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Full Length Research Paper

Assessment of the breast cancer screening practices of primary health care nurses (PHCNs) in St. Vincent and the Grenadines

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ABSTRACT

Breast cancer is a leading cause of death both in the less and more developed countries. Early detection of breast cancer has been shown to significantly reduce mortality rates, yet many women fail to receive screening. Primary health care nurses are uniquely positioned to role model screening behaviours, educate clients on performance of breast self-examination and perform other screening activities. This study sought to assess the breast cancer screening practices of Primary Health Care Nurses (PHCNs) for female clients 40 years and older in St. Vincent and the Grenadines (SVG). Primary Health Care facilities throughout the nine (9) Health Districts in St. Vincent and the Grenadines were utilized. This study utilized a non-experimental, descriptive survey design. Quota proportionate sampling of 62 of 70 Primary Health Care Nurses (PHCN) in SVG completed a researcher-developed questionnaire consisting primarily of objective type items which assessed knowledge of breast cancer, self-efficacy and breast cancer screening practices. Data was analysed using Microsoft Excel 2007 and IBM PASW (SPSS) Version 22. Nurses are engaged in screening activities but rates of performance are low and practices are inconsistent and widely varied. Several interpersonal and situational barriers exist which impact nurses' screening behaviours. Organizational support and policies are essential in ensuring consistency and standardization of breast cancer screening practices.

Keywords: Breast screening practices, caribbean, primary care nurses, health education

INTRODUCTION

Within recent times mortality rates associated with breast cancer have increased tremendously, ranking this disease the 5th leading cause of death, as well as the most common cancer among women worldwide (GLOBOCAN, 2012). Notably, at least 1:8 women will be diagnosed with breast cancer during their lifetime (National Institute of Health, 2014). In 2012, a total of 1.7 million new cases of breast cancer were identified across the globe, which represented about 12% of all new cancer cases and 25% of all cancers in women. Furthermore, there were 6.3 million women alive who had been diagnosed with breast cancer in the previous five years (World Cancer Research Fund International: WCRFI, 2013; GLOBOCAN, 2012).

St. Vincent and the Grenadines (SVG) is a multi-island state in the Lesser Antilles located along the Windward Island chain (Ministry of Health Wellness and the Environment: MOHWE, 2007).Consisting of thirty-two (32) islands, inlets and cays, SVG spans a total land area of only 389km2, with a population of approximately 109, 903 inhabitants (2011 census, SVG Statistical Office, 2012; PAHO, 2012; MOHWE, 2007). The gender distribution of the population in 2011 was almost equal, with males accounting for 50.5% (55, 473) and females for 49.5% (54. 430) (SVG: Statistical Office, 2012).

In SVG, Primary Health Care (PHC) services are offered through a network consisting of 39 health centres and five (5) district hospitals which are dispersed throughout nine (9) health districts (Health Information Unit: HIU, 2013). These PHC services include emergency care, medical care, maternal child health and family planning inclusive of immunizations and management

and control of communicable and non-communicable diseases (HIU, 2013). On an average, each Health Centre is equipped to cater to a population of 2,900 with no one required to travel more than three (3) miles to access care (MOHWE, 2007).The composition of the health team within the majority of primary health care centres consist of a full-time District Nurse, a Nursing Assistant and a Community Health Aide as well as other district health team members such as District Medical Officer, Pharmacist, Nursing Supervisor, Family Nurse Practitioner and Environmental Health Officer. The Family Life Educator, Social worker, Nutrition Officer and other visiting staff provide support. The majority of health centres is staffed by a residing primary health care nurse (lives on site), who not only provides services between 8am to 4pm on a daily basis, but also facilitates emergency coverage after 4pm (MOHWE, 2007).

During the period 2007-2011 one hundred and ten (110) new cases of breast cancer were identified here in SVG. Of this, females constituted 106 (96.3%), while a minute number of men (4 = 3.7%) were diagnosed within this time frame (HIU, 2012 & 2013). Throughout the duration of 2008-2012 there were a cumulative total of 4,197 deaths in SVG (HIU, 2013). The proportion of death among males was predominantly higher over this period, ranging from 52-55%, while female deaths constituted 45-48% of the cumulative deaths (HIU, 2013).

