



**THE EFFECTIVENESS OF CUPPING THERAPY WITH SLOW DEEP BREATHING ON ANXIETY AND SLEEP QUALITY IN BREAST CANCER AND CERVICAL CANCER PATIENTS**

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**ABSTRACT**

Breast cancer and cervical cancer are among the leading causes of death in women worldwide. Breast cancer and cervical cancer can cause psychological disorders in women who experience them, including anxiety and sleep disorders or poor quality sleep. Therefore, it is necessary to deal with anxiety and poor quality sleep in women with breast cancer and cervical cancer. One of the efforts that can be done is to provide cupping therapy and slow deep breathing. The purpose of this study was to determine the effect of cupping therapy and slow deep breathing on anxiety and sleep quality in patients with breast and cervical cancer. The design of this study is pre-experiment, one group pretest-posttest. The sampling technique used is consecutive sampling with inclusion and exclusion criteria, with a total of 15 respondents. This study used a HARS questionnaire with a validity value of 0.589, reliability of 0.793, and PSQI questionnaire with a validity value of 0.73, reliability of 0.83. Data analysis was performed using paired T-Tests. The results of this study showed that the anxiety score before treatment was 23.1 and the post-treatment score was 10.53, while the sleep quality score before treatment was 10.8 and the post-treatment score was 3.533 and the P-value was 0.000. In conclusion, cupping therapy and slow deep breathing have the effect of reducing anxiety and improving sleep quality in patients with breast and cervical cancer.

Keywords: anxiety; cancer; cupping therapy; sleep quality; slow deep breathing

**How to Cite (in APA Style)**

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**INTRODUCTION**

The main cause of the increase in morbidity and mortality rates among women is the high incidence of breast cancer and cervical cancer. Breast cancer and cervical cancer are among the most common problems faced by women around the world, both in developed and developing countries (Anggriani, et al., 2022). Any woman can suffer from breast cancer or cervical cancer because both diseases are problems commonly experienced by women everywhere and from all walks of life. Breast cancer accounts for 23-25% of all cancers experienced by women worldwide, with 1 million cases each year. The prevalence of breast cancer worldwide is 1-2% each year, causing 410,000 deaths among women worldwide. Cervical cancer accounts for 500,000 new cases worldwide each year, causing 274,000 deaths among women. In the last five years up to 2020, breast cancer cases in Indonesia reached 42.1 per 100,000 population with an average mortality rate of 17 per 100,000 population. This is followed by cervical cancer at 23.4 per 100,000 population with an average mortality rate of 13.9 per 100,000 population (Sung, et al., 2020). DATA Global Burden of Cancer Study from the World Health Organization shows that the incidence of breast cancer in Indonesia is 58,256 cases or 16.7% of the total 32,469 cases or 9.3% of the total cases (Observatory, 2020).

Cancer treatment takes a long time, unlike other diseases that can be cured or reduced immediately after treatment. Cancer treatment requires special methods such as chemotherapy, radiotherapy, surgery, and other therapies. Chemotherapy, as one of the methods of treating cancer, often causes therapeutic effects that can interfere with activities due to the physical and psychological discomfort

experienced by cancer patients. The effects of chemotherapy include anxiety and depression, which can interfere with the activities of cancer patients (Hafsah, 2022). Another impact of chemotherapy is sleep disturbance caused by physical discomfort. Sleep disturbance is often experienced by cancer patients undergoing chemotherapy, with a prevalence of 30-50%. This sleep disturbance is one of the causes of decreased sleep quality in cancer patients undergoing chemotherapy (He, 2022). Maharani, (2024) in her research stated that 61.5% of cancer patients experience moderate anxiety and sleep disorders (100%). Another study conducted by Ahsan, (2022) stated that 82.5% of cancer patients undergoing chemotherapy experience severe anxiety and poor sleep quality (82.5%). Poor sleep quality in cancer patients is not only caused by chemotherapy but also by physical pain, hospitalization, the treatment process, recurring negative thoughts, and fears related to cancer. The lack of attention to sleep disturbance complaints in cancer patients results in decreased sleep quality and increased unreasonable anxiety due to physical fatigue. Poor sleep quality in cancer patients has a negative impact on the immune system. A weakened immune system leads to a decrease in the production of growth hormone, which helps repair body tissue. This condition causes the cancer healing process to take longer (Itani, 2021).

