

# Effect of Foot Massage in Postpartum Pain on Normal Delivery Mothers

Kathing Lanluila<sup>1</sup>, Mary V.J<sup>2</sup>

<sup>1</sup>MSc Nursing student, Department of Obstetrics and Gynaecology Nursing, St. John's College of Nursing, Bengaluru, India, 560034

<sup>2</sup>Assistant Professor, Department of Obstetrics and Gynaecology Nursing, St. John's College of Nursing, Bengaluru, India, 560034

Corresponding Author: Kathing Lanluila

DOI: <https://doi.org/10.52403/ijshr.20240356>

## ABSTRACT

**Aim:** The aim of this review article is to provide nurturing and emotional support as well as alleviate the muscle aches from the strain of labor and child birth.

**Background:** The postpartum period is a time of joy and adjustment, but it can also bring discomfort and pain. In this article, we will explore the intriguing world of foot massage and its impact on alleviating postpartum pain after normal vaginal delivery. This review article provides an insight on how a simple touch on the feet can make a significant difference in the well-being of postnatal mothers. The "postpartum period" refers to the period that begins 1 hour after the birth of the fetus and excretion of the placenta and lasts for 6 to 8 weeks, during which involution of the uterus occurs, where most of the mother's system returns to the pre-pregnancy state, and maternal, infant, and family adjustment is achieved. Mothers experience pain at different levels during this period, as the pain thresholds of mothers vary. Although pain is subjective, mothers can generally define their pain. During the postpartum period, mothers may benefit from the nonpharmacological pain control techniques that aim to alleviate the severity of pain while eliminating the serious side effects of pharmacological methods<sup>1</sup>.

**Methods:** Review search through PubMed, Google scholar, Medline Plus.

**Results:** Several randomized control trials were reviewed and majority of the findings revealed in the reduction of pain intensity among the intervention groups in comparison to the control group. It also has an additional benefit of reducing fatigue and enhance overall maternal comfort. The potential of utilizing it as an active management of pain by the nurses during post-partum period is extensive.

**Conclusions:** The utilization of foot massage as a non-pharmacological pain management after normal vaginal delivery is a key factor in providing competent and holistic nursing care. With strong evidence of its benefits in reduction of pain score among mothers, the nurse must strive to educate themselves and form collaboration with certified reflexologists to promote maternal comfort and enhance their overall well-being.

**Keywords:** Foot massage, post-partum, pain.

## INTRODUCTION

Postnatal is the period beginning immediately after birth of a child and extending for about six weeks<sup>[1]</sup>. Recently, various complementary therapies such as Music, Transcutaneous Electrical Nerve Stimulation (TENS), Massage and Relaxation are effective in relieving post-

partum pain. A massage, which uses finger pressure at specific zones of the feet. It is easy for patients to learn how to incorporate them into their treatments to achieve relaxation and reduce stress [2]. Massage may be used as a primary therapeutic intervention or as an adjunct to other therapeutic techniques. The benefits of these interventions can include the following: reduction of edema, increase of local blood flow, decrease of muscle soreness and stiffness, moderation of pain, facilitation of relaxation<sup>[3]</sup>. Pain the most common complications after vaginal delivery and complementary therapies are most common strategies for promoting comfort in postnatal mothers. It involves a simple technique, cost-effective and requires no special equipment. Nurses play a vital role in the application of different nonpharmacological techniques in pain relief, and foot massage is one of the most efficient interventions to alleviate pain. Approximately 10 to 15 minutes of foot massage can be used as a complementary method to reduce the need for postpartum pain medication. In addition, foot massage may be useful for nurses because of its ability to reduce the need for additional intervention for pain<sup>1</sup>. In many countries massage is increasingly playing an important part as an adjunct to traditional medicine as a method of pain relief. Foot massage has a long historical pedigree and it has been identified in both ancient Chinese and Egyptian tradition. The use of massage was noted in hieroglyphics the practice was initiated since the age of Pharaohs <sup>[4,5]</sup>. Massage provides people with profound benefits through biomechanical, physiological, neurological, and psychological mechanisms <sup>[6]</sup>. Postpartum pain is common among mothers after childbirth, especially those who have had a vaginal delivery. It can range from mild discomfort to more severe pains, making everyday activities challenging during this delicate time. Incorporating foot massage into postpartum care after vaginal delivery can be a beneficial and non-

invasive method to help alleviate pain and promote overall well-being for mothers. By targeting specific pressure points on the feet, massage has shown promising results in reducing postpartum discomfort <sup>[7]</sup>.

