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# IMPLEMENTATION AND EDUCATION OF THE COMBINATION THERAPY OF SWEDISH MASSAGE AND ACUPRESSURE FOR ELDERLY WITH LOW BACK PAIN: CASE STUDY

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## ABSTRACT

**Introduction:** Low back pain (LBP) is a common complaint experienced by the elderly. LBP can occur due to a history of static work positions. One complementary therapy to address chronic pain is a combination of Swedish massage and acupressure. Massage therapy is well-known as a pain relief method in Banteran Village. With education on Swedish massage and acupressure for families with LBP clients, pain management can be carried out properly and independently. **Purpose**: The objective of this case study is to investigate the effect of a combination therapy of Swedish massage and acupressure on low back pain in the case of Mrs. R. **Methods**: This study used a single-subject study method, which focuses on observing and analyzing the changes felt by individuals after receiving a combination of Swedish massage and acupressure therapy. The intervention was performed 8 times, with a two-day interval between sessions. The researcher asked the client to rate their pain level on a pain scale and measured blood pressure before and after therapy. **Discussion**: The results of the combined Swedish massage and acupressure therapy on the elderly patient, Mrs. R, showed a reduction in pain scale after 8 sessions with a frequency of every other day. The pain level decreased from moderate to mild, and blood pressure was reduced by 23-11 mmHg systolic and 15-8 mmHg diastolic. The pain reduction was due to the release of endorphins, which help relax the body. However, the pain returned afterward due to excessive physical activity. This therapy can be performed independently by Mrs. R's family. **Conclusion:** There was a reduction in the pain scale of low back pain (LBP) experienced by the client before and after the combination therapy of Swedish massage and acupressure. The intervention can also be performed independently by the family.

**Keywords:** Acupressure, low back pain, and swedish massage.

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## INTRODUCTION

According to Law No.13 of 1998 about Elderly Welfare, a person is considered elderly when they reach the age of 60 or older. The aging population worldwide, including in Indonesia, has led to an increase in the number of elderly individuals who are vulnerable to health issues (Kemenkes, 2021). One common complaint frequently experienced by the elderly is low back pain (LBP).

Low back pain (LBP) is a symptom that can be caused by various abnormalities, both identified and unidentified, localized between the 12th rib and the buttock fold. It is often accompanied by discomfort in one or both legs and can be associated with neurological symptoms in the lower extremities. LBP frequently occurs alongside other issues, including psychological, social, and biopsychosocial factors, which influence the transmission and experience of pain (Cahya et al., 2021).

LBP can be classified by its onset: acute (less than 6 weeks), subacute (6 weeks to 3 months), and chronic (over 3 months). Based on its causes, LBP can be categorized

into specific LBP, radicular syndrome, and nonspecific LBP. Specific LBP includes vertebral fractures, malignancies, spinal infections, axial spondyloarthritis, and cauda equina syndrome, affecting 1% of LBP patients. Radicular syndrome involves radicular pain, radiculopathy, and spinal stenosis, affecting 5-10% of cases. The most common type is nonspecific LBP, resulting from mechanical disorders and degenerative conditions in the musculoskeletal system, accounting for 90-95% of LBP cases (Hüllemann, 2018).

The spine consists of vertebrae separated by intervertebral discs and connected by the anterior and posterior longitudinal ligaments. These vertebrae form the vertebral canal, which houses the spinal cord, branching into nerve roots and peripheral nerves. Radiculopathy often causes pain in the neck, arms, lower back, buttocks, and legs. Pain-sensitive structures include the periosteum, duramater, facet joints, annulus fibrosus, and epidural veins and arteries, including the longitudinal ligament. These structures can trigger pain signals sent to the central nervous system, causing lower back pain. Risk factors for LBP include prolonged physical activity, stress, anxiety, regular heavy lifting, obesity, and prolonged sitting. LBP can result from infections, degenerative conditions, neoplasms, trauma, congenital disorders, metabolic diseases, and autoimmune conditions. The primary cause of LBP is mechanical, such as trauma to the vertebrae, discs, or surrounding soft tissues, followed by degenerative processes like osteoarthritis and osteoporosis (Cahya et al., 2021).

