



## RELATIONSHIP BETWEEN PERCEPTION AND PRACTICE OF BREAST SELF-EXAMINATION AMONG FEMALE UNDERGRADUATE COLLEGE STUDENTS OF CEBU DOCTORS' UNIVERSITY: BASIS FOR INFORMATION DISSEMINATION

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**Abstract:** Breast cancer is the most common malignancy among women in the Philippines despite technological advances and awareness efforts. This study determines the relationship between perception and practice of breast self-examination (BSE) among female college students of Cebu Doctors' University (CDU). The level of breast self-examination practice by Ayed et al. (2015) and the modified Champion's Health Belief Model Scale by Prof. Mostafa Abolfotouh were used to measure the two variables. There were 332 students who completed the questionnaire. Results showed that 71.4% of the respondents had a high level of perception of BSE, while 71.7% showed poor practice of BSE. The Spearman's rank-order correlation revealed that there was a strong positive relationship between the level of practice and perception. There was a strong positive relationship among Roman Catholic, Islam, and Protestant female undergraduate college students while there was only a moderate positive relationship among the Christian and Church of Christ respondents. Comparing the respondents who were raised in a Filipino culture with those raised in a Filipino-American culture, the former showed a strong positive relationship indicating a high level of BSE perception and practice.

**Keywords:** Cebu Doctors' University, breast self-examination (BSE), perception, practice, undergraduate college students

## I. INTRODUCTION

Over the past 50 years, the incidence of breast cancer worldwide has increased significantly (Donepudi et al., 2014). The GLOBOCAN Project predicted that in the year 2020, there would be an increase of 19% in the estimated number of new breast cancer cases worldwide. The Philippines is in the top 3 Asian countries with the highest rate of women diagnosed with breast cancer and it is the leading cause of cancer-related deaths in the country (Bray, et al., 2013).

BSE has been advocated for years as a screening modality for early breast cancer detection ("Breast Cancer", 2023). Positive or negative attitudes toward perceived benefits, confidence/self-efficacy, and health motivation are strongly associated with practicing BSE (Tilaki et al., 2015).

There is a common apprehension among Filipino women regarding BSE. The women claim that, besides not being keen on practicing BSE, they also do not know the techniques and are not confident in doing it themselves (Simpson et al., 2015). The significant number of breast cancer cases are attributed to a lack of information, especially regarding early diagnosis and treatment options (Donepudi et al., 2014). The common barriers affecting the practice of BSE include a lack of sufficient perception of the risk of susceptibility, a lack of perception of benefit, and health motivation in performing it (Karimollah H. et al., 2014).

The Filipino woman's perception of BSE is often a barrier affecting practice. This includes fear of causing stigma to her family, inability to act without her husband's consent, and fear of being excluded from society (Lagarde et al., 2019).

This study was conducted to determine the relationship between the perception and practice of BSE among female undergraduate college students at

Cebu Doctors' University (CDU). The investigators hope that the findings of this study will serve as the basis for information dissemination regarding the structure of the breasts, the associated physical changes that it undergoes as one ages, and the benefits of BSE to women's health.

## II. METHODOLOGY

A descriptive correlational design involving 313 female college students of CDU was utilized to determine the relationship between the perception and practice of BSE among female undergraduate college students at CDU.

The study involved 313 female college students chosen through simple random sampling. The eligible respondents were female students aged 20 years and above enrolled in the undergraduate programs of CDU for the Second Semester of Academic Year 2020-2021.

Two questionnaires were used in the study namely: The Level of Self-breast Exam Practice by Dr. Ayed et al. and the Modified Champion's Health Belief Model Scale by Professor Abolfotouh.

BSE practice was measured using the level of the breast self-exam practice questionnaire. The questionnaire has seven questions with a 5-point Likert scale ranging from "Always" to "Never." The total knowledge scores were obtained by getting the sum of the correct responses. To assess the level of practice, the sum of each outcome was expressed in percentages. Percentages less than 60% were interpreted as Poor level of practice, those between 60% and 80% as Fair level of practice, and those between 81% and 100% as Good level of practice. Pilot testing was conducted in 100 female students of CDU College of Allied Medical Sciences. The calculated Cronbach's alpha ( $\alpha$ ) was 0.785, indicating acceptable reliability.

