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Socio-demographic correlates and the Level of Fatigue of Breast Cancer Patients undergoing Out-patient Based Chemotherapy Treatment in Eastern Visayas

Pearl Irish V. De Paz and Mae Geraldine E. Dacer
Biliran Province State University- Main Campus
Naval, Biliran

Abstract *- One of the common symptoms experienced by breast cancer patients undergoing chemotherapy treatment is fatigue. Several studies were conducted outside the country that focused on measuring the level of fatigue among cancer patients. However, little studies were conducted in the Philippines that measured the level of fatigue among breast cancer patients undergoing chemotherapy treatment. Hence, the study aimed to address the gap in knowledge and expanding the knowledge about the level of fatigue experienced by cancer patients undergoing chemotherapy treatment. The study used a descriptive- correlational research to determine the socio-demographic profile and the level of fatigue of the 67 cancer patients who are undergoing out-patient based chemotherapy treatment in a tertiary hospital and to test whether significant relationship exist between the variables. The Brief Fatigue Inventory was used as the main instrument of the study. Results of the study shows that majority of the respondents aged 50-59 years old, females, married, Roman Catholic, high school graduates, unemployed, had second stage of breast cancer and had more than three sessions of chemotherapy treatment. Moreover, results of the study revealed that majority experienced moderate fatigue and only stage of cancer and number of chemotherapy sessions among the socio-demographic variables showed a significant relationship with the level of fatigue. The results of the study highlight the need to craft for an intervention scheme to decrease the level of fatigue felt by breast cancer patients undergoing chemotherapy treatment.*

Keywords – breast, cancer, chemotherapy, correlates, socio-demographic profile

INTRODUCTION

Breast cancer is one of the leading type of cancer found among women in both developed and developing countries (World Health Organization, 2018) and has the highest incidence rate in the Philippines (Adriano, Redaniel, Lumagu, Mapua, & Pisani, 2009). In order to increase the survival rates of breast cancer paients, chemotherapy treatment have been widely used. However, undergoing chemotherapy treattment may lead to fatigue.

Fatigue is considered one of the common side-effecrs of undergoing – chemotherapy treatment which may be felt by the patient for more than two weeks. The signs and symptoms may include lack of energy, cognitive impairment, mood disturbance or muscle weakness. (National Comprehensive Cancer Network, 2012; Hofman, Ryan, Figueroa- Moseley, Jean- Pierre, & Morrow, 2007).

With the above-mentioned premise. it is therefore important to measure the level of fatigue experienced by the cancer patients undergoing chemotherapy treatment and should be recognized early by the health care professionals to be able to render appropriate interventions in caring for cancer patients as well as in decreasing the level of fatigue of the cancer patients undergoing chemotherapy treatment. Based from the results of the study, interventions were recommended.

OBJECTIVES OF THE STUDY

This study generally aimed to determine the socio-demographic correlates of the level of fatigue of breast cancer patients undergoing chemotherapy treatment. Specifically, the study intended to describe the socio-demographic profile of the respondents such as the age, gender, civil status, religion, highest educational attainment, occupation during the chemotherapy treatment, stage of cancer and the current number of chemotherapy sessions as well as their over-all level of fatigue. Lastly, the relationship between the socio-demographic profile variables and level of fatigue was also determined.

MATERIALS AND METHOD

This study used the descriptive-correlation type of research. There were 67 cancer patients undergoing out-patient based chemotherapy treatment in a Tertiary Hospital in Eastern Visayas were chosen as the respondents of the study. The inclusion criteria of the respondents are as follows: must be a natural born Filipino citizen, resident of Eastern Visayas, aged 18 years old and above and had completed at least three sessions of chemotherapy treatment. Those who refused to participate in the study was included in the study. The study covered from December 2018 to January 2019.

Furthermore, in order to gather data from respondents, the Brief Fatigue Inventory Tool was used. Furthermore, prior to data collection, transmittal letters were sent to the Chief of Hospital thru the Chief Nurse Office for the permission and the approval to conduct the study. After the approval, the list of qualified respondents was obtained. Attendance during the third week of chemotherapy was done to find possible respondents of the study.

After selection of the respondents, the study and the questionnaire were explained and prior to the data collection, respondents were asked to sign the informed consent to indicate their voluntary decision in the participating the actual study. The questionnaires were then given to the respondents. Answers to completed questionnaires and test scores were recorded, tallied and kept in a safe place while waiting for completed data and analysis. Confidentiality was provided and anonymity was ascertained by referring them to their respective numbers.

Moreover, the raw data were analyzed. The data on socio-demographic profile were described using simple frequency distribution and was presented in tabular forms. The level of fatigue was derived from the nine-item Brief Fatigue inventory and was analyzed based on the computed scores of the participants. The scores of 1-3 indicates mild fatigue, 4-6 moderate fatigue and 7-10 indicates severe fatigue.