LBP is one of the most common health issues among the elderly, with prevalence increasing with age (Suh et al., 2019). Degenerative changes in the spine, such as decreased disc height, facet joint alterations, and weakening of supporting muscles, are major factors contributing to back pain in this age group (Chowdhury et al., 2023). One approach to managing LBP is through a combination of Swedish massage and acupressure.

Swedish massage, created by Heinrich Ling and developed by Johan Mezger in the 19th century, is a massage technique aimed at relaxing muscles, reducing pain, and improving blood circulation. This technique involves five types of manipulation: effleurage (gentle stroking movements to promote blood circulation), petrissage (kneading to nourish muscles and break down fat), vibration (to stimulate nerves and enhance muscle flexibility), friction (light pressure to relieve muscle tension), and tapotement (rhythmic tapping to accelerate blood circulation) (Shafi, 2023; Graha, 2019).

Acupressure is a technique that involves applying pressure to specific points on the body to stimulate the nervous system and internal organs. There are 361 acupressure points, divided into general points, extra points, and acupressure ashe points. (Kurniati, Imandiri & Herawati, 2020).

Combining Swedish massage and acupressure is more effective than using either technique alone in reducing pain. A study by Kurniati, Imandiri & Rahmawati (2021) showed a reduction in pain following the combined intervention of Swedish massage, acupressure, and turmeric. The acupressure points used include Shenshu (BL 23), Dachangshu (BL 25), Taixi (KI 3), Taibai (SP 3), and Fenglong (SP 40). Swedish massage and acupressure also stimulate the release of endorphins, serotonin, norepinephrine, and GABA, which help reduce pain and increase comfort (Kurniati, Imandiri & Herawati, 2020).

In Banteran Village, many elderly people use massage as a complementary therapy for pain, and this tradition has been passed down through generations. This study aims to analyze the effectiveness of combining Swedish massage and acupressure in managing chronic pain in the elderly.

## METHOD

This study uses a single-subject study method. The research was conducted at Mrs. R's house in Banteran Village from October 10 to October 29, 2024, with eight interventions provided at an intensity of once every two days and four educational sessions. The subject of the study is a 63 year old client with complaints of chronic low back pain, without signs of inflammation or malignancy, and not taking pain relievers. The focus of this study is to evaluate the effect of the combination of Swedish massage and acupressure

interventions on reducing low back pain and empowering the family to support the intervention process. The ethical principles applied in this case study include the principle of respecting human dignity, the principle of respecting privacy and confidentiality of the research subject, and the principle of weighing the benefits and harms (balancing harms and benefits) (Prizon & Edi, 2021).

The case study began with Mrs. R's consent to participate as a respondent then followed by eight interventions at an intensity of once every two days, measuring pain scale and blood pressure before and after each intervention. In the last four interventions, education on the combination therapy of Swedish massage and acupressure was provided to the client's family.

## RESULTS

**Table 1. Pain scale before and after therapy**

| Session | Pain Scale | |
|---|---|---|
| | Before | After |
| 1 | 5 (moderate) | 2 (mild) |
| 2 | 4 (moderate) | 2 (mild) |
| 3 | 4 (moderate) | 2 (mild) |
| 4 | 5 (moderate) | 2 (mild) |
| 5 | 4 (moderate) | 2 (mild) |
| 6 | 4 (moderate) | 2 (mild) |
| 7 | 4 (moderate) | 2 (mild) |
| 8 | 4 (moderate) | 2 (mild) |

