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EFFECT OF EDUCATION ON FATIGUE LEVEL OF CERVICAL CANCER PATIENTS IN MEDAN, NORTH SUMATERA

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ABSTRACT

The most common disease in 18 years and the highest death rate for women is cervical cancer. Many individuals with cervical cancer have serious stage fatigue. Cancer therapy in the form of chemotherapy adversely affects both physically mentally the body of the cancer patient. Fatigue because of cervical cancer leads to health complications and causes health care workers ' dependency, which can affect life quality and worsen the disease. Cervical cancer fatigue is still being treated less intensively. Etiology, pathogenesis and pathophysiology, cervical carcinogenic therapies at home, radiotherapy preparations and chemical therapy along with secondary effects, and cervical cancer diet are the most important basis for the treatment of cancer-related fatigue. This education will shape those beliefs for anyone to uphold certain principles. This study aims a cross-sectional design of the analysis with the combination of t-test tests and sampling using purposeful sampling with fifty samples to assess the effect of tested fatigue in patients living with cervical cancer in Medan, North Sumatra. The values of t= -313, which are based on statistical tests, are obtained at the p-value of 0.002 (α= 0.05), suggesting that a significant difference between the mean fatigue values before and after the procedure and the observed fatigue value t is obtained at 9.516 and can be attributed to the value p 0,000 (α= 0.05 based on the analysis of results). This research benefits by improving the involvement of patients in fatigue reduction caused by cervical cancer..

KEYWORDS: *education, cervical cancer, fatigue*

1. INTRODUCTION

Cervical cancer is a type of cancer affecting many women over the age of 18. It is predicted that cervical cancer deaths are going to increase by 25% (American Cancer Society 2014) without effective intervention. Ministry of Health data (2012) indicates that the incidence of cancer is between 4.3 and 1,000 individuals. According to the BPJS Health report, the burden for cancer costs was 2.1 trillion rupiahs for cancer treatment by September 2017, based on the 2013 Basic Health Research (Riskesdas) cancer prevalence in Indonesia.. In Central Java itself, cervical cancer ranks second behind breast cancer in the world and Indonesia (Provincial Health Office, 2015). Many women with cervical cancer come for advanced therapy, and their effectiveness is extremely low. The physical consequences of and treatment of cancer can cause uncomfortable emotional experiences (Lubis, N.L., 2009). This can be mental, social and spiritual experiences and interfere with cancer, effects, and diagnosis (Wilkes in Potter & Perry 2009). Chemotherapy, which is sometimes long and the effects of patients ' side effects can contribute to fatigue.

The average fatigue rate is 60% to 90%. Fatigue occurs after all modalities of cancer treatment such as surgery, chemotherapy, radiotherapy, and immunotherapy. Chemotherapy and radiation therapy have registered prevalence rates as high as 96 percent. Fatigue associated with chemotherapy and radiation can be attributed to anemia or the build-up of damaging end-cell products. A variety of physiological, emotional and dietary causes have been correlated with fatigue associated with chemotherapy. Differences in mood and sleep disorder patterns are several physiological reactions to cancer diagnoses and treatments. Often cited as causes of fatigue are physiological reactions, including diarrhea, vomits, prolonged pain and cachexia. Socio-demography is another factor that contributes to the cause of cancer fatigue. Sociodemographic factors like age, low income and jobs are more directly related to the severity of fatigue in cervical cancer clients than to cervical cancer treatments themselves. Fatigued women, poor economic status, and rural living constitute about half of those who suffer from cervical cancer (Hwang IC et al. 2014). The education includes how to overcome fatigue. This study examines how education has an impact on patients in Medan, North Sumatra with cervical cancer fatigue

