects.

Regression analysis was used to determine the relative importance of individual variables upon frequency, with frequency of BSE as the dependent variable.

III. RESULTS

1. Demographic Characteristics

The age of the respondents ranged from 40 to 60 years of age with a mean of 49.37 years (SD=6.21 years). The marital status of the sample showed that 86.21% (N=50) of subjects were married; 5.17% (N=3) of them were widows; and 6.90% (N=4) of 6.90% (N=4) of them were divorced or separated. In terms of educational background, 51.72% (N=30) were college and above, 36.21% (N=21) of subjects were middle or high school education.

The family income of respondents was reported as sufficient for essentials for 48.28% (N=28), as insufficient for 31.03% (N=18) and more than sufficient for 20.69% (N=12).

The length of residence since immigration of the subjects were reported that more than 10 years was 55.17% (N=32), 1 to 10 years was 39.66% (N=23), and less than 1 year was 5.17% (N=3) (Table 1).

<Table 1> Demographic Characteristics

Variables	N (%)
Age (Years)	
40-45	8 (13.79)
46-50	32 (55.17)
51-55	11 (18.97)
56-60	7 (12.07)
Marital Status	
Married	50 (86.21)
Widowed	3 (5.17)
Divorced or Separated	4 (6.90)
Single	1 (1.72)
Level of Education	
No formal ed. or Elem. school	7 (12.07)
Middle or High school	21 (36.21)
College and above	30 (51.72)
Family income	
Insufficient	18 (31.03)
Sufficient for essentials	28 (48.28)
More than sufficient	12 (20.69)
Length of Residence since Immigration	
Less than 1 year	3 (5.17)
1 to 10 years	23 (39.66)
More than 10 years	32 (55.17)
Total	58 (100)

2. Variable Scores

<Table 2> summarizes the scoring data for BSE variables.

Total knowledge. The maximum possible score was 18. The actual range of scores achieved by respondents was from 3 to 18 with a mean score of 12.75 (SD=4.20).

Knowledge Importance. The maximum possible score was 4. The actual range of scores achieved by respondents was from 0 to 4 with a mean score of 2.01 (SD=1.78).

<Table 2> Sample Variable Data (N=58)

Variables	Mean	SD	Maximum	Range
Total Knowledge	12.75	4.20	18	3-18
Knowledge Importance	2.01	1.78	4	0- 4
Knowledge Technique	4.72	3.12	14	3-14
Total Training	4.48	4.01	16	1-15
Training Instruction	6.19	3.34	10	1- 9
Training Self-learning	2.48	1.10	6	1- 6
Proficiency	22.14	6.19	30	8-30
Frequency	3.01	1.89	5	0- 5

Knowledge Technique. The maximum possible score was 14. The actual range of scores achieved by respondents was from 3 to 14 with a mean score of 4.72 (SD=3.12).

Total Training. The maximum possible score was 16. The actual range of scores achieved by respondents was from 1 to 15 with a mean score of 4.48 (SD=4.01).

Training instruction. The maximum possible score was 10. The actual range of scores achieved by respondents was from 1 to 9 with a mean score of 6.19 (SD=3.34).

Training self-learning. The maximum possible score was 6. The actual range of scores achieved by respondents was from 1 to 6 with a mean score of 2.48 (SD=1.10).

BSE Proficiency. The maximum possible score was 30. The actual range of scores achieved by respondents was from 8 to 30 with a mean score of 22.14 (SD=6.19).

BSE Frequency. The mean frequency score for all respondents was 3.01(SD=1.89) which performs between BSE 1-3 times and 4-6 times yearly.

The percentage of respondents performing BSE 10-12 times yearly was 21.08%.

Those who performed no BSE comprised 4.80% of the sample.

3. Relationship Between BSE Frequency and Related Factors

<Table 3> Correlation Between BSE Frequency and Variables (N=58)

Variables	Frequency of BSE	
Age	r=-.289*	p=.038
Level of Education	r=-.082	p=.837
Family Income	r=-.163	p=.723
Length of Residence since Immigration	r=.327	p=.231
Knowledge Importance	r=.411	p=.063
Knowledge Technique	r=.573***	p=.000
Training Instruction	r=.521***	p=.000
Training Self-learning	r=.137	p=.633
Proficiency	r=.694***	p=.000

* p< .05

*** p< .001

Pearson's product correlation was used to ascertain the relationship between BSE frequency and various variables (knowledge importance, knowledge technique, training instruction, training self-learning, proficiency and the demographic variables) (Table 3).

Among the demographic variables, age(r=-.289, p=.038) was found to be statistically significant and negatively correlated with BSE frequency.

Among the BSE variables, BSE frequency was positively associated with training instruction (r=.521, p=.000), knowledge technique (r=.573, p=.000), and proficiency (r=.694, p=.000).