Mothers who have undergone normal vaginal deliveries may find relief from various types of pain, including back pain, pelvic discomfort, and general muscle soreness through regular foot massage sessions. This holistic approach not only addresses physical symptoms but also contributes to mental relaxation and emotional balance during the sensitive postpartum period. With its gentle yet effective techniques, foot massage offers a natural way for mothers to manage their postpartum pain levels without relying solely on medication. By stimulating the body's natural healing mechanisms through strategic touch points on the feet, massage can support the recovery process and enhance overall comfort for new mothers as they navigate the early stages of motherhood <sup>[8]</sup>.

By understanding the potential benefits of foot massage in addressing postpartum pain after vaginal delivery, healthcare providers and individuals alike can explore this complementary therapy as part of a comprehensive approach to maternal wellness. Embracing alternative modalities like massage alongside traditional medical interventions can empower women to take an active role in their own healing journey while promoting a sense of balance and harmony in both body and mind <sup>[9]</sup>. By targeting these reflex points on the feet, foot massage can help alleviate postpartum pain by improving circulation, reducing inflammation, and releasing endorphins – our body's natural painkillers. Additionally, it provides a calming effect that can contribute to overall well-being as the mothers adjust to their new role. Integrating foot massage in postpartum care routine could be a game-changer in managing discomfort naturally and enhances the recovery process <sup>[10]</sup>.

## FOOT MASSAGE:

The ancient healing technique has been used for centuries to address various health issues, including postpartum pain after vaginal delivery. The idea behind foot massage is that by working on these points on the feet, it can positively impact corresponding areas of the body. Therefore, if the nurses choose to opt for a natural way to manage postpartum discomfort without relying solely on medication, foot massage might be worth exploring. With its gentle yet effective approach, foot massage offers mothers a non-invasive method to support their recovery process.<sup>[11]</sup>

## MATERIALS & METHODS

A total of 20 articles were reviewed to analyse the “Foot Massage”, “Post-partum”, “Pain” experienced by post-partum mothers. We included article that were published in English from various credible scientific databases, such as Scopus Index, PubMed, Google Scholar, and Science Direct. Databases were searched using keywords. All citations were imported from electronic databases. An independent review of the articles was done, and each article was analyzed be relevant as well as for the review.

## RESULT

Recent studies have begun to investigate the efficacy of foot massage in reducing postpartum pain. Typically, these studies involve randomized controlled trials where new mothers are divided into intervention and control groups. The intervention group receives foot massage sessions, while the control group receives standard care or a placebo treatment. In a typical study, trained massager performs 15–30-minute sessions, focusing on reflex points associated with the pelvis, uterus, and pain pathways. Pain levels are assessed before and after the intervention using validated pain scales such as the Visual Analog Scale (VAS)<sup>[14]</sup>. Previous studies have highlighted the positive effects of foot massage on postpartum pain management. Foot massage

has been shown to not only reduce pain levels but also improve comfort and decrease the need for unnecessary medications<sup>[15]</sup>. A randomized control trial by Azizi et al. demonstrated that massage performed in the second hour postpartum was effective in reducing caesarean section pain, emphasizing the potential benefits of this alternative therapy in pain relief<sup>[16]</sup>. Furthermore, Bakhtyari Nia et al. provided participants with foot massages, resulting in a noticeable reduction in postpartum pain levels<sup>[17]</sup>. These findings underscore the promising role of foot massage in enhancing the postpartum experience for mothers by targeting pain management effectively.

According to El-Ansary et.al., the effect of massage increases the postpartum comfort mean scores in the experimental group were significantly higher than the control group<sup>[8]</sup>. Mathew et.al has also concluded that there is a significant difference between the intensity of labour pain among mothers in the foot massage group and the routine care group.<sup>[19]</sup>

The pain intensity reduction measured using pain scales after the foot massage were also notable in several studies. According to Nia et. al., after foot massage, the mean score of pain intensity and duration were significantly decreased in the intervention group in comparison to control group ( $p < 0.001$ )<sup>[5]</sup>. Similarly Irani et.al concluded that, the levels of pain and anxiety significantly decreased in the intervention group, immediately, 60 and 90 minutes after the intervention ( $P < 0.001$ )<sup>[10]</sup>. However, Sharifi et.al, study revealed that the afterpain score in the first hour ( $P = 0.05$ ) and second hour ( $P = 0.274$ ) postpartum did not differ significantly between the two groups, but this score was lower in the massage group at the third hour ( $P < 0.001$ ) and fourth hour ( $P < 0.001$ ) postpartum. The mean total afterpain score in the 4 h postpartum was significantly lower in the massage group ( $P < 0.001$ )<sup>[11]</sup>. Varghese et.al, study findings were also consistent with these randomized control trials<sup>[12]</sup>. The effect of massage also had an additional

benefit of reducing fatigue levels. Eittah et.al, revealed that there was highly statistically significant differences regarding to the scores of fatigues and pain in the intervention group as compared to control group pain ( $P = <0.05$ ) and the intervention group experienced mild pain during the posttest when compared to the control group<sup>[13]</sup>.

