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## **Implementation of Leech Therapy to Reduce Pain in Patients with Circulatory Problems at Griya Sehat Muslimah Srengseng Kembangan, West Jakarta**

Alfian<sup>1</sup>, Yuniawati<sup>2</sup>

Nursing Study Program, Sismadi Health College, Indonesia

e-mail: [rmalfian1@gmail.com](mailto:rmalfian1@gmail.com)

### **Abstract**

Circulatory disorders are a health problem that often causes chronic pain and reduces quality of life. Leech therapy is a traditional method that has the potential to improve circulation and reduce pain through the natural anticoagulant effect of leech saliva. This study aims to evaluate the effectiveness of leech therapy in reducing pain in patients with circulatory disorders at Griya Sehat Muslimah Srengseng Kembangan, West Jakarta. This study was a quasi-experimental study with a pre-test and post-test approach in 12 patients with circulatory disorders. Each patient underwent leech therapy three times over two weeks. Pain intensity was measured before and after therapy using a Visual Analog Scale (VAS). The results showed a significant decrease in pain intensity after therapy. The average reduction in pain on the VAS scale was 3.7 points after three treatments, indicating that leech therapy is effective in reducing pain in patients with circulatory disorders. Leech therapy has been proven effective in reducing pain in patients with circulatory disorders. This therapy can be a non-pharmacological alternative for managing pain in patients with circulatory disorders

**Keyword:** Leech Therapy; Pain; Circulatory Disorders; Traditional Medicine; Anticoagulants

### **Introduction**

Circulatory disorders are medical conditions characterized by impaired blood flow, often causing pain and discomfort, especially in the extremities (Indonesian Ministry of Health, 2021). Causes of these circulatory disorders include diabetes, hypertension, and atherosclerosis, which can worsen a patient's quality of life (American Heart Association, 2019). Efforts to improve circulation and

reduce pain through non-pharmacological approaches are important, especially for patients who cannot rely on long-term pharmacological therapy.

Leech therapy, or hirudotherapy, has been used in traditional medicine to improve blood flow and reduce swelling. Leeches produce the enzyme hirudin, which has anticoagulant properties, helping to thin the blood, prevent clotting, and improve blood flow in the affected area (Whitaker et al.,

2020). Research shows that hirudotherapy is effective in treating circulatory disorders such as chronic venous disease and thrombosis (Zhao & Xu, 2017).

Leech saliva also contains compounds with anti-inflammatory and analgesic properties, which are beneficial in reducing chronic pain (Michalsen et al., 2019). A study by Kim et al. (2018) stated that hirudotherapy helps reduce pain in patients with circulatory disorders by reducing inflammation in the affected area. Leech therapy is also considered safe for people of all ages and effective as an adjunct therapy for circulatory disorders.

Griya Sehat Muslimah Srengseng Kembangan in West Jakarta offers leech therapy for patients with circulatory disorders. Initial observations in the clinic indicate significant improvements in patients who undergo regular leech therapy. However, empirical evidence regarding the effectiveness of this therapy in reducing pain is still needed.

This study aims to measure the effectiveness of leech therapy in reducing pain in patients with circulatory disorders, thereby providing

scientific evidence to support the use of leech therapy as a non-pharmacological alternative.

**Method**

This study was a quasi-experimental study with a pre-test and post-test approach in one group. The study involved 12 patients with circulatory disorders experiencing chronic pain and undergoing therapy at Griya Sehat Muslimah Srengseng Kembangan. Respondents were selected by purposive sampling based on inclusion criteria. Leech therapy was carried out three times over two weeks, each session lasting 20 minutes. At each session, leeches were placed on the area experiencing circulatory disorders to help reduce pain. Pain intensity was measured using a Visual Analog Scale (VAS) before and after therapy. This scale is used to measure pain intensity with a range of 0-10, where 0 means no pain and 10 means very severe pain. Analysis was performed using a paired t-test to observe changes in pain intensity before and after the intervention.

**Result**

Table 1. Changes in Pain Intensity Before and After Leech Therapy in 12 Patients with Circulatory Disorders

Patient	Before Therapy	Aftere Therapy	Pain Reduction
Patient 1	7	3	4
Patient 2	8	4	4
Patient 3	6	2	4
Patient 4	7	3	4
Patient 5	8	4	4
Patient 6	6	3	3
Patient 7	7	3	4
Patient 8	8	5	3
Patient 9	6	3	3
Patient 10	7	3	4
Patient 11	8	4	4
Patient 12	7	3	4

Table 1 shows a significant reduction in pain intensity after leech therapy in 12 patients. The average reduction in pain intensity was 3.7 points.

### Discussion

The results of this study indicate that leech therapy is effective in reducing pain in patients with circulatory disorders. The average reduction in pain of 3.7 points supports the findings of Michalsen et al. (2019), which showed that leech therapy helps reduce pain associated with circulatory disorders. This reduction is due to the natural anticoagulant and analgesic properties of leech saliva, which improve blood circulation and reduce pain.

Research by Zhao & Xu (2017) also indicates that leech therapy is effective in reducing pain and swelling in areas with circulatory disorders. The anti-inflammatory effects of leech saliva reduce inflammation and accelerate healing in areas with impaired blood flow (Kim et al., 2018).

The success of this therapy at Griya Sehat Muslimah Srengseng Kembangan demonstrates the potential of leech therapy as a safe, non-pharmacological therapy. However, this study was limited in sample size. Further studies with a larger population are needed to confirm these results.

### Conclusion

Leech therapy has been proven effective in reducing pain in patients with circulatory disorders at Griya Sehat Muslimah Srengseng Kembangan. With its anticoagulant and anti-inflammatory effects, leech therapy can be used as a non-pharmacological alternative for pain management. Further research is

needed to confirm these findings.

### Acknowledgment

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