Malignant neoplasm was the leading cause of death in the general population within this period, accounting for 15.3% (645) of the total deaths (HIU, 2013). This category was also the leading cause of death in males; the fourth leading cause of death among the total female population, and the leading cause of death in persons 45-64 years (HIU, 2013). Breast Cancer was the leading cause of death among females in this mortality group, accounting for 62 deaths (9.6%). There were no deaths among males due to breast cancer within this time frame.

Mammogram screening is offered at private as well as public facilities in SVG. A review of records at the radiology department of the Milton Cato Memorial Hospital, for the period May-September 2013 revealed that a total of 150 mammograms were performed. The majority of screening occurred in the 45-60 age range (55%), 36% among females 25-44 and 30% of mammograms in women above 60 years (MCMH, 2013).

Researchers found that those who were above 50, married and had a family history of disease more frequently engaged in screening activities than their counterparts (Chong and Swah, 2002; Ibrahim and Odunsanya, 2009).

In contrast, Mandan at and Merrill (2002) found that age was inversely related to breast cancer screening practices among Jordanian nurses, which they attributed to the fact that the younger nurses were more currently updated as continuing education is not required in Jordan.

The practice of breast cancer screening is inconsistent and widely varied among nurses. A study conducted by Lawvere et al (2004) in western New York found that while nurse practitioners (NPs) engage in breast screening, a notable variation existed with the approaches used. It was also discovered that while NPs utilize these methods, the age at which screening should commence was not agreed upon among respondents. It indicated that 80% of the 175 NPs reported that a CBE should begin at age 20, while about half reported baseline mammograms in average risk women should begin at age 35 (Lawvere et al., 2004).

Similar findings were discovered by McDonald and Alciati (2004) in a review of literature on the performance and reporting of CBE among health professionals. It was noted that methods utilized by health professionals in the performance of CBE are not standardized and therate at which such practice was done varied among nurses. (Odusanya and Olumuyiwa, 2001; Tessaro et al., 1996).

Many nurses fail to teach BSE to their female clients and fewer regularly perform self-breast examination (Budden, 1998; Han and Cimprich, 1996). This trend was reported in Australia, (Ellis and Pinch (1990), and in USA (Hans et al (1996).

Primary health care nurses can promote breast cancer screening among clients by modelling breast screening behaviours (Katapodi et al., 2002). While some studies show that BSE is performed to some extent by nurses (Chon and Swah 2002; Alkhasawneh, 2007), other studies confirm that **nur**ses, who are role models for health promoting behaviours, often fail to adequately perform periodic BSE and mammography (Lee and Ahn, 2010; Ibrahim and Odusanya, 2009).

The general consensus indicates that the practice of breast screening among nurses is not influenced by age (Ghanem et al, 2011; Lee, Sim & Ahn; 2010; Ibrahim & Odusanya, 2009; Alkhasawneh, 2007). However, Chon, Hong & Swah (2002), found that nurses who are older, particularly over 50 years, married or had a family history of breast cancer, more regularly engaged in breast cancer screening than their counterparts. Odusanya & Tayo, (2001) also confirm the practice of screening behaviours by nurses as more common among those who are older. In contrast Mandanat et al, (2002) found that such practices were more common among younger nurses. Professional qualification has also been identified as a barrier to breast cancer screening in several studies. Findings indicate that nurses who are trained in breast cancer screening are more likely to engage in such behaviours as well as those who are more advanced professionally (Soyer, Ciceklioglu & Ceber, 2007; Chong, Hung & Swah, 2002; Tessaro & Herman, 2000). On the other hand other studies show that screening practices are not influenced by professional qualifications (Ghanem et al., 2011; Lee and Ahn, 2010; Ibrahim and Odusanya, 2009; Alkhasawneh, 2007).

Silva et al (2009) found that nurses are more likely to perform BSE if they receive social and emotional support

as well information on doing so. While, knowledge was not found to influence practice of BSE, it was identified as a principal barrier to breast cancer screening in a number of studies, in that nurses who are more aware of the risk factors as well as the procedures involved are more likely to engage in such practices (Ghanem et al., 2011; Ibrahim and Odusanya, 2009; Soyer and Ceber, 2007; Chong and Swah, 2002; Odusanya and Tayo, 2001; Tessaro and Herman, 2000).