4. The Relative Effects of BSE Knowledge, Training, and Proficiency on BSE Frequency

Multiple linear regression analysis was used to test on potential predictors of BSE frequency (Table 4).

In a test of the model all direct and indirect variables were entered together.

There were two significant predictors of BSE frequency. Knowledge of BSE technique was the best significant predictor(beta=.581, p=.003). Another, slightly stronger predictor, was BSE training instruction(beta=.479, p=.019).

This model accounted for 49.31% of the variance in BSE frequency.

<Table 4> Regression of Variables on BSE Frequency (N=58)

Variables	Standardized beta	p
Age	.1743	.278
Level of Education	.1850	.241
Family Income	.1518	.237
Length of Residence since Immigration	.1466	.291
Knowledge Importance	-.2781	.069
Knowledge Technique	.5813	.003
Training Instruction	.4793	.019
Training Self-learning	.2344	.789
Proficiency	.2104	.378

Mutiple R = .7488

R² (adjusted) = .4931

IV. DISCUSSION

Breast self-examination, if fully utilized and optimally performed, may be the most efficacious method for mass screening that presently exists (Foster et al., 1990). It was found that women performing BSE were most likely to detect their own cancers, either by accident or during conscious self-examination (Newcomb et al., 1991).

The national average for reported monthly BSE compliance has been cited in the range of 12-34% (Pinto & Foqua, 1991). The percentage of women in this paper performing BSE 10-12 times yearly was 21.08% and optimal monthly performance would presumably be lower.

Korean immigrant women are expected to negotiate health care systems due to their limited language skills and capabilities. They are also expected to assume new roles in the host country's health care values and approaches. Self-care approaches to health care are often indirect conflict with immigrants' value systems. These demands in their BSE preventive behaviors may have led them to de-emphasize their BSE.

By identifying the relationship between BSE knowledge and prior training and BSE frequency in middle-aged women, it becomes possible to understand BSE noncompliance in this relatively

more at risk and increasingly populous group. Such understanding is the first step in developing strategic primary interventions to enhance BSE frequency.

BSE frequency showed three of the highest positive correlation coefficients such as proficiency ($r=.694$), knowledge technique ($r=.573$) and training instruction ($r=.521$), while knowledge importance and training self-learning showed no significant relation frequency. The finding of a strong relationship between BSE frequency and proficiency was congruent with some previous studies (Fletcher et al., 1990; Foster et al., 1990; Massey, 1986; Howe, 1985).

The existing BSE proficiency research suggests proficiency is low, even among women performing BSE at optimal monthly frequencies. In the few studies that have actually observed a woman's BSE proficiency, only 15-29% of the women have met proficiency criteria (Coleman et al., 1991; Dorsay et al., 1988). The average self-assessed proficiency rating in this study was 22.14 out of a possible score of 30.

The practical significance of the above findings becomes increasingly evident when viewed in context of the regression analysis findings.

The best predictor of BSE frequency identified in this study was knowledge of BSE technique

accounting for 49.31% of the variance in frequency.

Rogers et al.(1992) reported that knowledge of BSE technique was related to extent of BSE instruction more than knowledge of BSE importance. Training instruction was measured here in terms of number of BSE instruction methods, verbal explanation of the procedure and breast anatomy. In contrast, training self-learning was emphasized to knowledge of BSE importance. Self-learning options were comprised of resources, such as pamphlets, magazine articles, TV programs, films, and videos which were focused more on general concepts of BSE importance. The important message here is that optimal BSE performance, like knowledge of BSE technique, was more related to BSE instruction than to self-learning. According to community health nurse has needed to teach exactly to middle-aged women about knowledge of BSE technique in order to improve BSE proficiency.

The present study findings suggest that Korean immigrant middle-aged women are apt to perform BSE at optimal frequency if they possess the technical know-how. Knowledge of BSE technique may be best attained through thorough individualized instruction that utilizes a variety of procedural demonstrations and explanations.

Some limitations of this study derive from inadequacies in the study sample because the sample was a convenience sample, not random.

Furthermore, the participation of the questionnaire respondents was voluntary and it is possible that those who were willing to participate were more health conscious and motivated, perhaps more compliant and knowledgeable in terms of BSE.

The findings of this study may be particularly useful to community health nurses who work with the minority group. This study provides

them an understanding of BSE performance among Korean immigrant middle-aged women.

It is critical for nurses to assess the women's BSE when working with Korean immigrant women having high risk of breast cancer.

Future research is needed to assess the most effective method for increasing BSE frequency.

