

BREAST SELF-EXAMINATION AMONG DIPLOMA NURSING STUDENTS AT YANGON REGION

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Abstract The cross-sectional study on Breast Self-Examination among Diploma Nursing Students was conducted in all N.T.S in Yangon Region, from January to October 2019. The total number of 500 students, the first year students (44.4%), the second year students (24.4%) and the third year students (31.6%) from those schools, were selected by using stratified random sampling method and surveyed by using self-administered questionnaire. The aim of this study was to identify attitude and knowledge level of the respondents, to study the incidence rate of Breast Cancer in YGH and to find out the latent factors. Descriptive Statistics and Multivariate Factor Analysis Model were used and 72 males and 428 females were involved. The mean age of the respondents was 19.53 years and SD was ± 2.085 . According to the study, moderate level of knowledge was found in 300 (60%) and 260 (52%) respondents had positive attitude. The incidence rate of Breast Cancer increased from 2014 to 2018 according to the YGH hospital's statistics. This study showed that five latent factors were risk factors, preventive measures, right ways of technique, age & gender and health seeking behaviors. Five latent factors mainly influenced on the respondent's attitude towards Breast Cancer and Breast Self-Examination technique.

Keywords: Breast Self-Examination, Diploma Nursing Students, Knowledge, Attitude, Latent Factors.

1. Introduction

Cancer has become a public health problem worldwide and it affects all people: the young and the old, the rich and the poor, men and women, children and adult. Among the cancer, Breast cancer is the leading cause of cancer related deaths among women worldwide. Cancer is the second leading cause of deaths over the world, and it is estimated 9.6 million deaths in 2018,

about 1 in 6 deaths is due to cancer. 70% of cancer deaths happen in low and middle-income countries approximately. Around 1/3 of cancer deaths was due to the 5 leading risk behavior and dietary pattern: high level body mass index, low rate fruit and vegetable uptake, lack of physical exercises, drug abuse like tobacco, drinking alcohol. The bigger cancer load is because of several factors including growing rate of population and aging (World Health Organization, 2018).

Nurses are always the providers of safe and comprehensive effective care for the global population. Expert and quality of nursing care can reduce the more stress and more burden of disease. Comprehensive nursing care ability to support for physical, social, psychological and spiritual need of the patients and their families. If nursing students have more knowledge of Breast Cancer and Breast Self-Examination, they can provide information that is more adequate to people or can do the demonstration skills needed to perform the Breast Self-Examination technique. Prevention of cancer at early stages can cause more survival rates and more reduction in mortality. Therefore, it is necessary to explore if the nursing students from all Nursing Training Schools (3 years Nursing Diploma Program) in Yangon Region are taught in the appropriate content on Breast Self-Examination technique. Therefore, this study aimed to assess the knowledge and attitude Diploma Nursing students in Yangon Region towards Breast Cancer. This study focused on the following objectives;

- (1) To identify attitude and knowledge level of the respondents towards Breast Cancer and Breast Self-Examination
- (2) To study the incidence of Breast Cancer in Yangon General Hospital
- (3) To determine the factors associated with the attitude of Diploma Nursing students regarding Breast Cancer and BSE.

2. Data and Method

In this study, 500 sample students including male students were selected from all Nursing Training Schools at Yangon Region who are registered as a student in the academic year 2018-2019.. Descriptive Statistics and Multivariate Factor Analysis Model were used in this study. The design of the survey was based on stratified random sampling method. The self-structure questionnaire includes 15 items for knowledge and 34 items for attitude. The survey was made in all Nursing Training Schools in Yangon Region. This study was conducted in cooperation with all Nursing Training Schools administrators. Data were analyzed using the Statistical Packages for the Social Sciences version 22(SPSS 22). Descriptive statistics were used

for analyzing the demographic profile of respondents and to determined knowledge level and attitude level.. The multivariate factor analysis model used for analyzing mainly influenced on the respondent’s attitude towards Breast Cancer and Breast Self-Examination technique. The cross-sectional descriptive research survey design used in this study. Study period was from January 2019 to September 2019. The study population were all Nursing Diploma Students who were attending at all Nursing Training Schools in Yangon Region. There are (5) Nursing Training Schools in Yangon named Yangon Nursing Training School, East Nursing Training School, Nursing Related Field Practice Training School, Thanlyin Nursing Training School and North Nursing Training School.

There are 920 students studying in 5 Nursing Training Schools, which are situated in Yangon Region at 2019. In this study the proportion of student’s BSE knowledge is assumed to be 0.5. the appropriate stratified random sample is chosen with a bound on the error of estimation B of 0.05 (assumed) by using following “ Proportional to allocation method formula . The required sample size is at least 445 students. However, in many health science research survey, the response rates are typically well below 100%. Therefore required sample size (round about 90% rate assumed) is 500 (445/0.89) students. Since the cost of sampling in each Nursing Training School (stratum) does not vary from stratum to stratum, the sample size of each stratum is determined by using the following Neyman allocation method.