The Modified Champion's Health Belief Model Scale (CHBMS) was used to measure the perception of BSE. The tool has 44 items with a 5-point Likert scale ranging from "Strongly agree" to "Strongly disagree." The questionnaire has six subscales as follows: Perceived susceptibility, Perceived seriousness, Perceived benefits, Perceived barriers, Health motivation, and Confidence. Perceived barriers were reversely coded since it was negatively associated with screening behavior. The summed scores were converted to percentages by dividing the summed score by the maximum score. Percentages less than or equal to 60% were interpreted as Low perception and those more than 60% as High perception. The tool's inter-item correlation in each scale were as follows: Susceptibility (0.890), Seriousness (0.721), Benefits (0.786), Barriers (0.721), Health Motivational (0.744), Confidence (0.923). The overall computed Cronbach's alpha was 0.826, indicating acceptable reliability..

Data gathering was implemented after approval from the CDU Institutional Ethics Review Committee (IERC). Transmittal letters were sent to the CDU

college deans for assistance in obtaining the list of students. After simple random sampling, 494 students were identified. Informed consents were sent via email to these students. However, only 332 replied positively. Data collection was done through Google Forms, with all 332 students completing the two questionnaires.

An analysis of proportion was utilized to determine the profile of the respondents. The levels of practice and perception of BSE were measured using frequency and percentage distribution. Spearman's Rank-Order Correlation was utilized to measure the relationship between the level of perception and frequency of practicing BSE among the respondents. The associations between the level of perception and practice according to age (20 years, 21 years, 22 years, 23 years, 24 years, 25 years, 28 years), religion (Roman Catholic, Islam, Born Again, Bible Baptist, None, Christian, Protestant, Pentecostal, Iglesia ni Cristo, Church of Christ, Apostolic, Evangelical Christian), family history of breast cancer (Yes, No), culture (Filipino, Filipino-American), were determined with Spearman's Rank-Order correlation. IBM SPSS version 22 was utilized for data processing and analysis.

### III. RESULTS AND DISCUSSION

**Table 1. Frequency Distribution of Respondents According to Age**

Age (years)	Frequency	Percentage
20	84	25.3 %
21	152	45.8 %
22	63	19.0 %
23	23	6.9 %
24	6	1.8 %
25	3	0.9 %
28	1	0.3 %
<b>TOTAL</b>	<b>332</b>	<b>100.0 %</b>

As shown in Table 1, among the 332 respondents, 152 were 21 years old, or 45.8% of the total population. There were

84 respondents (25.3%) who were 20 years old and 63 respondents (19.0%) were 22 years old. The first batch that underwent the

Senior High School program graduated in 2018; most were 18 years old at the time of graduation. Notably, 2018 and the next consecutive years saw a surge of students enrolling for the first year of undergraduate college programs. This study was conducted during Academic Year 2020-2021, which means that the first year

students during Academic Year 2018-2019 were 21 years old at the time of the study, and the first year students during Academic Year 2019-2020 were 20 years old at the time of the study. This study also obtained responses from students between the ages of 25 and 28.

**Table 2. Frequency Distribution of Respondents According to Religion**

Religion	Frequency	Percentage
Roman Catholic	278	83.7 %
Islam	5	1.5 %
Born Again Christian	14	4.2 %
Bible Baptist	5	1.5 %
None	4	1.2 %
Christian	14	4.2 %
Protestant	3	0.9 %
Pentecostal	1	0.3 %
Iglesia ni Cristo	1	0.3 %
Church of Christ	4	1.2 %
Apostolic	2	0.6 %
Evangelical Christian	1	0.3 %
<b>TOTAL</b>	<b>332</b>	<b>100.0 %</b>

Table 2 shows that among the 12 religious affiliations, most of the respondents were Roman Catholic with a frequency of 278 and a percentage of 83.7%.

The Philippines is the only country in Asia where the majority of the population are Roman Catholics.

**Table 3. Frequency Distribution of Respondents According to Culture**

Culture	Frequency	Percentage
Filipino	328	98.8 %
Filipino-American	4	1.2 %
<b>TOTAL</b>	<b>332</b>	<b>100.0 %</b>

Table 3 shows that 328 (98.8%) of the respondents were Filipino while four were Filipino-Americans (1.2%). Most of the

respondents were Filipino, considering where the study was conducted.