Age and gender are considered primary risk factors in the development of breast cancer (NCI, 2014; ACS, 2013). According to statistics retrieved from the 2011 census, 49.5% of the cumulative population in SVG are females and of this, 29.5% (15, 034) are 40 years and above (SVG Statistical Office, 2012). This clearly shows that a significant proportion of the population is at risk for breast cancer if the known causative factors are applied. Moreover, the mortality of breast cancer in SVG has increased by at least 72.2% within the last five years (HIU, 2013).

Although empirical evidence indicates that early detection of breast cancer significantly reduces mortality (PAHO, 2014) many women do not receive breast cancer screening (ACS, 2014). Furthermore, many health professionals do not include the CBE as part of breast cancer screening practices (Grady et al, 1996; Rimer et al., 1991) and methods of doing so are inconsistent (McDonald and Saslow, 2004).

The current burden of breast cancer in SVG signals the need for health promotion strategies for breast cancer screening practices; particularly as primary prevention measures are effective means of reducing the incidence, morbidity, and mortality of the disease(PAHO, 2014; Vogel, 2003). Primary care nurses because of their educational preparation, professional practice and ideal location as gate keepers in the health care system can promote breast cancer screening behaviours among their clients (Vogel, 2003; Houfek et al., 1999). This is necessary in order to increase their knowledge of breast cancer and early detection as well as to decrease their fears about screening and the threat of being diagnosed with cancer (Alkhasawneh, 2007; Vogel, 2003; Houfek et al., 1999).

In light of all this, if PHC nurses are to fully maximize their roles in the drive toward breast cancer management and prevention; then assessment of their current screening practices is paramount. This is also necessary in order to ensure methods of screening are standardized across the country and that appropriate training is provided to nurses in order to sufficiently equip them to perform their roles in breast cancer screening (McDonald and Saslow, 2004).

This study therefore sought to assess the breast cancer screening practices of Primary Health Care Nurses (PHCNs) for female clients 40 years and older in St. Vincent and the Grenadines (SVG).

METHODOLOGY

Research Design

This study utilized a non-experimental, descriptive survey. Self-administered surveys were used to investigate PHCNs personal and professional screening practices as well as the barriers, interpersonal and situational influences which impacted on breast screening activities.

Population and Sample Selection

The population of interest for this study consisted of seventy (70) Registered Nurses (RNs) who were at the time employed in Primary Health Care settings throughout the nine (9) health districts in SVG. As an inclusion criterion, only RNs who had been working within a primary health care setting for at least three months prior to the study were eligible to participate.

The following equation was used to determine the sample size: where Z = Z value, 1.96 for 95% confidence level; p = percentage picking a choice, expressed as decimal, in this case 0.5 used for sample size needed; and c = confidence interval, expressed as decimal 0.05) (http://www.surveysystem.com/sample-size-formula.htm, 2012).

$$ss = \frac{Z^2 * (p) * (1-p)}{c^2}$$

A sample of 59 was determined as necessary to achieve a 95% confidence level or a .05 margin of error, which required a response rate of 84.2%. Proportionate quota sampling was used for selection of participants and sample elements were selected from each of the strata (district) through consecutive sampling.

Data Collection Instrument

A four (4) part researchers-developed questionnaire was utilized in this study. Participants' demographics were assessed in section one (1) while the final section examined participant's personal and professional breast cancer screening practices as well as the barriers, interpersonal and situational influences which impact on breast cancer screening activities. Eight questions with subsections were asked in this category and the majority were assessed using a 5 point Likert scale, while the others required subjects to tick a box with the corresponding response. The remaining areas of the questionnaire investigated participant's knowledge and self-efficacy regarding breast cancer screening.

Pilot testing was done among eight (8)RNs who had recently been transferred from primary care settings. All eight pretest participants expressed full understanding of the concept of interest and indicated that the survey

Table 1. Professional Qualification of PCNs by Age Group and gender

GENDER	AGE GROUP	PROFESSIONAL QUALIFICATION				TOTAL	
		Registered Nurse		Midwife			
		n	%	*n*	%	*n*	%
Male	Less than 30	1	1.6	0	0.0	1	1.6
	30 - 39	1	1.6	1	1.6	2	3.2
	40 - 49	1	1.6	0	0.0	1	1.6
	Total	**3**	**4.8**	**1**	**1.6**	**4**	**6.5**
Female	Less than 30	3	4.8	1	1.6	4	6.5
	30 - 39	23	37.1	13	21.0	36	58.1
	40 - 49	4	6.5	12	19.4	16	25.8
	50 - 59	1	1.6	1	1.6	2	3.2
	Total	**31**	**50**	**27**	**43.5**	**58**	**93.5**
Total	Less than 30	4	6.5	1	1.6	5	8.1
	30 - 39	24	38.7	14	22.6	38	61.3
	40 - 49	5	8.1	12	19.4	17	27.4
	50 - 59	1	1.6	1	1.6	2	3.2
	Total	**34**	**54.8**	**28**	**45.2**	**62**	**100**

instructions were clear and questions easy to read. A few amendments were made following the piloting, specifically some grammatical corrections. They were not engaged in the main study.