The Pearson-Product Moment of correlation analysis was employed in the study when two variables dealt with raw data in the interval-level of measurement like age and level of fatigue while the Point- biserial correlation analysis was utilized when one of the variables was dichotomous and the other dealt with data in the interval level of measurement. Likewise, the Chi-square tesr was also used in the study when both variables dealt with categorical data like education and level of fatigue. In all tests, the level of significance was set to at 0.05.

RESULTS AND DISCUSSION

Table 1. Socio- demographic Profile of the Respondents

Characteristic	***f***	***%***
Age		
30-39	11	16.42
40-49	12	17.91
50-59	27	40.30
60-69	10	14.93
70 and above	7	10.45

Gender		
Female	67	100.00
Male	0	0
Civil Status		
Single	10	14.93
Married	55	82.09
Widowed	2	2.99
Roman Catholic	60	89.55
Others	7	10.45
Highest Educational Attainment		
Elementary Level	3	4.48
Elementary Graduate	8	11.94
High school level	5	7.46
High school Graduate	36	53.73
College level	10	14.93
College Graduate	5	7.46
Occupation during Chemotherapy		
Government	10	14.93
Private	12	17.91
None	45	67.16
Stage of Cancer		
II	52	77.61
III	10	14.93
IV	5	7.46
Current Number of Chemotherapy Sessions		
3-4 sessions	30	44.78
5-6 sessions	23	34.33
7-8 sessions	10	14.93
9-10 sessions	1	1.49
11 or more sessions	3	4.48

Age. Results of the study show that 40.30% of the respondents are between the age group of 50-69 years old, the youngest is 31 years old while the oldest is 82 years old. Moreover, the mean age is 50.85. The result implies that majority of the respondents belonged to the middle-late adulthood stage based on the theory of Psychosocial development of Erik Erickson.

Gender. All (100%) of the respondents are female. The result implies that no male breast cancer patient had undergone chemotherapy treatment during the time of data collection. Females were recorded 53.7 million (50.42%) while males 52.8 million (49.57%) in the Philippines. (Philippine Statistics Authority, 2018). The result implies that breast cancer is common among Filipino women than males. Several studies show that sex- specific differences in the incidence and mortality is associated with cancers. In United States, prostate, lung and colorectal cancer are most common among males while breast, lung and colorectal cancer are common among females (Siegel, Miller, & Jemal, 2017). Moreover, data also show that cancer incidence rate is higher among females (52.23%) than males (42.75) in the Philippines. (World Health Orgnization, 2014).

Civil Status. Majority of the respondents (82.09%) are married while only (14.93%) were single during the chemotherapy treatment. Based from the results of the study, no respondent was separated, however, 2 respondents were widowed. The result implies that most of the respondents were legally married during the time of data collection. Marriage is one of the important marks of Catholic faith especially

among the Filipinos. The tradition has been passed down from generation to generation in the Filipino community. Moreover, the Philippines is among the last major country that does not allow divorce. This shows how the country follows that teaching of the Catholic Church which has a big influence among the Filipinos and continues that tradition up to the present time. (Evans, 2015)

Religion. Majority of the respondents (89.55%) are Roman Catholics. The other 10.45% comprises other religious denominations like Protestant and Iglesia Ni Kristo. Roman Catholics is the largest in the Philippines which is 70% of the total population (Anthony, 2018). Census data from 2010 found that about 80.58% of the population professed Catholicism (Philippine Statistics Authority, 2015)

Highest Educational Attainment.The majority (53.73%) of the respondents are high school graduates. The result implies that most of the respondents were able to finish the secondary education but were not able to proceed to tertiary level or college. Education is a vital component to both social and economic development and has a significant impact on population health. In the Philippines, data shows that the highest educational attainment for most Filipinos is high school graduate or had finished secondary education (45.4%) and while those who had college degree garnered 40.42%. Moreover, the most common field of study taken by college students is Business administration (Philippine Statistics Authority, 2018).

Occupation during Chemotherapy Treatment. Majority (67.16%) of the respondents have no occupation after the chemotherapy treatment which means that they have no sources of income or jobless after chemotherapy treatment. One of the many challenges of post cancer treatment is returning to work. As much as the person would like to go back into their "normal life" and daily routine such as getting back to work, the person's mind and body may need time to readjust. Some may not be allowed by their attending physician to return to work to avoid stress. Even if the chemotherapy ended, the person is still coping with how it will affect the body. It will take time to get over the effects of cancer treatment. Some may feel fatigue, depressed and pain after chemotherapy. (Aimee, 2018).