**Table 4. Frequency Distribution of Respondents' Family History of Breast Cancer**

Family History of Breast Cancer	Frequency	Percentage
Yes	76	22.9 %
No	256	77.1 %
<b>Total</b>	<b>332</b>	<b>100.0 %</b>

Of the 332 respondents, 76 (22.9%) had a family history of breast cancer as shown in Table 4. On the other hand, 256 (77.1%) had no family history of breast cancer. Breast cancer develops in roughly

85% of women with no family history of breast cancer. Fifteen to twenty percent of breast cancer cases are caused by familial or genetic predisposition (“Family History”, 2023).

**Table 5. Respondents’ Level of Perception of Breast Self-Examination**

Level of Perception	Frequency	Percentage
Low ( $\leq 60\%$ )	95	28.6 %
High ( $>60\%$ )	237	71.4 %
Total	332	100.0 %

The data from Table 5 shows that 237 (71.4 %) respondents had a high perception of BSE, while 95 (28.6 %) have low perception of BSE.

toward BSE. Students enrolled in a medical program generally have prior knowledge and good understanding on the basic concepts about the human anatomy and physiology, as well as disease conditions.

These results indicate that most of the students have a positive perception

**Table 6. Respondents’ Level of Practice of Breast Self-Examination**

Level of Practice	Frequency	Percentage
Poor ( $<60\%$ )	238	71.7%
Fair (60-80%)	76	22.9%
Good ( $>80\%$ )	18	5.4%
<b>Total</b>	<b>332</b>	<b>100.0%</b>

Table 6 shows that the majority of the students (71.7%) had poor level of practice of BSE, 22.9% had a fair level of practice, and only 5.4% had a good level of practice.

behavior, lack of privacy at home, and not feeling comfortable about BSE. These findings were consistent with the findings of other researchers who stated that the main barriers to practising BSE were lack of knowledge, not having any symptoms, and being afraid of a breast cancer diagnosis (Dadzi & Adam, 2019).

Reasons for the poor practice of BSE include no knowledge of the proper BSE technique, poor health seeking

**Table 7. Spearman’s Rank Correlation Between Perception and Practice of Breast Self-Examination**

Variables (Perception and Practice)	n	Correlation Coefficient	p value	Interpretation
Perception and practice of breast self-examination	332	.601	< .001	Significant

Table 7 shows the association between perception and practice of BSE in

terms of levels: Low, Moderate and High. This result suggests that there was a strong

positive relationship between level of perception and level of practice of BSE,  $r_s = .601$ . As supported by the theory of the Health Belief Model, a person's belief about health can play a role in determining his or her health behavior. However, the previous

tables on the level of perception and level of practice of BSE did not show this association. Students had high levels of perception but low levels of practice of BSE. Despite having knowledge and awareness of BSE, students opted not to practice it.

**Table 8. Correlation Between Level of Perception and Practice of Breast Self-Examination with Age**

Age (years)	n	$r_s$	p value	Interpretation
20	84	.607	< .001	Significant
21	152	.598	< .001	Significant
22	63	.676	< .001	Significant
23	23	.466	.025	Significant
24	6	.257	.623	Not Significant
25	3	.866	.333	Not Significant
28	1	---	---	---

There was a strong relationship between level of perception and the level of practice of BSE among the different age groups, however, those aged 23 years old had a moderate relationship,  $r_s = .466$  and those aged 24 years old had a weak relationship  $r_s = .257$ .

The relationship between the two variables was significant among respondents with ages 20 years, 21 years, 22 years, and 23 years old, while respondents aged 24 years and 25 years showed no significant relationship.

Table 8 shows that age is a factor in one's perception and practice of BSE since women of this age are still accepting physical changes, processing the thought of susceptibility to acquiring an illness, and identifying whether their priorities may be with their health or not. They experience significant changes in their capacity to think. They are increasingly able to understand and grapple with abstract ideas, think about possibilities, think ahead, and think about thinking (Teipel, 2013).