Anxiety in cancer patients must be treated seriously to reduce the ongoing impact of anxiety, namely depression, which can lead to indirect death. One way to treat anxiety in cancer patients is through non-pharmacological treatments such as cupping therapy and slow deep breathing. Cupping therapy is useful for improving blood circulation, relieving swelling and pain, and stimulating the body's meridians. Cupping involves the application of warm negative pressure to stimulate histamine, serotonin, and endorphins, which have a positive effect on the body by helping to boost the immune system and improve mood, making it much calmer (Al-Bedah, 2019). Research conducted by (Syaifullah, 2021) showed that wet cupping therapy can increase HB levels in patients with anemia, with a significant increase after wet cupping therapy with a difference of 0.52. Wet cupping causes negative pressure on the skin surface, which causes an inflammatory reaction that serves to prevent damage to surrounding tissues and accelerate the healing process (Widada, W., & Hidayati, 2023). Cupping is reported to significantly cleanse the blood, boost natural immunity, enhance pharmacological treatment, and treat various medical conditions (Rosyanti, L., & Hadi, 2020). Slow deep breathing is a self-administered nursing intervention that positively impacts blood pressure and sleep quality through deep and slow breathing (Multazam, 2024). Slow deep breathing has been proven to reduce anxiety in pediatric leukemia patients undergoing chemotherapy because it relaxes the body by regulating breathing in a regular, slow, and deep manner, improving cardiovascular and respiratory function, and reducing the effects of stress. This is because when in a state of stress or anxiety, the body becomes tense, leading to shallow breathing (Arniyanti & Nahwaria, 2020). The purpose of this study was to determine the effect of cupping therapy and slow deep breathing on anxiety and sleep quality in patients with breast and cervical cancer.

## **METHOD**

The research design used is a pre-experimental design with one group of pre-test and post-test. Sampling was carried out using successive sampling with the following inclusion criteria: willing to be a respondent, not taking sleeping pills, vital signs within normal limits, no sensory disturbances, and no complications. Exclusion criteria were paralysis, hemoglobin below normal, and cognitive impairment, with a total of 15 respondents. This study used Hamilton Rating Scale for Anxiety (HARS) questionnaire with 0.589 validity test results and 0.793 reliability test, and Pittsburgh Sleep Quality Index (PSQI) questionnaire with 0.73 validity test results and 0.83 reliability test results. Before therapy, a questionnaire was filled out, then the respondent was asked to do slow deep breathing by sitting in a semi-Fowler position with both hands placed on the stomach, then slowly inhaling through the nose until the stomach expands, holding it for 3 seconds, and slowly exhale through the mouth. Then, repeat the process before going to bed. After the patient is relaxed,

cupping therapy is performed. The first step is to massage the shoulders and back, followed by sliding cupping and then wet cupping at 5 points, namely 1 point on al-kahil, 2 points on katifain, and 2 points on az-zhar a'la during  $\pm$  the next day, post-test. Analysis using paired T-Tests. This study has passed the ethics review at the STIKES Surya Global Yogyakarta Ethics Committee with ethics number No. 2.13/KEPK/SSG / VI / 2025.

**RESULT**

Table 1.

Frequency Distribution of Respondent Characteristics Breast Cancer and Cervical Cancer Patients

Characteristics	f	%	
Age	30-40	3	20,0
	41-50	7	46,7
	51-60	5	33,3
Level Of Education	Elementary School	4	26,7
	Junior High School	2	13,3
	Senior High School	6	40,0
	College	3	20,0
Work	Housewife	11	76,9
	Employee	2	19,2
	Civil Servant	2	3,8
Number Of Chemotherapy Sessions	8 times	7	46,7
	More than 8 times	8	53,3
Medical History	Hypertension	3	20,0
	HNP	1	6,7
	Migrant	1	6,7
	Nothing	11	73,3
Stadium	1	6	40
	2	6	40
	3	3	20
Long Suffering	Less than 10 year	11	73,3
	More than 10 year	4	26,7

Table 1 shows that the majority of the intervention group was aged 41-50 years, 7 respondents (46.7%), the majority had a high school education, 6 respondents (40%), with jobs as housewives, 11 respondents (76.9%), a history of chemotherapy more than 8 times, 8 respondents (53.3%), with the majority having no history of the disease, 11 respondents (73.3%), with the majority of stages 1 and 2, each with 6 respondents (40%), and the duration of cancer, the majority of less than 10 years, namely 11 respondents (73.3%).