Table (2.1) Sample Size Allocation from each School

No	Names of Schools	Male	Female	Total Students	Sample Students
1	Y.NTS	32	378	410	223
2	E.NTS	21	173	194	105
3	NRFTS	8	86	94	51
4	Thanlyin NTS	3	31	34	18
5	N.NTS	16	172	188	102
	All Total Students	80	840	920	500

(Source-Survey Data 2019)

Data Analysis for Research Instrument

Descriptive Statistics and Multivariate Factor Analysis were used to interpret the demographic data. Knowledge statements were constructed as True or False. The respondents who selected the correct answer for knowledge questions obtained (1) mark, wrong answer obtained (0) mark and weightage was converted into percentage from 0% to 100%. The correct answer for negative items obtained the same score as positive items. The levels of knowledge

about Breast Self-Examination were determined by using Bloom's classification (<60% as low level of knowledge, 60-80% as moderate level of knowledge and >80% as high level of knowledge) For positive attitude statements, scores of five, four, three, two and one mark for “strongly agree”, “agree” “unknown” “disagree” and “strongly disagree” were obtained respectively. This scoring reversed for the negative statements. For the fifteen attitude statements, total score ranged from 34 to 170 points and divided into 2 categories as positive attitude and negative attitude. Negative attitude was below mean and positive attitude was mean and above mean.

Content Validity Testing of Research Instrument

Table (2.2) (CVI) of the 5 Expert Persons

No.	Instruments	S-CVI	I-CVI (Range)
1.	Knowledge Questionnaires(15 items)	0.94	0.8 – 1
2.	Attitude Questionnaires (34 items)	0.98	0.8 – 1

(Source-

Author's Computation Based on Survey Data, 2019)

Reliability Test

Table (2.3) Reliability Testing of the Research Instruments

(Knowledge & Attitude Questionnaire for pretest)

Reliability Statistics

No	Instruments	Pretest (n=30)
1.	Knowledge Questionnaires(15 items)	.911
2.	Attitude Questionnaires(34 items)	.868

(Source-Author's Computation Based on Survey Data, 2019)

3. Results and Discussion

At the first step, descriptive analysis has conducted to present the demographic profile of respondents based on gender and age. 428 (85.6 %) respondents were female students and 72 (14.4 %) respondents were male students. The number of female was more than male because of the policy of the Diploma Nursing entrance system by Ministry of Health and Sports. Mean age is 19 years old. The mean age of the study population was 19.53 (SD \pm 2.085); age range (17-33)

years. The respondents who were over 20 years were in service students who were Midwifery Diploma holders so they were older than others were. The almost all of respondents 416 (83.2%) were Burmese, 49(9.8%) respondents were Kayin. The almost all of respondents 473 (94.6%) were Buddhists and 26 (5.2%) respondents were Christian and one (0.2%) was Hindu. Marital Status of the Respondents were 493 (98.6%) single, three (0.6%) were married and window were four (0.8%) were widow), the respondents 222 (44.4%) were the First Year students, the respondents 120 (24 %) were the Second Year students and the respondents 158 (31.6%) were the Third Year Diploma Nursing Students. The respondents 223 (44.4%) were attending at YNTS, the respondents 102 (20.4 %) were at NNTS, the respondents 105 (21%) were ENTS, the respondents 51(10.2 %) were at NRFPTS and the respondents 19 (3.8%) were Thanlyin Nursing Training School.

General Knowledge Levels

General knowledge on Breast Cancer results of all respondents , low level of knowledge was found in 198 (39.6%), moderate level of knowledge was in 300 (60 %) and two (0.4 %) had high level of knowledge. Students who scored up to eight marks can be considered as low level of knowledge; 9-12 marks can be considered as moderate level of knowledge and 13 marks and above as high level of knowledge by following the rule of Bloom's (1956) cut of point. The moderate level of knowledge is found in 60% so it is clearly higher than the other levels. Therefore, it is clear that Breast Cancer knowledge level of all respondents is found to be at level moderate.