2. THEORETICAL REVIEW

Cervical Cancer

Cervical cancer is cancer in reproductive age. But it also occurs at the age of 5, 6, 7 decades. Typically not screened for cervical cancer in older women. Human papillomavirus (HPV) infection is the main cause of cervical cancer. The sexual behavior of a partner with a history of HPV infection is transmitted via sexual contact. Cancer is a new cell created by certain causative factors, which is a neoplasm or tumor-forming cycle by carcinogenesis. Carcinogenesis requires years and depends on several tumor and client factors. The cancer agents called carcinogens turn healthy cells ' activity into uncontrolled, fast-growing, difficult to die, regenerate and move away from the initial tissue. Normal cells that become neoplastic cells then expand to form an autonomous group of new cells and exhibit malignancy by invading other healthy cells. Three interacting factors influence cancer growth, including carcinogenic exposure, genetic predisposition, and immune function. (Hejmandi, at all., 2010).

The other classification system is a classifications system, which is intended to classify the phase of the disease based on the size of the primary lesion, the spreading of the lymph nodes into the bloodstream and the presence or absence of metastases. The most common way of determining the stage of cancer currently is by classifying the TNM model.(Morris CR, 2013).

A. Education

Education for health is part of promoting health Health education is a structured learning sequence based on theory, which is designed to impact people, groups and societies, gather information, and skills for decision making on nutritional health to improve healthy living conditions and the well-being of the community (Castro, 2007. Kenzie, 2007; Mubarok, 2009; Education is all that an individual or a community aims to affect so that they can do what the educators expect. From the definition, we learn that one aspect of learning is the feedback that comes from people, groups and the society, from educators where the process begins with the intention to influence the performance that the educators expect from students in the form of behavior. It is also understood that all efforts to ensure that people, organizations and societies maintain and improve their own health and their own awareness, behaviors and practices. Health education is one of the nursing interventions and is following the nursing theory of Nola J Pender. Health is a positive and dynamic system. Health education is intended to allow individuals and communities to assess their problems and needs. They should know what they can do about the problem. Health education is expected to result in a shift in health behavior.

B. Fatigue

Fatigue is often a symptom of cancer itself or a side effect of cancer therapy in patients with cancer. This feels very tired and can not be replaced with sleep. Fatigue can occur when diagnosed and become more frequent as an effect of the disease and the treatment's side effects. Fatigue can be a side effect of surgery, chemotherapy, and radiation. (Stone & Minton, 2008). Fatigue consists of different dimensions that interconnected. Soetomo's (1981) aspect of classified fatigue based on causative factors is bone/muscle fatigue, emotional fatigue, mental fatigue, skill fatigue. Fatigue may be caused by a reduction in erythrocytes due to damage to red blood cell function. Patients who are fatigued of cancer experience energy loss years after treatment (Elisabeth C.W. Neefjes et. Al., 2013).

There is still no clear evidence of the exact mechanism of fatigue in cancer patients. Central and peripheral elements consist of neurophysiological theory. The main component is the brain and spinal cord, the secondary component consists of peripheral nerves, muscle sarcoma, transverse tubular system, calcium liberation, actin activity, and energy production.. Disorders in the core component cause decreased impulses, spinal cord transmission disruptions and the brain cell activity of the hypothalamus area is energy-impaired. Peripheral element disorders impair peripheral nerve activity in neuromuscular intersection transmission, influencing nerve stimulation. The instrument for assessing initial Fatigue Level in patients, BFI (Brief Fatigue Inventory). This measurement is standard normal blood pressure between 60 to 110 mm, Standard Respiratory Rate (RR) below 30 times a minute, systolic parameters between 90 and 160 mm Hg and diastolic pressures between 60 and 100 mmHg, (Wahyuni et al, 2012)

C. METHODOLOGY

A quasi-experimental research method and quantitative research methods are used in this study. A cross-sectional approach for designinga pre-test after test group design. The instrument used to measure the fatigue rate of cancer patients has been the Brief Fatigue Inventory (BFI) questionnaire as a research tool. From November 2018 to March. The method of evaluation uses independent and paired t testing. In this study, a self-efficacy model for cervical cancer patients with educational videos has been created. Training for two weeks is provided up to 10 x. This research explores the impact of education on fatigue rate in patients with cervical cancer in Medan, North Sumatra.

