# Effect Of Five Finger Relaxation Intervention On Fatigue In Ca Mammae Clients

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**ABSTRACT**

***Background**: fatigue is the most disturbing sign and symptom felt by cancer patients. As a result of fatigue, clients become too tired to engage in daily activities so that it can affect the client's quality of life. It is necessary to know the factors that have the most significant relationship with fatigue in cancer clients and appropriate nursing interventions are needed to overcome it. **Objective**: this study was to determine the factors that have the most significant relationship with fatigue in cancer clients and to determine the effect of five-finger relaxation technique intervention on fatigue. **Method**: research with pre-test and post-test design with 32 respondents with purposive sampling. Data analysis using paired t-test, wilcoxon and spearman correlation. **Results**: the study showed that sleep quality had a significant relationship with fatigue (p value = 0.004), and the five-finger relaxation technique had an effect on improving sleep quality and decreasing fatigue in ca mammae clients (p = 0.000). Sleep quality and fatigue have a moderate relationship (r = 0.396) and a positive pattern. **Conclusion**: this study recommends the need to use the five-finger relaxation technique to overcome sleep quality disorders and fatigue as symptoms and signs that are often found in cancer clients.*

**KEYWORDS**

*Five finger relaxation technique, sleep quality, fatigue, ca mammae.*



## INTRODUCTION

Fatigue is a feeling of tiredness that includes physical, mental and emotional, described as a feeling of helplessness or lack of energy to do something we want or need (1). Fatigue is a very common symptom and sign in cancer clients, or what is commonly called cancer-related fatigue, different from fatigue experienced by healthy individuals in everyday life (2). In normal individuals, fatigue will disappear with adequate rest and sleep, while fatigue in cancer clients will continue even after adequate rest and sleep (3).

Research in several places found that as many as 40% to 100% of cancer patients experience fatigue. Research in the United States stated that out of 1,569 cancer patients,

80% of clients undergoing chemotherapy and 90% of clients undergoing radiotherapy experienced fatigue (4). Research conducted on cancer clients who had experienced metastasis found that the prevalence of cancer-related fatigue reached 75% (5).

Fatigue that occurs in clients with cancer is the most disturbing symptom and sign compared to pain, nausea and vomiting (6). Continuous fatigue can affect the client's quality of life, because the client becomes too tired to participate in activities and roles that make life more meaningful (6) (7). However, fatigue related to cancer receives less attention, less diagnosis and less treatment from doctors and nurses (7).

The pathophysiology that causes fatigue in cancer clients is not yet clear, but there are several studies that provide evidence of factors that may play a role in the onset of fatigue in cancer clients (8). Factors that contribute to fatigue in cancer clients are cancer itself (stage), cancer treatment, emotional stress (depression), sleep disturbances, nutritional disorders, pain, alcohol consumption, anemia and physical activity levels (8) (9). The results of a phenomenological study conducted on several patients using interview techniques on 10 cancer patients found that 100% of them experienced signs of fatigue (9). Nurses as health workers have a professional responsibility to participate in resolving any existing health problems (10).

The severity of cancer (cancer stage) can be categorized as a threat to the client's structural integrity. Cancer cells through the metastasis process will spread to the bone marrow, causing disruption of red blood cell production, causing anemia (11). Lack of red blood cells as carriers of nutrients and oxygen into cells causes the body to be unable to produce energy as needed (12). Cancer can cause changes in normal proteins and hormones related to the inflammatory process, thereby worsening fatigue. Cancer can cause fatigue directly by forming toxic substances in the body that cause changes in normal cell function.1 Almost half of gastric cancer sufferers experience fatigue, which is related to the stage of cancer (13).

Nursing actions to help conserve the client's structural integrity are through the treatment process, in this case chemotherapy (6). Chemotherapy has an impact on hematological toxicity which not only affects cancer cells, but also disrupts the normal cell cycle by reducing the absorption of important cell nutrients, so that chemotherapy not only kills cancer cells, but also kills normal cells. Chemotherapy also plays a role in changes in normal proteins and hormone levels which contribute to worsening fatigue (14).

However, cancer treatment (chemotherapy), until now is one of the best actions that must be done to inhibit the development of cancer cells to the next stage, although there is a lot of evidence that shows that chemotherapy is one of the factors causing cancer related fatigue. Nursing interventions carried out in an effort to overcome cancer related fatigue, with this in mind, it is necessary to consider providing interventions on other fatigue determinant factors (15).

Damage to structural integrity, both actual and potential, will be manifested in the form of pain complaints. Pain is a common complaint experienced by cancer clients, this

condition is thought to be caused by nerve endings that normally do not transmit pain becoming able to provide a sensation of pain, or nerve endings that normally only transmit very painful stimuli becoming able to transmit previously non-painful stimuli as very painful stimuli (16). Continuous pain complaints can be a stimulus for fatigue. Several nursing journals present research results that provide evidence of nursing interventions that are stated to be effective in reducing pain intensity, including acupuncture, aromatherapy, herbs, hypnotherapy, massage, music therapy, reflexology, relaxation techniques and supplementation. Relaxation techniques that are known to be effective in dealing with pain include the five-finger relaxation technique (17).