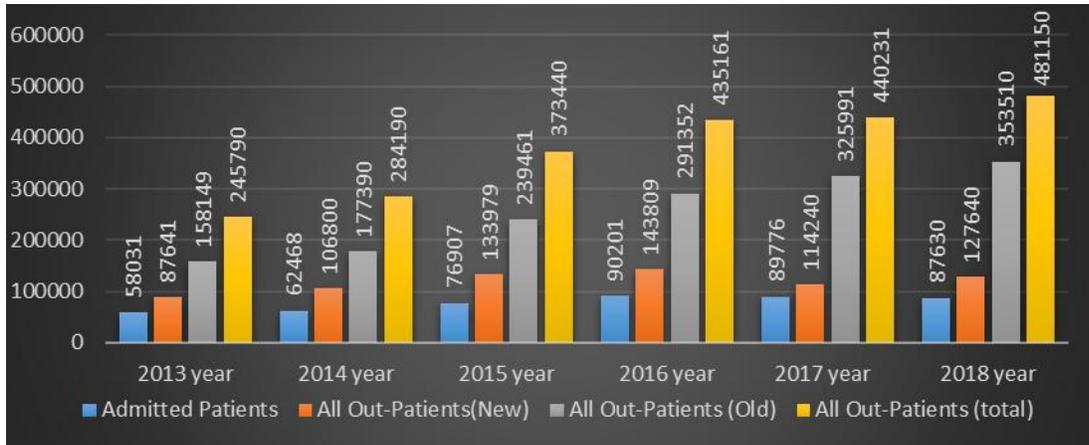
Overall Attitude of the Respondents Result

Mean Score considered the attitude level (196.6 marks). Below mean score is considered as negative attitude, mean, and above mean are considered as positive attitude. According to the study, the respondents 240 (48%) have negative attitude and the others 260 (52%) have positive attitude.

The incidence of Breast Cancer in Yangon General Hospital

Yangon General Hospital also known as now a days 2000 bedded, Tertiary Care Teaching Hospital was established in 1899. There were 342 beds in 1905 and 546 beds were

increased after the Second World War. In 1964, it was upgraded to 1500 beds hospital with expansion of new specialist wards and extension of the new buildings. In 2016, it was upgraded into 2000 bedded hospital sanction was with new five-storied surgical complex and PET-CT (5 storeyed) built. In 2018, 5 stored cancer building was opened. The following Figure (3.1) represented all patients in (2013-2018) at YGH.



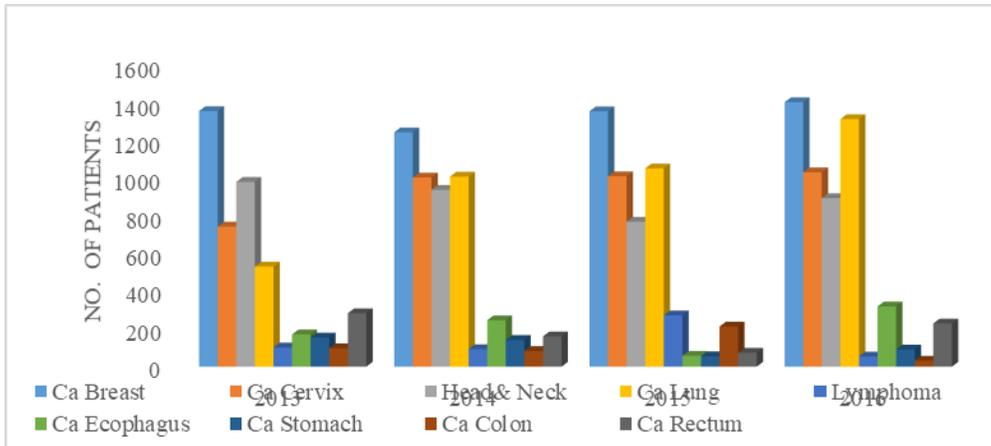
(Source- YGH Hospital Statistics 2019)

Figure (3.1) All Patients Data in YGH (2013-2018)

The above data showed (1) Admitted patients (2) all Out-patients (New) (3) all Out-patients (Old) and (4) all Out-patients (Total) from 2013 to 2018. By looking at the data, it increase was found to year by year.

Cancer Data of the YGH (2013-2016)

Following Figure (3.2) represented the most common types of Cancer patients in YGH (both old patients and new patients) from 2013 year to 2016 year.