3. RESULT

A. Demografic

The statistics in Table 1 suggest that most participants are over 35 (n= 1; 98%). The last education of the students was secondary (n= 18; 36%), based on the most recent level of education. Most of the respondents served as women in the house (n= 42: 84%). Phase III accounted for most cervical cancer rates (n= 34; 68%). More cervical cancer patients received radiation therapy, based on the type of treatment (n=40%; 80%). The proportions of patients that are generally different for each respondent should be understood directly from their physical condition.

Table 1. Frequency distribution and presentation Based on the characteristics of Medan, North Sumatra respondents (n=50)

No.	Characteristics respondents	Frequency	Percentage (%)
1.	**Age**		
	<35 y/o	1	2
	>35 y/o	49	98
2.	**Education**		
	No school	6	12
	Secondary school	18	36
	Junior high school	10	20
	High school	16	32
	Graduate	-	-
3.	**Pekerjaan**		
	Government employees	-	-
	Farmers	7	14
	Housewives	42	84
	Businessman	1	2
4.	**Stadium**		
	Stage 1	1	2
	Stage 2	13	26
	Stage 3	34	68
	Stage 4	2	4
5.	**Type of Therapy**		
	Chemotherapy	10	20
	Radiotherapy	40	80

a. Picture of fatigue pre- and post-intervention test

In Table 2, the findings of this study show that fatigue in the pre-intervention majority fatigue in the medium classification was shown in 39 patients (78%) and fatigue post-test after majority fatigue in the light category 43 (86%) intervention.

Tabel 2. Pre-test group fatigue classification before intervention and post-test after intervention in Medan North Sumatra (n=50)

Group	Category	Frequency	Percentage
Pre test	Light	8	16
	Medium	39	78
	Heavy	3	6
	Total	50	100
Post test	Light	43	86
	Medium	7	14
	Heavy	0	0
	Total	50	100

b. Test fatigue for CC patients Pre-test prior to intervention and post-test post-intervention Paired Test

The results of this study show that the average level of fatigue in cervical cancer patients was 91.74 in table 3 after the quantitative analysis of the pairing Sample T-test (SD= 21.953). The average value of SD= 16,102 is 57,86 after post-intervention procedure checking. The t value of the 9,516 was based on statistical analysis and the findings show a significant difference between the mean pre-intervention and post-intervention fatigue values. The p 0,000 value (α=0,05) was analyzed.

Table 3. Patients with fatigue of the cervical cancer Pre-test and post-intervention testing

Fatigue of cervical cancer	Mean	SD	T	P
Pre test	91.74	21.953	9.516	0,000
Pos test	57.86	16.102		

4. DISCUSSIONS

Researchers addressed the impact of education in the fatigue level in cervical cancer patients in Medan, North Sumatra from the results of the study.

Demographic Characteristics

The results showed that most people are over 35 years of age. The hypothesis that estrogen intake is a risk factor for cancer is consistent with this. As shown by the current menstrual cycle, women who are still at productive age (not yet menopausal) still secrete the hormone estrogen as evidence Longer exposure to estrogen, which is strongly believed to cause cervical cancer, as estrogen can be carcinogenic and form free radicals, triggering oxidative lesions in DNA, which enable cell mutations.

The majority of respondents earned primary school (36 percent) and then junior high school (36 percent) in this study. The findings showed that the majority of respondents have less information in the treatment group before the health education intervention. Meanwhile, after attending health education, there was an improvement in the awareness of respondents. In 2015, according to research carried out by Fatmanen et al, the higher education for an individual would impact on one's health behavior that will have implications for the quality of one's life. Undergraduate education improves cognitive abilities which influence mothers in addressing the current issue, especially fatigue. The period of training has a positive impact on health. During the education year, an effective potential for life that can influence one's health can be created. The high level of education would improve the health status of mothers compared with moms with low education. The respondent characteristics of this study are cervical cancer patients whose physical exercise information has been unaware of cancer patients, can reduce fatigue. Health education should enhance the awareness, attitudes, and actions of the respondent to overcome fatigue so that the average respondent can be conscious of his or her information. Therefore, the researchers concluded that the education level alone can not be used to reduce fatigue but is willing to learn and the help of healthcare workers can decrease fatigue among those affected by cervical cancer.