Table 2.

Average Anxiety and Sleep Quality Questionnaire Scores Before and After Cupping Therapy and Slow Deep Breathing

Variable	Average Questionnaire Score		Pre- and Post-Difference
	Pre	Post	
Anxiety	23.1	10.53	12.6
Sleep Quality	10.8	3.533	7.267

Table 2 shows that the average anxiety score before intervention was 23.1 and after intervention it became 10.53, resulting in an average difference of 12.6. Based on these results, it can be concluded that anxiety decreased after intervention. The average sleep quality score before therapy was 10.8, and after the intervention it became 3.533, resulting in an average difference of 7.267. Based on these results, it can be concluded that sleep quality improved after the intervention.

Table 3.

The Effect of Cupping Therapy and Slow Deep Breathing on Anxiety and Sleep Quality in Patients with Breast Cancer and Cervical Cancer

	Mean	Std. Deviation	t	Sig. (2-tailed)
Pre-Sleep Quality - Post-Sleep Quality	7.267	2.631	10.696	.000
Pre-Anxiety - Post-Anxiety	12.600	7.917	6.164	.000

Table 3 shows that the average sleep quality score was 7.267 with a significance of 0.000, so it can be concluded that cupping therapy and slow deep breathing have an effect on the sleep quality of breast cancer and cervical cancer patients. The average anxiety score was 12.600 with a significance level of 0.000, so it can be concluded that cupping therapy and slow deep breathing have an effect on the anxiety of breast cancer and cervical cancer patients.

## **DISCUSSION**

Cancer patients typically face more psychological issues compared to other patients. The cancer diagnosis itself is a major challenge. This is followed by a lack of personal control over current treatment methods and uncertainty about the outcomes (Baqutayan, 2012). Cancer patients experience various psychological issues, with anxiety being the most common. The anxiety felt by patients includes fears about their own thoughts, bad premonitions, easy tears, difficulty concentrating, memory decline, fluctuating emotions, sudden rapid heartbeat, and palpitations. This finding is supported by research conducted by Oetami, (2014), which states that anxiety can manifest physically, such as rapid heartbeat, chest tightness, or shortness of breath.

Anxiety in cancer patients can negatively impact the chemotherapy they undergo and their psychological and medical recovery; this anxiety can also cause patients to stop chemotherapy (Pratiwi et al., 2017). In this study, prior to treatment, the anxiety score was 23.1, which is supported by research conducted by Hafisah, (2022), indicating that most cancer patients undergoing chemotherapy show moderate levels of anxiety. This is influenced by a lower cancer stage, specifically stages 1 and 2, during which respondents feel that their anxiety is slightly more controlled. This finding is reinforced by Mila, 2025, who states that the higher the stage, the higher the level of anxiety. Education also affects anxiety levels in patients; in this study, the majority of patients had a high school education. Based on research conducted by Arimurti (2020), and Iskandar, (2023), education influences patient adherence to treatment, improving the absorption of information provided, thus it is hoped that anxiety does not worsen. Cupping therapy is a complementary therapy based on the healing techniques of the Prophet Muhammad, aiming to eliminate toxins from the body through the skin's surface. This therapy has many benefits, one of which is reducing anxiety by enhancing blood circulation and boosting the immune system. Slow deep breathing therapy is a technique of deep, slow breathing that has benefits, including lowering hypertension, acute and chronic pain, and anxiety.