Stage of Cancer. Majority (77.61%) of the respondents' stage of cancer is Stage II. The result implies that the cancer has grown but has not spread into the surrounding tissues and the tumor has become bigger in size which is considered as an early stage of breast cancer. Staging is a way of describing the size of cancer and how far it has grown. Staging is important to describe where the cancer is located or where it has spread and whether it is affecting other parts of the body. It helps the doctor in predicting the recurrence of cancer after original treatment, chance of recovery and the effectiveness of cancer treatment (American Cancer Society, 2015).

Current Number of Chemotherapy sessions. 44.78% of the respondents' duration of chemotherapy treatment during the data collection is 3-4 sessions followed by 5-6 sessions (41.2%). The result implies that mostly have just started the first cycle of chemotherapy treatment. Chemotherapy treatment is not usually done only once but rather in cycles of treatment. One cycle is equivalent to 4 sessions of chemotherapy treatment. The course of treatment usually between 3-6 months and the treatment may include one or combination of drugs given orally or through intravenous or vein (Cancer Research UK, 2018)

Table 2. Level of Fatigue

Level of Fatigue	*f*	*%*

Mild fatigue	6	8.96
Moderate	41	61.19
Severe	20	29.85
Total	67	100

Legend: 1-3 Mild Fatigue; 4-6 Moderate Fatigue; 7-10 severe fatigue

Table 2 shows the level of fatigue based on the results of the Brief Fatigue Inventory Tool. Results shows that majority (61.19%) of the respondents had showed moderate fatigue. Moderate fatigue means that breast cancer patient experiences moderate symptoms of fatigue which was described with a rating of 4-6 in a scale of 1-10 such as their level of fatigue now, their usual level of fatigue during the past 24 hours and worst level of fatigue during the past 24 hours. Moreover, moderate fatigue also means that their level of fatigue moderately interfered with their general activity, mood, walking ability, normal walk, and relationship with other people as well as their enjoyment of life.

Several studies have shown that fatigue is prevalent after chemotherapy treatment. According to a study, 80% treated with chemotherapy experience fatigue. Moreover, the feelings of fatigue continue for months or even years allowing completion of the treatment are experienced by one-third of cancer patients who underwent chemotherapy treatment. When a post- chemotherapy patient experiences fatigue, his ability to perform activities of daily living and limits their personal and social roles within their family and community (Hofman M. , Ryan, Figueroa- Moseley, Jean- Pierre, & Morrow, 2007).

According to previous studies, a prevalence rate of 30-90% experience fatigue after chemotherapy treatment and studies also revealed that their normal activities were mostly interfered by fatigue and relationship with others was least interfered. (Donovan, et al., 2004; Banipal, Singh& Singe, 2017)

Table 3.
Test for Significance between Sociodemographic Profile Variables and Level of Fatigue

Paired Variables	Statistical Treatment	Interpretation
Level of Fatigue and Age	$r = 0.072$; p-value= 0.471	Not significant
Level of Fatigue and Gender	$r_{pb} = -0.072$; p-value= 0.473	Not significant
Level of Fatigue and Civil Status	$r_{pb} = -0.059$; p-value= 0.554	Not significant
Level of Fatigue and Religious Affiliation	$r_{pb} = 0.008$; p-value= 0.328	Not significant
Level of Fatigue and Living Arrangement	$r_{pb} = 0.074$; p-value= 0.457	Not significant
Level of Fatigue and Education	$X^2(1) = 4.6379$; p-value= 0.0984	Not Significant
Level of Fatigue and Occupation during chemotherapy	$r_{pb} = 0.172$; p-value= 0.083	Not significant
Level of Fatigue and Stage of Cancer	$r_{pb} = 0.284$; p-value= 0.004	**SIGNIFICANT**
Level of Fatigue and Current number of Chemotherapy sessions	$X^2(2) = 7.5822$; p-value= 0.0226	**SIGNIFICANT**

Table 3 shows the test for significance between the socio-demographic profile variables and the level of fatigue. Results shows that only the stage of cancer and the current number of chemotherapy sessions had a significant relationship with the level of fatigue.

Stage of Cancer and Level of Fatigue. In this study majority were diagnosed with Stage II breast cancer. The stages in breast

cancer will differ in the organs affected how the disease will affect the body. Breast cancer stages can be classified into two such as early stage and advanced stage. Early stage refers to a breast cancer that has not spread beyond the breast or the axillary lymph nodes. This includes stage I, II and III breast cancer while advance stage refers to cancers that is unlikely to be cured or controlled with treatment. The cancer may have spread from where it first started to nearby tissue, lymph nodes or distant parts of the body or also called as metastasis and this will include stage IV breast cancer (National Cancer Institute, 2015).

