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Research Article

Effectiveness of Acupressure Therapy as a Complementary Approach in Pain Management of Cervical Cancer Patients

Safik Setia Purnama[1*], Ema Wahyu Ningrum[2]

[1] Nursing Professional Study Program, Universitas Harapan Bangsa, Indonesia, Email: safiksetya@gmail.com
[2] Nursing Professional Study Program, Universitas Harapan Bangsa, Indonesia, Email: em4wahyuningrum@gmail.com
Author's Correspondence: **Safik Setia Purnama**

Abstract: Pain is one of the most common and distressing symptoms experienced by patients with cervical cancer. It significantly affects patients' quality of life, leading to both physical and psychological burden. Conventional pharmacological interventions often come with side effects and may not fully address the multidimensional nature of pain. As an alternative, non-pharmacological approaches such as acupressure therapy have gained attention for their potential effectiveness and minimal risk profile. Acupressure is a form of traditional Chinese medicine that involves applying manual pressure to specific points on the body to stimulate healing and relieve discomfort. This case study highlights the outcome of a three-day acupressure intervention administered to a cervical cancer patient suffering from moderate pain and anxiety. Before the intervention, the patient's pain level was recorded at a score of 4, accompanied by noticeable anxiety. Following consistent acupressure sessions, both the pain and anxiety scores decreased to 2, indicating a meaningful improvement in comfort and emotional state. The underlying mechanism of acupressure is believed to involve the stimulation of the central nervous system, which enhances the release of endorphins—natural painkillers that act as analgesics. These findings suggest that acupressure not only provides symptomatic relief but also contributes to emotional well-being, making it a viable complementary therapy for cancer pain management. While this case study offers promising results, it is limited by its single-subject design. To validate these outcomes, further research using a randomized controlled trial (RCT) methodology and a larger sample size is highly recommended. This will provide more robust evidence on the efficacy of acupressure and support its integration into holistic cancer care.

Keywords: Pain, Acupressure, Therapy, Cancer, Anxiety.

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1. Introduction

According to the Global Burden of Cancer (GLOBOCAN) report in 2020, the number of new cancer cases worldwide is estimated to reach 19.29 million, while the number of cancer deaths reaches around 9.96 million (Changfa et al., 2022). In the same year, the Global Cancer Observatory noted that Asia accounted for about 9.5 million new cases, or about 49.3% of the total global cancer cases. This data shows that the incidence rate of cancer in the Asian region is very high. In Indonesia alone, the number of cancer cases reached 396,914. In the period 2010 to 2013, Dharmais Cancer Hospital noted that breast cancer, cervical cancer, and lung cancer were the three most common types of cancer. In addition, both the number of new cases and the death rate from the three types of cancer continue to show an increasing trend (Data and Information Center of the Indonesian Ministry of Health, 2015).

Cancer is a chronic disease that requires long-term treatment and is one of the leading causes of death, especially in developing countries (Howell et al., 2021). Among various types of cancer, cervical cancer ranks as the leading cause of death in women globally (Singh et al., 2021). One of the challenges in treating cervical cancer is its difficult detection, so more than 70% of patients are diagnosed when the disease has reached an advanced stage. According to (Arum, 2015) this condition is further exacerbated by the low awareness of the public, especially women, to conduct routine health checks. Currently, various cancer treatment

methods are available including surgery, radiotherapy, chemotherapy, and targeted therapy (Shinta & Surarso, 2016). However, it is important to pay attention to the physical, psychological, social and spiritual impacts of these treatments, as they can affect patients' quality of life. Some of the physical symptoms that often arise due to cancer therapy include pain, skin rashes, nausea and vomiting, and inflammation of the mouth or stomatitis (Yarbro, Debra, & Barbara, 2011).