Data Collection and Analysis

Data was collected over a two (2) week period between June to July (2014). Prior to the commencement of data collection, nurses were sensitized about the study at the monthly District Nurse's meeting during which invitation letters and consent forms were distributed. Nurses who chose to participate returned signed consent forms one week after receipt.

Measures to control validity for this study included sample selection, adequacy of sample size and adequacy and quality of data collection instrument. All information gathered was first entered into Microsoft Excel then was analyzed, interpreted and evaluated using version 22 of the Statistical Package for the Social Sciences (SPSS) software.

Ethical dimensions

This study was regarded risk free to participants. Permission to conduct the study was sought and obtained from the ethics committee, University of the West Indies, St. Augustine as well as the Institutional Review Board in SVG. Confidentiality and anonymity were assured by the use of a coded system on questionnaires and also during data analysis and by having participants deposit responses in sealed envelopes directly into a locked box accessible only by the researcher.

RESULTS

Demographics

The demographical characteristics of the study participants are summarized in Table 1. As can be noted in this Table, 93.5 percent of the respondents were females (*n= 58.)* The age of participants ranged from 30-59 years, with the largest percentage of the respondents, 69.4% (n= 38) being thirty-nine (39) years or younger. Of the 62 registered nurses, 54.8% (n=34) were single trained Registered Nurses, while the remaining 45.2% (*n*= 28) were also Certified Midwives.

Highest Level of Education of Registered Nurses

Most participants (95.2%) received educational preparation at the certificate level while the bachelor's degree was attained by 3.2% (*n*=1). Regarding clinical experience, 14.5% (*n*=9) had five (5) years or less; 32.3% and 30.6% had 6-10 and 11-15 years respectively, while 22.6% of respondents had 15 years or more. A large number of respondents (*n*= 24) were employed within their current primary healthcare setting for 4-6 years (38.7%), 25.8% (*n*= 16) for more than 10 years, while the minority of respondents (*n*= 8) had less than a year in their current posts.

PCNs' Breast Cancer Screening Practices

Personal screening practices

Fifty four (*n*=54) respondents (87.1%) indicated that they perform BSE. However only 45.2% of the participants (*n*=28) perform BSE on a monthly basis, whereas twenty-

Table 2. Reasons for Performance and Non-Performance of Personal Cancer Screening

Alternatives	Responses	Frequency	Percent
Reason for Performance of Screening	Pain, cystic changes	1.0	1.6
	Lump in breast & discharge	2.0	3.2
	Age requirement	2.0	3.2
	Family history of Breast Cancer	1.0	1.6
	Fibrocystic disease	1.0	1.6
	Previous breast surgery	1.0	1.6
	Routine check	8.0	12.9
	Gender (Male)	2.0	3.2
Reason for Non-Performance of Screening	No need for same	7.0	11.3
	No symptoms	5.0	8.1
	Not readily available	1.0	1.6
	Too young/Under specified age	4.0	6.4
	Age, fear of procedure	1.0	1.6
	Very small breasts	1.0	1.6
Non-responders	Unspecified	25.0	40.3
TOTAL		**62.0**	**100.0**