**Table 9. Correlation Between Level of Perception and Practice of Breast Self-Examination with Religion**

Religion	n	$r_s$	p value	Interpretation
Roman Catholic	278	.594	< .001	Significant
Islam	5	.700	.188	Not Significant
Born Again	14	.256	.376	Not Significant
Bible Baptist	5	.500	.391	Not Significant
None	4	.738	.262	Not Significant
Christian	14	.465	.094	Not Significant
Protestant	3	.500	.667	Not Significant
Pentecostal	1	---	---	---
Iglesia ni Cristo	1	---	---	---
Church of Christ	4	.333	.667	Not Significant
Apostolic	2	---	---	---



Evangelical Christian	1	---	---	---
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Table 9 shows that the relationship between level of perception and practice of BSE was significant among Roman Catholic respondents but not significant in the other identified religions. The relationship between level of perception and the level of practice of BSE was significant in the respondents whose religion was Roman Catholic, Islam, or Protestant,  $r_s = .594$ ,  $r_s = .700$ ,  $r_s = .500$ , respectively. The religion that had a weak relationship was Born Again ( $r_s = .256$ ). There was moderate relationship in the Christian and the Church of Christ respondents ( $r_s = .465$  and  $r_s = .333$ , respectively). There was a strong relationship in respondents who had no religion ( $r_s = .738$ ).

Roman Catholics are less likely to practice BSE than other religions. Fear of

breast cancer may lead to BSE avoidance (Flynn,1981). Due to taboos about touching the breasts or exploring the body, BSE was viewed with skepticism in some religions (Persson et al., 1997). Being modest is a fundamental way of life, and religious and cultural practices can influence a woman's conduct.

Muslim women were less likely to engage in breast health activities than Christian women (Gyedu et al., 2017). Religious and spiritual beliefs and gaps in intergenerational beliefs serve as obstacles for women to seek breast cancer screening and genetic testing. These factors influence one's perception of BSE and the use of BSE in the early detection of breast cancer. (Shaw et al., 2018).

**Table 10. Correlation Between Level of Perception and Practice of Breast Self-Examination With Family History of Breast Cancer**

Family History of Breast Cancer	n	$r_s$	p value	Interpretation
Yes	76	.653	<.001	Significant
No	256	.585	<.001	Significant

Table 10 shows that the relationship between the level of perception and practice of BSE were significant for all respondents, whether they had a family history of breast cancer or not.

Family history of breast cancer falls into perceived susceptibility in the Health Belief Model; results show that the number of respondents with no family history of breast cancer and poor level of practice of BSE were run parallel to each other which the Health Belief Model can explain. When individuals perceive no immediate threat or

susceptibility to the disease, there is no change in health behavior. The individual does not take preventive actions towards the disease/harm/injury. In contrast, respondents with a family history of breast cancer are expected to have high levels of perceptions and practice of BSE. As explained in the Self-Regulation Theory, the practice of BSE is seen as a form of purposive human behavior regulated by the forethought of being genetically predisposed to breast cancer.

**Table 11. Correlation Between Level of Perception and Practice of Breast Self-Examination with Culture**

Culture	n	$r_s$	p value	Interpretation
Filipino	328	.595	< .001	Significant
Filipino-American	4	---	---	---

Among Filipino respondents, there was a direct correlation between the level of perception and the level of practice ( $r_s = .595$ ). The findings reveal a strong positive relationship and indicate that respondents with a high level of perception were more likely to have a high level of practice.

Cultural beliefs and values relating to cancer and cancer screening can influence women's decisions whether to engage in screening behaviors and practices such as BSE (Wu et al., 2006). Filipino cultural beliefs about breast health, such as not wanting to talk about breasts and the Filipino value of "bahala na" in which one need not worry about future unpleasant circumstances, can be a barrier to breast cancer screening for Filipino women (Ko et al., 2003). And as noted by the Health Belief Model, cultural values and beliefs can prevent a person from engaging in healthy behavior.

#### IV. CONCLUSION

The findings in this study showed that the respondents have high perceptions but poor practice of breast self-examination. This is in contrast to previous studies which showed a positive association between level of perception and practice, that is, those with high levels of perception were more likely to have high levels of practice.

The researchers recommend the need for awareness programs to be implemented, especially for young women, on the importance of BSE as an early screening method for breast disorders such as cancer.

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