Pain is one of the complaints often associated with cancer treatment. About 67% of patients with metastatic cancer experience pain, and this symptom is one of the most commonly felt by patients undergoing palliative care (Goucke, 2019). The pain felt by cancer patients can have a negative impact physically, psychologically, and emotionally, and reduce their quality of life (Liu et al., 2020). Therefore, pain management is an important aspect of the cancer care process. Several studies have shown that by following the WHO pain management guidelines consistently, up to 90% of patients can be pain-free (Goucke, 2019). The type of pain therapy chosen is usually tailored to the location, characteristics, duration, cause of pain, and effectiveness of previous treatment. One approach that is often used is analgesic therapy. In addition to pharmacological treatment, non-pharmacological approaches such as relaxation, touch therapy, music, acupuncture, and acupressure can also be used to help reduce pain (Nia et al., 2017).

Acupressure is a form of complementary therapy performed by pressing acupoints on the body using fingers. This method comes from traditional Chinese medicine which is based on the principle of balance between yin and yang, and seeks to maintain the function of vital organs through the smooth flow of blood and energy in the body (Chen & Wang, 2014). Acupressure therapy is known to provide a relaxing effect and reduce pain experienced by patients. Its mechanism of action is believed to involve stimulation of the adrenal system, which then produces analgesic and sedative effects (Serçe et al., 2018). A study with a randomized controlled trial (RCT) design that examined the effects of acupressure on leukemia patients experiencing pain showed that there were significant differences in pain levels before and after intervention in each group (Nia et al., 2017). A study on the effect of acupressure on pain in cancer patients with bone metastases showed that this intervention was carried out by nurses and experts who had attended a short training on acupressure (Serce et al., 2018). At the research site, pain management in cervical cancer patients has been dominated by a medical approach, while nursing management tends to focus only on physical complaints without paying attention to how patients adjust to the pain they experience. Therefore, nursing interventions that are integrated with nursing theory are needed so that the treatment provided can be more comprehensive and centered on patient needs.

Self-directed nursing interventions based on nursing theory aim to help patients adapt to and tolerate pain that may last for a long time, either due to treatment or due to the progression of cervical cancer itself. One of the relevant theories for this approach is Roy's adaptation theory, which focuses on the patient's adaptive response to changes in their health condition. Therefore, further case studies on pain management in cervical cancer patients are important, in order to improve patients' quality of life through adaptability to their pain. This study aims to evaluate the effectiveness of acupressure in reducing pain levels in patients with cervical cancer. The results of this study are expected to contribute to the development of nursing services as well as learning materials in nursing education.

2. Proposed Method

This research is a case study with one participant, Mrs.Y and was conducted at Prof. Dr. Margono Soekarjo Hospital. Acupressure interventions were carried out for three days on April 7, 2025 to April 9, 2025 at certain points. Pain and anxiety levels were measured using the Numeric Rating Scale (NRS) and grimace observation scale. Data were collected through observation, interviews to evaluate the patient's response to the intervention.

3. Results and Discussion

The findings of this case study indicate that acupressure therapy given for three days can be an effective alternative in pain management in cervical cancer patients. The implementation of nursing interventions is focused on modifying focal, contextual, and residual stimuli to strengthen the patient's coping mechanism. With comprehensive stimulus management, it is expected that there will be a decrease in stressor burden and an increase in patient adaptability (Rosińczuk et al., 2015). These results are in line with Septiwi and Setiaji's research (2020), which shows that the Middle-Range Theory (MAR)-based nursing care

model is able to accommodate the needs of patients with chronic kidney disease holistically and individually. This approach also provides space for patients to improve their coping skills and adjust to their health conditions (Septiwi et al., 2020).