REFERENCE

- American Cancer Society. (1992). Cancer Facts & Figure. New York. American Cancer Society.
- Celetano, D. D., Holtzman, D. (1983). Breast self-examination competency : An analysis of self-reported practice and associated characteristics. American J of Public Health, 73(11), 1321-1323.
- Champion, V. L. (1985). Use of the health belief model in determining frequency of breast self-examination. Research in Nursing and Health, 8, 373-379.
- Coleman, E. A., Riley, M. B., Fields, F., & Prior, B. (1991). Efficacy of breast self-examination teaching methods among older women. Oncology Nursing Forum, 18, 561-566.
- Dorsay, R. H., Cuneo, W. D., Somkin, C. P., & Tewaka, I. S. (1988). Improving competence and frequency in a classroom setting. American J of Public Health, 78, 520-525.
- Fletcher, S., O'Malley, M., Earp, J., Mortan, T., Lin, S., & Degnan, D. (1990). How best to teach women breast self-examination : A randomized controlled trial. Ann Intern Med, 112, 772-779.
- Foster, R. S., Costanza, M. C., & Rathbun, L. (1990). Breast self-examination practices : Twelve year survival and cause of death in breast cancer patients. International Cancer Congress, August, 16-22.
- France, A. C., Nanney, M. T., Riddler, E. W., & Weinberg, A. D. (1992). Controlling

breast cancer in older women. The Texas J of Medicine, 88(5), 68-72.

Gallup Organization, Inc., prepared for the American Cancer Society. (1995). Women's attitudes regarding breast cancer. New York : Gallup Organization.

Hattar-Pollara, M., Meleis, A. I. (1995). Parenting their adolescent: the experiences of Jordanian immigrant women in California. Health Care for Women International, 16, 195-211.

Howe, H. L. (1985). Breast self-examination palpation skill : A methodological note. J of Chronic Disease, 38, 995-1001.

Massey, V. (1986). Perceived susceptibility to breast cancer and practice of breast self-examination. Nursing Research, 35(3), 183-185.

Meleis, A. I. (1991). Between two cultures: identity, roles and health. Health Care for Women International, 12, 365-377.

Mchride, A. B. (1988). Mental health effects of women's multiple roles, Image: J of Nursing Scholarship, 20(1), 41-47.

Newcomb, P., Weiss, N., Storer, B., Scholes, D., Young, B., & Voigt, L. (1991). Breast self-examination in relation to the occurrence of advanced breast cancer. J Nat Cancer Inst, 83, 260-265.

Pinto, B., Foqua, R. W. (1991). Training breast self-examination : A research review & critique. Health Education Quarterly, 18, 495-504.

Rogers, S. F., John, K. W., & Michael, C. C. (1992). Clinical breast examination and breast self-examination. Cancer Supplement, April, 69(7), 1992-1998.

Rutledge, D. N. (1987). Factors related to women's practice of breast self-examination. Nursing Research, 36(2), 117-121.

Wiecha, J. M., Gann, P. (1993). Provider confidence in breast examination. J of

Family Practice Research, 13(1), 37-41.

<국문초록>

주요개념 : 유방자가검진, 미국 이민 한국 중년 여성

미국 이민 한국 중년 여성의 유방자가검진 빈도에 영향을 미치는 요인

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본 연구의 목적은 유방자가검진(BSE)의 지식정도, 훈련도, 숙련도 및 빈도와 의 관계를 파악하고, BSE 빈도를 가장 잘 예측하는 변수를 결정하기 위함이다. 연구 대상자는 미국에 이민 온 40세~60세 사이의 중년 여성 58명으로 와싱턴주의 시애틀과 타코마 지역에 거주하고 있었다. 연구도구는 미국암협회의 BSE 안내책자를 기초로 하여 개발하였다.

자료는 자가보고형 질문지를 이용하여 한국교회 4곳으로 부터 연구의 취지를 설명하고 연구대상자들의 연구 동의를 얻은 후 우편으로 질문지를 회수하였다.

자료수집 기간은 2000년 3월 6일부터 2000년 5월 13일이었으며, 질문지 회수율은 77%이었다. 수집된 자료는 SPSS를 이용하여 Frequency, Percentage, Pearson correlation, Regression analysis로 분석하였다. 연구 결과는 주요 변수사이의 관련성에서 그 이전 연구 결과와 대개 일치하였다.

대상자의 BSE 빈도는 연간 10회-12회 실행이 21.08%이었고, 전혀 실행하지 않는 정도가 4.80%를 차지했다. BSE 빈도와 관련변수와의 상관관계에서 나이는 BSE 빈도와 역상관 관계($r = -.289, p = .038$)를 나타냈고, BSE 훈련에 대한 지도($r = 0.521, p = .000$), BSE 지식에 대한 기술($r = .573, p = .000$) 및 BSE 숙련도($R = .694, P = .000$)는 BSE 빈도와 정상관 관계를 보였다. 회귀분석 결과는 BSE 빈도의 가장 유의한 예측 변수로서 BSE 지식에 대한 기술($\beta = .5813, p = .003$)로 지지되었다. 이 연구의 의의는 지역사회간호사가 이민 온 한국 중년여성들의 BSE실행에 대한 이해를 높임으로 유방암의 조기발견에 대한 예방적 행위를 증진시키는 데 유용한 기초 자료로 제공될 것이다.

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