In this research, it has been found that the majority are housewives so that only man in the family is enabled to work on the family's income. Family income impacts global health positively. There is also an improvement in the financial condition of healthcare specifications. Awareness of cervical cancer in mid to upper economic groups is greater than that in low-economy groups. (Oemiati et al, 2011).

Fatigue

These studies revealed that the majority of fatigue in the pre-test before the intervention is in the

moderate category (78%) and the light category after the intervention (86%). The p-value can be 0,000 (α= 0,05), which means that the average fatigue value pre-test and post-test after intervention are significantly different.

Aging is also associated with increased signs of fatigue (Sheo et al, 2013). The data in this study show that, on the basis of the results of the study of Antoni (2015), the majority of the respondents were between ages and fatigue symptoms in 56-65, with the results of the Pearson correlation test (p= 0.002) indicating correlation of ages to fatigue symptoms, the older was the fatigue symptoms. Theoretically, as people are older, the functions of all bodies are decreased, including physical activity. The theory does not refer to fatigue in normal people, fatigue due to cancer. Evidence has shown that age is not associated with fatigue associated with cancer. This also reflects Vitkauskaite et al's hypothesis (2011) that cervical cancer patients experience physical symptoms, including fatigue, helplessness, and shortness of breath. The perceived loss of strength, cognitive impairment, somnolence, mood disorders, and muscle weakness can be characterized by fatigue. This problem can occur because of cancer and the effects of cancer therapy that is not pleasant and can be caused by many causes, such as anemia, sleep disturbances, pain, and emotional disorder.

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Lower education also affects the fatigue level experienced by cervical cancer patients and the data in this study showed that the majority of those responding were in primary school (32.4%). The reason is that people who have been diagnosed with cancer encounter psychological stress, for instance, cancer information received from a general public that if someone is diagnosed with cancer means the penalty of death. This is due to differences in the perception of the disease and of people who responded with anxiety. Higher education respondents are more used to better reacting to stress

The findings showed that the majority (84 percent) of respondents served as housewives. It can be understood why in people of medium or low economic status cancer is often found. This is due to a lack of awareness and access to health services (limited access to information). They concern with disorders or illnesses only if they encounter more severe conditions. Moderate and low-income people are more likely to be exposed to unhealthy food because of their purchasing power.

Results from this study were used in the majority of Stage 3 (50%) intervention patients based on the level of cervical cancer patients. This is not very different from previous research that revealed that stadium IIIB (34.2 percent) is the second-highest level. Additional 2015 data from the Indonesian Health Ministry indicated that most clients in cervical cancer are advanced. This disorder comes from a lack of awareness and knowledge of the value of cervical cancer early detection. Previous studies showed that the association between cancer and cancer-related fatigue is not clearly explained.

5. CONCLUSIONS

The results of this study showed that educaton in cervical cancer patients affects fatigue. Education is a way of resolving fatigue. The knowledge of good respondents about how to deal with fatigue is one of the factors that make patients self-care capable of reducing fatigue. Lawrence Green supports this by suggesting that a human's behavior can be determined by influences that manifest themselves in awareness, attitudes, and beliefs. The education package includes health education on the causes of chemotherapy fatigue. Hal yang dijelaskan untuk mengurangi fatigue yaitu seperti menyeimbangkan waktu istirahat dan bekerja, mendahulukan aktivitas yang penting, atau meminta bantuan dari anggota keluarga saat beraktivitas. Hal ini didukung oleh sebuah penelitian tentang intervensi konservasi energi pada pasien kanker yang menunjukkan hasil bahwa terdapat penurunan fatigue akibat kankery.

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