This case study shows that acupressure therapy has a positive impact on reducing pain intensity in patients. Before the intervention was carried out, the pain level measured using the Numeric Rating Scale (NRS) was at a score of 4. Acupressure therapy has been recognized as one of the effective nonpharmacological methods in pain management, including in cases of low back pain (Septadina, 2021). In addition, the results of the study also show that acupressure therapy can reduce the grimacing effect from scale 4 to scale 2 because the principle of action is related to stimulation of the nervous system and the release of endorphins. This is in line with the statement from Grygory (2006) that Acupressure works by stimulating the midbrain area, specifically through the activation of cells in the periaqueductal gray matter (PAG) and raphe nucleus. Activation of these structures triggers the release of beta endorphins, which are endogenous opioids that function as natural analgesics. In addition, these stimuli also contribute to the secretion of adrenocorticotropic hormone (ACTH), which plays a role in physiological responses to stress and pain.

Bahrudin (2019) says that pain arises through multifactorial mechanisms that include nociception, peripheral sensitization, phenotypic changes, central sensitization, ectopic excitability, structural reorganization, and decreased neural inhibition. The pathway between tissue injury and pain perception involves four main stages: transduction, transmission, modulation, and perception. Pain stimuli received by skin nociceptors can vary in intensity. Necrotic cells release intracellular K^+ ions and proteins; an increase in extracellular K^+ triggers depolarization of nociceptors, whereas proteins facilitate infiltration of microorganisms that trigger inflammation. Inflammation further produces pain mediators such as leukotrienes, prostaglandin E2, and histamine that activate nociceptors, so both noxious and non-noxious stimuli can trigger a pain response.

The results also showed that the patient's condition felt anxious when he had not received acupressure therapy by showing a scale of 4, after being given nursing intervention in the form of acupressure therapy the scale dropped to 2, this is in line with research from Senudin (2019) that acupressure is effective in reducing anxiety levels and increasing endorphin hormones. The pain scale is divided into three main categories, namely: scale 0 indicates the absence of pain; scale 1 to 3 is categorized as mild pain; scale 4 to 6 as moderate pain; scale 7 to 9 is included in severe pain; and scale 10 describes pain that is very intense or unbearable (Shiddiqiyah & Utami, 2023).

Table 1. Pain indicators

Pain Intensity	Pain Complaints	4 (Moderate)	2 (Mild)
	Grimace	4 (Moderate)	2 (Mild)
	Restlessness	4 (Moderate)	2 (Mild)

Complementary and alternative medicine, such as acupressure, has become an important part of healthcare practice. Acupressure works on the principle of stimulating acupuncture points on the body's meridian pathways to help balance the flow of vital energy, aiming to reduce pain and discomfort. This therapy uses manual pressure techniques on specific points as an approach in managing various physical complaints. Acupressure is safe as it does not involve skin penetration, and is considered practical and economical as it only requires pressure from fingers or simple tools (Mehta et al., 2017).

In this case study, the patient still received analgesic therapy along with acupressure. Acupressure therapy on the meridian point (HT6) and hegu point (L14) performed for 5 minutes significantly helped relieve post-cesarean section pain. Postoperative pain is also a clinical condition that can be managed through acupressure therapy. According to a report by Nani (2015), the application of acupressure at points HT6 and LI4 proved effective in helping to reduce pain after cesarean section (SC). Analgesic therapy acts as a complementary intervention to pharmacological treatment. One study suggested that analgesic drugs such as morphine are commonly used in the management of pain in cancer patients. Morphine works by binding to opioid receptors in the central nervous system to produce analgesic effects (Heri & Subarnas, 2019).

The intervention in this study was conducted through a case study approach involving only one participant, so the results cannot be widely generalized to the population of patients with cervical carcinoma or cancer patients in general. Therefore, researchers recommend that future studies integrate nonpharmacological therapy in the form of acupressure with a variety

of different stimulation points. In addition, a more robust research design, such as a randomized controlled trial (RCT), with a larger sample size is needed to obtain more representative results and support the development of nursing science.

4. Conclusions

Acupressure is proven to be effective as a complementary therapy in reducing pain intensity and anxiety in cervical cancer patients. Although the results are promising, generalization is still limited due to the small sample size. Further research with RCT design and more participants is needed.

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