**Table 2. Blood Pressure before and after therapy**

| Session | Blood Pressure | |
|---|---|---|
| | Before | After |
| 1 | 125/82 mmHg | 102/70 mmHg |
| 2 | 128/82 mmHg | 110/75 mmHg |
| 3 | 129/85 mmHg | 113/72 mmHg |
| 4 | 130/89 mmHg | 119/75 mmHg |
| 5 | 125/85 mmHg | 110/78 mmHg |
| 6 | 128/88 mmHg | 109/75 mmHg |
| 7 | 119/80 mmHg | 105/72 mmHg |
| 8 | 122/88 mmHg | 106/80 mmHg |

The results of the intervention and education on the combination therapy of Swedish massage and acupressure, conducted 8 times with an intensity of every two days, showed a reduction in the low back pain (LBP) felt by the client. This study used a case study method with an Evidence-Based Practice (EBP) approach in complementary nursing care. The applied EBP combination of Swedish massage and acupressure therapy to reduce low back pain in the elderly.

This is consistent with previous research by Ulfaturrohmah & Sukraeny (2023), which showed that Swedish massage therapy effectively reduces low back pain after 8 interventions performed every two days. A similar result was supported by the study of Dairusz et al. (2017), which reported a reduction in pain after 10 interventions. Additionally, the research by Kurniati, Imandiri & Rahmawati (2020) demonstrated that combining Swedish massage and acupressure therapy reduced low back pain after 12 sessions.

In this case study, the therapy was performed every two days for a total of 8 sessions, with each session lasting 30 minutes. This was based on the research by Ulfaturrohmah & Sukraeny (2023), which stated that 8 Swedish massage sessions can reduce low back pain. The interventions were carried out during the day, after the client and their family had finished their activities, to ensure consistency in complementary therapy. The client's family was also able to perform the combined therapy independently.

## DISCUSSION

The results of applying the combination therapy of Swedish massage and acupressure on Mrs. R with chronic low back pain (LBP) over 8 sessions, every two days for 30 minutes, showed a reduction in pain scale from moderate to mild after the interventions, and the family was able to perform the therapy. Pain scale measurements using the NRS and blood pressure showed positive results from the first to the eighth session immediately after each session. This aligns with the study by Ulfaturrohmah & Sukraeny (2023), which states that Swedish massage therapy effectively reduces low back pain after 8 interventions. The combination of these therapies proved more effective than each therapy (Dairuzs et al., 2017).

The combination therapy of Swedish massage and acupressure can be performed independently by the family, using olive oil, baby oil, or essential oils. The techniques in Swedish massage consist of five types of manipulation: effleurage, petrissage, friction, tapotement, and vibration (Fahriyah et al., 2021). The acupressure

points used in this study included *Shenshu* (BL 23), *Dachangshu* (BL 25), *Taixi* (KI 3), *Taibai* (SP 3), and *Fenglong* (SP 40). Massage helps reduce pain by increasing the production of endorphins, which inhibit pain signal transmission and relieve muscle tension (Anggriawan & Kushartanti, 2019).

Mrs. R reported a decrease in pain and an improvement in mobility immediately after the therapy. Education provided to the client's family enabled them to continue the intervention independently. Barriers to the effectiveness of the intervention included the client's job, which requires lifting heavy loads every day, causing pain to recur. The client comes from a family with economic limitations, which affects her ability to reduce strenuous physical activities, according to Michael Marmot's (2004) theory on the impact of poverty on health. Limitations in this study include the involvement of only one subject, an excessive activity that hindered the full effectivity of the therapy, and the possible decrease in sensitivity to massage and acupressure over time.

## CONCLUSION

The intervention and education on the combination therapy of Swedish massage and acupressure for elderly patients with chronic low back pain (LBP) over eight sessions, every two days, resulted in a reduction in pain scale immediately after therapy. Following the intervention, there was a decrease in pain scale from moderate to mild, as well as a reduction in systolic blood pressure by 23-11 mmHg and diastolic blood pressure by 15-8 mmHg after each session of the combination therapy. The reduction in pain scale occurred because the combination therapy of Swedish massage and acupressure stimulates the release of endorphins, which help relax the body and reduce pain. The family members can also do the combination therapy of Swedish massage and acupressure independently.

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