In Table 4 can be seen the value of p value on anxiety is  $0.000 < 0.05$ . Giving cupping therapy accompanied by slow deep breathing was able to significantly reduce anxiety from 23.1 to a value of 10.53 with a difference in score with pre-test is 12.6. this is supported by what the patient feels: he no longer has palpitations, feels more relaxed, the pulse is getting more regular, but still feels difficulty concentrating, feels afraid of himself, and bad feelings still remain. Based on research conducted by Purnami, (2024), it results in a decrease in stress and a decrease in blood pressure. Cupping is done by stabbing and sucking the skin pda will result in endorphin and adrenocortical hormones expressed into the circulation. Endogenous opioid and neuropeptide expression has analgesic and anti depressant effects on skin tissue in addition to the pain-relieving effects of these neuropeptides and endorphins (Benli, 2018). This is in line with research conducted by Lowe, (2017), that the freezing process is effective in reducing anxiety due to negative pressure that occurs in the cupping process resulting in cells participating in the attraction. In addition to slow deep breathing therapy, anxiety will be significantly decreased. This is in accordance with research conducted by Tamrin, (2023), because taking a deep and slow breath can increase lung ventilation and increase blood oxygenation, so that blood circulation in the body is smooth so that it can cause a relaxing effect by lowering the hormone cortisol and secreting the hormone endorphin.

Cancer patients in addition to experiencing anxiety, also experience physical disorders, one of which is disruption of sleep patterns. It is conveyed by Clevenger, (2013) that sleep disturbance is

a common clinical complaint in oncology patients and contributes to substantial morbidity. Greater increases in anxiety and depression are associated with increased sleep quality disorders over time. Symptoms of patients experiencing sleep disorders are drowsiness during the day, waking up at night, and reduced sleep duration. In Table 4. It is seen that the value of p value 0.000, in addition to cupping therapy and slow deep breathing can reduce anxiety, this therapy can improve the quality of sleep of cancer patients. This result is supported by Hidayat, (2025), namely the quality of sleep in chronic patients is improved by the administration of cupping therapy. Other studies have shown a positive effect of cupping therapy on sleep quality (Sirotujani, F. and Kusbaryanto, 2019). According to Holder, (2022), cupping reduces pain and inflammation effectively. The process of dispensing mediators and stimulation of inflammatory cells provides a significant anti-inflammatory effect, so that the body more easily enters an optimal state of rest. This mechanism supports increased comfort and tranquility which is an important factor in improving sleep quality. Psychologically cupping therapy works by the principle of creating negative pressure on the skin that stimulates mechanoreceptor receptors and then sends impulses through the nerves a-delta and C to the spinal cord which then the thalamus modulates these signals and integrates with the limbic system and gives rise to psychological relaxation effects. This facilitates the brain's transition to an alpha wave pattern that is identical to sleepiness. This stimulation triggers the release of enkafalin in the central nervous system which then works to inhibit the transmission of pain impulses and provide a comfortable sensation, making it easier to achieve improved sleep quality (Hidayat, 2025). In addition to cupping therapy, researchers combine it with slow deep breathing to overcome sleep disorders in patients. Slow deep breathing is one of the nursing care competencies that can be applied to patients. Slow deep breathing is able to improve sleep quality, according to the results obtained by Laili, (2023) on sleep quality in the elderly. According to (Fajarini et al., 2023), SDB occurs due to the stimulation of the activity of the parasympathetic nucleus rate autonomic nervous system, causing changes that can control the activity of the autonomic nervous system in the form of reduced oxygen function, breath frequency, pulse rate, auto tension, blood pressure and alpha waves in the brain so that it is easy to fall asleep. One of the indicators of good sleep quality is that a person wakes up feeling refreshed. This is in accordance with the results of the field that the patient feels soundly, wake up fresh, not achy, sleepless nights do not wake up, if there are awakened can still sleep, and drowsiness is felt earlier than before.

## **CONCLUSION**

The effect of cupping therapy and slow deep breathing to reduce anxiety and improve sleep quality in patients with breast cancer and cervical cancer. This therapy can be applied by medical personnel in maximizing the treatment of cancer patients in overcoming complaints that accompany chemotherapy such as anxiety and sleep disorders, it is expected that the patient's quality of life is better and improved.

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