Table 3. Interval for Breast Cancer Screening by Age Range

Interval for Performing or Recommending Breast Cancer Screening													
Method of Screening	Age in years	Never		Monthly		Twice per		Annually		Every other		Other	
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Mammography	< 20	40	64.5	5	8.2	3	4.9	7	11.5	2	3.3	4	6.6
	20-29	39	63.3	2	3.3	0	0	8	12.9	3	5	9	15
	30-39	22	35	2	3.3	1	1.7	16	25	11	18.3	10	16.7
	40-49	2	3.3	2	3.3	4	6.6	39	62.3	14	23	1	1.6
	50-59	3	4.9	0	0	7	11.5	41	65.6	9	14.8	2	3.3
	60-69	4	6.6	0	0	5	8.2	39	62.3	7	11.5	7	11.5
	70 >	11	18	1	1.6	7	11.5	27	44.3	7	11.5	8	13.1
Clinical Breast Exam (CBE)	< 20	13	21.7	22	35	6	10	16	25	2	3.3	3	5
	20-29	2	3.3	29	47.5	9	14.8	14	23	5	8.2	2	3.3
	30-39	1	1.6	31	49.2	10	16.4	17	27.9	2	3.3	1	1.6
	40-49	0	0	34	54.1	16	26.2	11	18	0	0	1	1.6
	50-59	1	1.6	29	47.5	15	24.6	12	19.7	2	3.3	2	3.3
	60-69	3	4.9	24	39.3	14	23	14	23	3	4.9	3	4.9
	70 >	6	9.8	20	32.8	15	23.6	11	18	3	4.9	6	9.8

six respondents (41.9%) rarely do so. Eight participants (12.9%) did not perform BSE. Two (3.2%) of the non-performers indicated being male as the reason for not doing so, while the remaining six participants (9.7%) did not specify. The majority of participants (79%) have never had a mammogram done. Of the 21% of respondents (*n*=13) who received mammogram screening; nine (9) were within the age range of 40–49, while two (2) were within the age range of 30-39 and 50-59 respectively. Respondents were also asked to indicate a reason for non-performance of screening. Responses were categorized according to similar themes as summarized in Table 2.

As noted above, (25%) respondents did not respond to this question. Most (12.8%) who had engaged in screening did so because of the presence of a symptom or breast disease. The main reason for not engaging in screening as indicated by respondents was a lack of need for such screening (11.3%) and due to the absence of symptoms (8.1%).

Professional Screening Practices

Most respondents (69.3%) indicated that they recommend clients for mammogram, while fifty-three (85.4%) perform CBE for female clients on a regular basis.

Interval of breast screening for female clients

Participants were asked to indicate the interval for which they recommended or performed breast cancer screening

Table 4. PCNs' Screening Activities within the Preceding 12 months

Number of Times in last year Nurses engaged in Breast Cancer Screening	Recommended a client for Mammogram		Performed CBE		Instructed a client on how to perform BSE	
	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent
Never	22.0	36.7	3.0	4.9	4.0	6.8
Less than 10	29.0	48.3	18.0	29.5	15.0	25.4
10 - 20	6.0	10.0	19.0	31.1	16.0	27.1
20 - 30	0.0	0.0	7.0	11.5	10.0	16.9
30 - 40	2.0	3.3	9.0	14.8	7.0	11.9
Greater than 50	1.0	1.7	5.0	8.2	7.0	11.9
Not Stated	2.0		1.0		3.0	
Total	**62.0**		**62.0**		**62.0**	

specifically CBE and mammogram for women ranging from under 20 to over 70 years. In regards to recommendation for mammogram, as can be seen in Table 3, the majority of respondents refer patients between 40-69 years on an annual basis. For the patient age group 40-49 and 60-69 years, 62.3% of respondents respectively, referred annually for mammogram, while 65.6% did so for women 50-59 years. Annually was the dominant interval for mammogram recommendation for all age ranges above 39 years.

Most respondents perform CBE for clients on a monthly basis. The 40-49 category was the most cited as reported by 54.1% of the sample. The 30-39 age range was the final dominant category which was cited by 49.2% of the sample as receiving monthly CBE.

Screening practices within the last 12 months

As shown in Table 4, most respondents (48.3%) indicated that they have recommended clients for mammogram less than 10 times in the preceding year; 31.1% (*n*=60) reported having performed CBE between 10-20 times; while 27.1% (*n*=59) instructed a client on the performance of BSE also about 10-20 times within the time frame.

Reasons for not performing screening

In order to determine why PHCNs fail to perform breast screening in some cases, participants were asked to indicate reasons for non-performance of breast screening practices. The most cited reason for non-performance of breast cancer screening is that the practice is performed by the District Medical Officer, as reported by 21.3% (n=13) of respondents. The client having no known risk factor was reported as a reason by 14.8% of the sample.