## RESEARCH METHOD

This study uses a cross-sectional approach or cross-sectional study, the measurement of each variable is carried out for a moment or only once at the same time. The cross-sectional analytical design was chosen with the intention and purpose of being able to carry out measurements of each variable and obtain faster and more efficient results.

Furthermore, after finding the most dominant factor in ca mammae clients, the researcher provided intervention on the factor with a pre-test and post-test approach without control group design. The population in this study was 32 respondents with ca mammae clients in Central Java. This study used a purposive sampling technique.

## RESULT AND DISCUSSION

The results of this study describe the effect of providing five-finger relaxation technique nursing interventions on improving sleep quality and reducing fatigue, and explain the close relationship between sleep quality variables and fatigue after five-finger relaxation technique interventions in ca mammae clients. That the characteristics of sleep quality and fatigue of Ca Mammae clients before and after the intervention, namely showing that before the five-finger relaxation technique intervention, the highest value of ca mammae client sleep quality was 17 and the lowest value was 5. After the five-finger relaxation technique intervention, the highest value of client sleep quality became 12 and the lowest value was 2. The category of ca mammae client sleep quality before the intervention was 100% clients with poor sleep quality and after the intervention, namely clients with good sleep quality were 56% and with poor sleep quality decreased to 44%.

Fatigue characteristics of Ca Mammae clients show a picture of the level of fatigue of ca mammae clients before and after the provision of five-finger relaxation technique intervention, namely the highest value before the intervention was 40 and the lowest value was 21. After the intervention, the highest value dropped to 32 and the lowest value was 16. In the category of fatigue of ca mammae clients before the provision of five-finger relaxation technique intervention, namely the moderate fatigue category was 56% and severe fatigue was 44%. And after being given the five-finger relaxation technique intervention, namely the moderate fatigue category dropped to 47%, the severe fatigue category dropped to 3% and there were clients with a mild fatigue category of 50%. After

the normality test was carried out, the sleep quality variable data on clients before and after the intervention was given an abnormal distribution, with the results of the Shapiro Wilk value <0.05, while the fatigue variable was normally distributed with the Shapiro Wilk test value> 0.05. So to find out the effect of this intervention using the Wilcoxon test for the fatigue variable using the paired t test because the data was normally distributed.

The results of the comparison test of sleep quality before and after the intervention obtained a p value = 0.00 (p < 0.05), which means that there is a significant difference in sleep quality before and after the five-finger relaxation technique nursing intervention. The degree of fatigue of ca mammary clients before and after the intervention is the degree of fatigue pre-intervention mean 28.97 with a standard deviation of 4.652. The degree of fatigue post-intervention, mean 21.47 with a standard deviation of 3.610. While the t count obtained 15.576 with a t table of 1.729 (t count > t table) and p value = 0.000 (p < 0.05), which means that there is an effect of providing five-finger relaxation technique nursing intervention on reducing fatigue in Ca Mammae clients (18).

The conclusion is that the relationship between sleep quality and fatigue shows a moderate relationship (0.26 - 0.50) and has a positive pattern. By looking at the operational definition which states that the higher the sleep quality score, the worse the quality, and the higher the fatigue score, the more fatigue, it means that the worse the sleep quality of ca mammae clients, the more fatigue will be. Variable (r) (Spearman Rank) P value (Spearman Rank) Sleep quality - Fatigue Post Intervention 0.396 0.025* 95 more fatigue, and there is a significant relationship between sleep quality and fatigue (p = 0.025).

This paragraph describes the discussion that refers to the objective, namely to determine the factors that have the most significant relationship to the occurrence of fatigue in Ca Mammae clients and to determine the effect of providing five-finger relaxation technique nursing interventions on the most dominant factors causing it.

1. Sleep Quality

That sleep quality is the only factor that has a significant relationship with fatigue, that the better the sleep quality of the client ca mammae the lighter the level of fatigue. This is in accordance with previous research which states that fatigue in cancer clients is closely related to poor sleep quality, the worse the sleep quality the more fatigue. The function of sleep is still debated, however sleep plays a very important role in health, sleep plays a role in energy conservation (recollection), is a dynamic process involving brain activity, the immune system, and nerves (19).

Nursing intervention, in this case the five-finger relaxation technique is in an effort to help clients in conserving energy. With the five-finger relaxation technique, clients are led back to the beautiful experiences of the past that they have experienced so that clients become more relaxed and feel more comfortable. The five-finger relaxation technique is able to reach the subconscious mind, where emotional problems are processed, so that anxiety levels and 98 other emotional problems decrease and cause someone to fall asleep easily. Previous research provides evidence that sleep quality is not a factor that alone affects fatigue in cancer clients (1). Pain, depression and sleep quality together affect

fatigue in cancer clients. Jacklin Ingham stated that pain is indirectly related to fatigue in cancer clients, 101 pain can cause other symptoms that can directly cause fatigue, namely sleep quality.