Current number of chemotherapy sessions. In this study majority of those who had 3-4 sessions of chemotherapy treatment reported a severe level of fatigue while those who had 5-6 sessions reported a moderate level of fatigue. The results suggest that the more chemotherapy sessions undergone by the patient, the lesser level of fatigue is felt. The results of the study may be because during the first cycle of chemotherapy, our body still adjusts on the adverse effects of the treatment and during the first cycle, two or more combination of drugs is administered and as the chemotherapy treatment progresses, a smaller dose or single drug is given (Cancer.Net, 2017). Hence, the lower adverse effects of the anti-cancer drug are felt. Moreover, several chemotherapy drugs can affect the nerve endings of the hands and feet leading to numbness, pain, burning or tingling, weakness in the extremities which leads to fatigue. The side-effects often go away after treatment is finished within a year after completing chemotherapy (Cancer Research UK, 2018)

CONCLUSION AND RECOMMENDATION

Results of the study revealed that as to description of the socio-demographic profile of the respondents, majority of the respondents aged 50- 59 years old, females, married, Roman Catholics, high school graduates, unemployed, had Stage II breast cancer and had completed 3-4 number of chemotherapy sessions. As to the over-all level of fatigue, majority reported moderate level of fatigue. Also, findings of these study revealed that there is a significant relationship between the socio-demographic profile variables and their levels of fatigue in terms of stage of cancer and duration of treatment.

Based from the results gathered, it is therefore recommended that health care providers should be able to conduct early detection and diagnosis of fatigue among breast cancer patients undergoing chemotherapy treatment in order to provide appropriate interventions that would prevent or decrease the level of fatigue felt by the patients. Likewise, further research is recommended to be conducted in a larger scale and also studies that will focus on other factors related to fatigue among breast cancer patients.

REFERENCES

[1] Adriano, L., Redaniel, M., Lumagu, M., Mapua, C., & Pisani, P. (2009). Epidemiology and Clinical Pathology of Breast Cancer in Metro Manila and Rizal Province. *Asian Journal of Cancer Prevention*, 167-172.

[2] Aimee, W. (2018, March 7). *Cancer Careers*. Retrieved April 22, 2019, from https://www.cancerandcareer.org/career

[3] American Cancer Society. (2015, March 25). *Cancer Staging*. Retrieved April 22, 2019, from https://www.cancer.org/treatment/understanding-your-diagnosis/staging.html

[4] Anthony, D. (2018, November 14). Religious Beliefs in the Philippines. Retrieved April 21, 2019, from https://www.worldatlas.com/articles/religious-beliefs-in-the-philippines.html

[5] Cancer Research UK. (2018, September 10). *Treatment for Cancer*. Retrieved from Cancer Research UK: http://www.cancerresearchuk.org/about/caer-in-general/treatment

[6] Cancer.Net. (2017, August). Retrieved from http://www.cancer.net/navigating-cancer-care/how-cancer-treated/chemotherapy/what-expect-when-having-chemotherapy

[7] Evans, L. (2015, September 28). Retrieved April 22, 2019, from http://www.prezi.com/the -culture-of-marriage-philippines

[8] Germany Association of Population-based Cancer Registries . (2012). *Cancer in Germany 2007-2008: Incidence and Trends* (8th ed.). Berli: Robert Koch Institute.

[9] Hofman, M., Ryan, J., Figueroa-Moseley, C., Jean- Pierre, P., & Morrow, G. (2007). Cancer- related fatigue: the scale of the problem. *The Oncologist*.

[10] Hofman, M., Ryan, J., Figueroa-Moseley, C., Jean- Pierre, P., & Morrow, G. (2007). Cancer-related fatigue. The scale of the problem. *The Oncologist*, 4-10.

[11] National Cancer Institute. (2015, April 29). Retrieved April 22, 2019, from https://www.cancer.gov/about-cancer/treatment/types/chemotherapy

[12] National Comprehensive Cancer Network. (2012). *NCCN Clinical Practice Guidelines in Oncology.* United States of America: National Comprehensive Cancer Network.

[13] Philippine Statistics Authority. (2015). *Philippine Statistics Yearbook.* Manila: Philippine Statistics Authority.

[14] Philippine Statistics Authority. (2018). *Facts Sheet for Men and Women.* Manila: Philippine Statistics Office.

[15] Siegel, R., Miller, K., & Jemal, A. (2017). Cancer Statistics 2017. *California Cancer Journal Clinic*, 7-30.

[16] World Health Organization. (2018). *Cancer Fact Sheet .* Geneva: World Health Organization.

[17] World Health Orgnization. (2014). *Cancer Country Profile.* Geneva: World Health Organization.