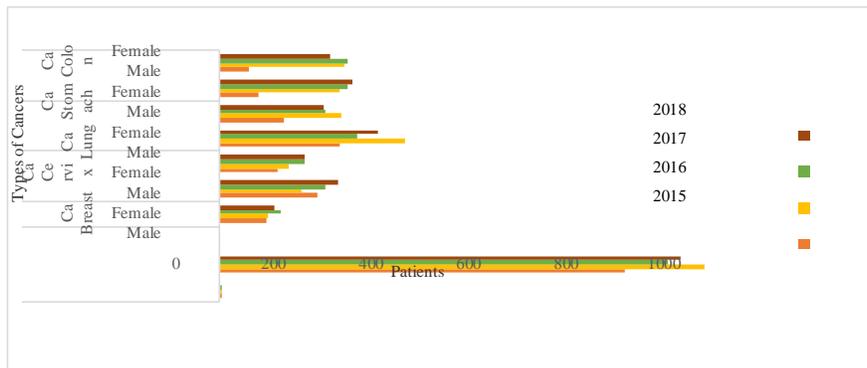
(Source- YGH Hospital Statistics 2019)

Figure (3.2) Cancer Data of the YGH (2013-2016)

Above Figure (3.2) showed all admitted all cancer patients in cancer ward of YGH (old patients+ new patients) (2013-2016). By looking at the data, Breast Cancer (Ca Breast) rate is increasing year by year.

The Most Common Cancers in YGH (2015- 2018)

Following Figure (3.3) showed all represented the most common types of cancers in YGH’s patients (Only New Patients) at YGH (2015 to 2018).



(Source-Hospital Statistics 2019)

Figure (3.3) The Most Common Cancers for Male & Female at YG (2015- 2018)

Above Figure (3.3) represented the most common types of cancer patients in YGH (Only New Patients male & female) at YGH (2015 to 2018). According to Hospital data of 2015 to 2018, the Breast Cancer was found to be the highest one in females during the intervals. Breast

Cancer was mostly found in females in 2016. Stomach Cancer mostly occurred in males in this time interval followed by Lung Cancer in males.

Multivariate Factor Analysis (First Run)

There are 34 variables, which are related to the knowledge, and attitude of Breast Self-Examination and some of them have strong correlations (Refer to appendix). Exploratory Factor Analysis (EFA) was applied to 34 variables. Principal Component Method extracted 11 components, which have more than one Eigenvalue. By using factor analysis, these variables were reduced to 11 components from original variables 34 items. Therefore, it is necessary to rename or latent variables these 11 factors by representing variables concerned. These factors contributed **61.353%** of the total variance. The rest of 34 factors were only about **38.647 %** of the variance.

Multivariate Factor Analysis (Second Run)

In this analysis, the majority of different dimensions on nursing respondents was studied. In this step, five factors were selected to extract in Factor Analysis Extraction. The percentage of total variance in the second run was 14.354%, 8.019 %, and 6.581 %, 5.678% and 5.292 % respectively. These factors contributed **39.924%** of the total variance. The rest of 34 factors were about **60.076 %** of the variance.

Table (3.5) Determining the Critical Factors

Component	Latent Variable	Name of Variables	No of Variables	Cronbach's Alpha	Eigen Value	% variance Explained	Cumulative variance %
1	Risk Factors	-Aging -Socioeconomic status -Ethnicity -Obesity	4	.881	4.880	14.354	14.354
2	Preventive measure	-Frequent exposure to radiation -Women more occur than Men -correct BSE -BSE prevents from future problem -BSE with Right Technique. -consult with health personnel -Completing BSE every monthly	7	.708	2.727	8.019	22.373
3	Right ways of BSE	-BSE is not a waste of time -BSE is not time consuming -take mammogram -directly go to public health center -enough privacy to do BSE -learn the correct method of BSE	8	.592	2.238	6.581	28.955

		-BSE practice -avoiding mastectomy and chemotherapy					
4	Age & Gender	-male or female should take BSE -Men have possibility of suffering Breast Cancer. -Both male and female need to do BSE monthly -Breast Cancer can regardless effect of age and gender -perform regular BSE	5	.697	1.930	5.678	34.633
5	Health Seeking Behavior	-discuss with your friends -to learn BSE from your parents -to learn BSE from your friends -how to test BSE from health-staff -perform BSE at least once in 6 months	5	.613	1.799	5.292	39.924

(Source-Author's Computation Based on Survey Data, 2019)

Finally, the study identifies through the factor analysis, 34 variables to 29 variables reduced. It was clearly found out five key main factors outcome, it was (1) Risk Factors,(2) Preventive Measures, (3)Right Ways of Technique,(4) Age & Gender, and (5)Health Seeking Behaviors. In the next sections, conclusion of the study discussion and recommendation were described.

4. Conclusion

This study showed that although awareness of breast cancer is considerable, there are still many misconceptions such as “Breast Cancer cannot occur in men”, “nipple retraction is not a sign of Breast Cancers”. The additional researches were highly recommended to identify on Breast Cancer and Breast Self-Examination research in other regions and other states by using a similar method. Based on the research findings, researchers would like to make recommendation as; Mammography is the best screening method, but it is resource is scarce in our developing countries. BSE technique is low cost method & an important tool in our developing country where most of the people cannot afford to get Mammograms or Clinical Breast Examination.

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