DISCUSSION

The findings of this study revealed that the majority of PHCNs in SVG were following at least one of the several breast cancer-screening recommendations proposed by the American Cancer Society (2013) and the National Cancer Institute (2014). However marked variations in the practice of breast cancer screening were documented. It can be assumed that this variation is due to the absence of screening guidelines across districts which results in lack of uniformity and a sense of uncertainty in practice among nurses, especially those who are most senior in terms of years of practice. There are obvious discrepancies in the appropriate guidelines for practice among the PHCNs and this impacts on the consistency of their practice. These findings support that of earlier studies which showed that notable variations exist in the screening practices among nurses (Lawvere et al., 2004).

Nurses involved in this study believed that screening is an important part of their roles and is within their scope of practice. Furthermore, while the majority reported they regularly engage in use of the three screening methods, the actual frequency and rate of screening were noticeably low among nurses. Non-performance of screening by the district doctor and absence of risk factors are the primary reasons nurses fail to engage in screening behaviours. Absence of signs and symptoms was also cited as the main reason for lack of personal screening practices among nurses.

While the majority of respondents (87.1%) perform BSE, less than half (45.2%) do so on a monthly basis, even more so of 79% participants who have never had a mammogram done, although more than half of the sample was above age 40 years. Moreover, most respondents who had a mammogram done did so due to the presence of a symptom and the majority who chose not to engage in screening indicated they did not see the need for such practices or they had no symptoms that warranted the need for such. Nevertheless, the findings of this study are congruent with Lee et al (2010); Ibrahim and Odusanya (2009); Alkhasawneh (2007).

Even more significant than the pattern of interval screening was the absolute number of estimated interval

Table 5. Reasons for Non-Performance of Breast Screening for Female Clients

Reasons for Not Performing Screening Practices	Never		Rarely		Neutral		Most often		Always	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
It is not within my scope of practice to perform screening	40	64.5	8	12.9	8	12.9	3	4.8	3	4.8
The client has no known risk factor	23	37.7	19	31.1	8	13.1	9	14.8	2	3.3
The District Medical Officer usually performs screening	21	34.4	16	26.2	7	11.5	13	21.3	4	6.6
I rarely see clients above 40 years	34	54.1	11	18	7	11.5	4	6.6	6	9.8

of screening for each age group reported. While many nurses indicated they performed screening, the average number of screening for each method was 10-20 times within the 12 months preceding the study. There was no correlation between the practice of screening by age, qualification or years of experience of nurses.

In regards to the interpersonal influences; a lack of confidence, lack of knowledge and uncertainty with techniques used were reported to be impacting on breast screening behaviours by less than a third of respondents. While 64.5% of PHCNs in SVG reported level of knowledge had no impact on breast screening performance, earlier studies have identified knowledge as a principal barrier to breast cancer screening practices (Ghanem et al., 2011; Ibrahim and Odusanya, 2009; Soyer et al., 2007; Chong et al., 2002; Odusanya and Tayo, 2001; Tessaro and Herman, 2000).

Findings of this study validate that situational influences impact the degree of performance of breast screening by PHCNs. Three factors were identified as moderately to significantly impacting screening behaviours. These included a lack of time (17.8%); lack of space (17.7%) of and a lack of policy or protocol to guide breast cancer screening (21% of respondents). These barriers were also confirmed in Hans et al (1996).

Previous studies have also shown that nurses are more likely to promote or practice breast cancer screening when they receive organizational support, required training and when the work environment is conducive to such practices (Ibrahim and Odusanya, 2009; lavere et al., 2004; Chong et al., 2002). Also, while studies have identified the belief that breast screening is not relevant to one's work context as a principal barrier to screening (Budden, 1998; Hans et al., 1996) this was not supported in this study as the majority of the PHCNs (64.4%) indicated that screening was within their scope of practice to perform and never impacts on their screening practices.

CONCLUSIONS

The poor practices of breast screening among nurses have considerable implications as the role of the primary care nurse centres on disease prevention. Furthermore, nurses should model screening behaviours to their clients particularly since rates of screening can increase through role modelling (Katapodi et al., 2002). If however they fail to engage in personal screening it is unlikely that they may recognize the importance of screening for female clients.

It is also probable that these findings maybe indicators of the cultural meaning of diseases such as breast cancer. The overarching schema with reference to the lack of breast cancer screenings was an absence of symptoms. This implies that persons are least likely to screen without being driven by the presence of breast disease or anomaly. Identifying and understanding these barriers to screening is therefore critical if they are to be penetrated.

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