Likewise with depression, these two factors influence each other, depression can cause sleep quality disorders and vice versa. In theory, it is stated that between psychological factors (anxiety, depression), physical (pain), sleep quality and fatigue are something that is interrelated with each other. Other evidence states that exercise is effective in reducing fatigue levels in cancer clients. This condition can be explained because exercise can improve mood, reduce depression, increase fitness, which will then improve sleep quality and ultimately reduce fatigue levels (14).

Insomnia is a symptom (a collection of symptoms and signs) that is usually related to psychological problems, such as anxiety, depression, sadness, stress, fear and other emotional problems (17). The five-finger relaxation technique is included in the guided imagination dictation technique, namely an activity where the client creates a pleasant image and concentrates on the image and gradually frees themselves from attention to the problem (pain and other emotional problems) (5). Five-finger relaxation is able to reach the subconscious mind, where emotional problems are processed, so that it can eliminate emotional problems in the subconscious mind. The five-finger relaxation technique is one of the general relaxation techniques by recalling pleasant experiences that have been experienced by someone (20). With five-finger relaxation, in the subconscious mind a person is led back to pleasant experiences so that feelings of comfort and relaxation arise, anxiety levels and other emotional problems decrease, so that a person finds it easy to fall asleep. Another study stated that the five-finger relaxation technique was able to reduce anxiety in cervical cancer patients with a p value = 0.00 ($p < 0.05$).

In line with the results of the above study, existing research also states that the five-finger relaxation technique is effective in reducing anxiety in hypertensive clients with a significance level of 0.019 ($p < 0.05$). The results of this study support the opinion that states that five-finger relaxation is effective in providing a relaxing effect, providing a sense of comfort, reducing anxiety and further having a sleeping effect (6). The results of this second stage of research strengthen the results of the first stage of research that fatigue in breast cancer clients is strongly related to sleep quality, as evidenced by the increasing quality of sleep in breast cancer clients after the provision of five-finger relaxation intervention, the level of fatigue decreases. In accordance with research from Israel, 110 S.A et.al that fatigue in breast cancer clients is related to poor sleep quality, the worse a person's sleep quality, the more fatigue will be (19). Because of the close relationship between sleep quality and fatigue, according to the review article from Kristin, L. et.al, just by providing one guided imagery therapy intervention (five-finger relaxation technique), it can cause positive developments in symptoms in breast cancer clients, namely reducing pain, improving sleep quality and reducing fatigue (20).

2. Age

The age of clients with Ca Mammae is mostly in the productive age in terms of reproduction (<55 years), this is in line with the results of existing research that the majority of Ca Mammae clients are in the age range of 50-59 years (45.2%) and the age range of 40-49 years (31.5%), is in second place. Another study explains that the highest age of Ca Mammae sufferers is <50 years, as much as (62%). This is in accordance with research that has been conducted that age is not related to fatigue with a p value = 0.281 (p <0.05). The condition of fatigue in Ca clients is more related to economics, sociodemography, and depression. In theory, the older a person is, the more fatigue there will be, including the ability to do physical activities, so the older they are, the more fatigue there will be (10). This theory applies to the occurrence of fatigue in normal people, for fatigue due to cancer this theory does not apply. Research proves that age is not related to fatigue in cancer clients (cancer related fatigue) (7).

3. **Stadium Cancer**

The study found that the majority of breast cancer clients who participated in the study were in stage III (56.6%). This is not much different from previous studies that found that stage IIIB was the second most common stage (34.2%) found in breast cancer clients.

Furthermore, the study showed that cancer stage was not related to fatigue, p = 0.753 (p < 0.05). This condition is in accordance with previous studies that stated that fatigue in cancer clients was not related to cancer treatment and cancer itself (stage) (8). Previous studies found that there was indeed no clear explanation of the relationship between cancer stage and cancer-related fatigue. Fatigue in cancer clients is more related to psychological factors that accompany cancer, such as sleep quality and depression.

4. **Kemotherapi**

The results of the study illustrate that 34 people (64%) of breast cancer clients were undergoing chemotherapy and the rest were not undergoing chemotherapy. Further research found that chemotherapy was not related to fatigue, p = 0.583 (p <0.05). In line with previous research that in patients with cancer who were undergoing chemotherapy there was no relationship between fatigue and cancer treatment (21).

## CONCLUSION

The results of the study on the provision of five-finger relaxation interventions on sleep quality show that factors that have a significant relationship with fatigue in cancer clients and there is an influence of five-finger relaxation technique nursing interventions on improving the sleep quality of cancer clients. The influence of five-finger relaxation technique nursing interventions

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