Although, the effects of foot massage in reducing pain have been well-established, it's effect on anxiety levels are questionable. Erkek at.al utilized the State-trait anxiety inventory (STAI TX-1) scores were higher in the experimental group than in the control group but there was no statistically significant difference between the mean STAI TX-1 scores pre- and post-massage ( $p = 0.820$ ). The mean STAI TX-1 scores in the early postpartum period were similar in the experimental and control groups ( $p = 0.080$ )<sup>[14]</sup>.

Massage is considered safe and unproblematic and is believed to be an effective method of relieving postpartum pain and increasing the comfort of the mothers. Massage can be used as a nursing intervention to encourage comfort and to alleviate postpartum pain in addition to medical treatments provided to the mothers in postpartum process.

Comparing the pain levels of mothers who received foot massage with those who did not receive this intervention sheds light on the efficacy of massage in reducing postpartum pain<sup>[18]</sup>. In a randomized control study involving 68 mothers experiencing moderate to severe postpartum pain, foot massage was administered, and the afterpain levels were measured at various intervals post-intervention. The collective findings from various research studies affirm the efficacy of foot massage in reducing postpartum pain and enhancing maternal well-being<sup>[19]</sup>.

Foot massage has been identified as a viable method for improving postpartum comfort, reducing pain levels, and minimizing the use of unnecessary medications, ultimately promoting a more positive postpartum

recovery experience for mothers. The results indicated a significant reduction in afterpains at three and four hours postpartum, suggesting that foot massage can play a crucial role in alleviating postpartum discomfort and pain. Studies have consistently indicated that foot massage can have positive effects on postpartum pain management, highlighting its potential as a complementary therapy in enhancing the overall postpartum care provided to mothers after vaginal delivery.

Additionally, foot massage has been associated with shortened labor duration, increased birth satisfaction, and reduced anxiety and pain levels, further supporting its effectiveness in postpartum pain management<sup>[20]</sup>. Overall, the evidence suggested that foot massage is a valuable and effective approach to address postpartum pain and improve the quality of care for mothers during the postpartum period.

#### **Client teaching on foot massage**

With several evidence suggesting the benefits of foot massage, the nurses can take the initiative of home-care teaching to the post-partum mothers. The following maybe instructed to these mothers:

- i. Instruct to find a comfortable seating position.
- ii. Next, the soles of the feet can be gently massaged using thumbs in circular motions.
- iii. Teach to focus on areas that correspond to organs related to pain relief, like the lower back and pelvis.
- iv. Instruct to apply accurate and firm pressure but to avoid discomfort.
- v. Aromatherapy oils or lotions can be used for added relaxation during the massage.
- vi. Another technique is rolling a tennis ball under the feet to stimulate acupressure points.

These simple instructions can be implemented by nurses for the mothers.

Reinforcing consistency in practicing massage is necessary to achieve optimal results. Therefore, nursing interventions should have focus on following consistent massage regimen and promote as a part of their self-care rituals throughout the postpartum period.

### **Benefits And Limitations**

#### **Benefits:**

1. **Pain Relief:** Foot massage has been shown to help reduce postpartum pain levels in mothers after vaginal delivery. It can provide a non-invasive and drug-free method of pain management.
2. **Relaxation:** Massage can promote relaxation and reduce stress, which can be beneficial for new mothers who may be experiencing physical and emotional strain post-delivery.
3. **Improved Well-being:** The practice of foot massage can contribute to overall well-being by stimulating specific points on the feet that are believed to correspond to different organs and systems in the body.

#### **Limitations:**

1. **Limited Scientific Evidence:** While some studies suggest the benefits of foot massage for postpartum pain, the scientific evidence is not extensive, and more research is needed to establish its effectiveness definitively.
2. **Skill Requirement:** Performing foot massage correctly requires training and expertise. Without proper knowledge and technique, the desired benefits may not be fully realized.

#### **Solutions:**

1. **Professional Guidance:** Seek a certified reflexologist or healthcare provider who specializes in postpartum care to ensure safe and effective treatment.
2. **Self-Education:** If interested in self-administered foot massage, consider attending workshops or courses to learn the proper techniques and principles.

### **DISCUSSION**

The massage skills do not require extensive training, and they can easily be used. Massage may be a beneficial non-invasive pain management strategy for patients whose pain is not adequately controlled by medication. The obtained results of the present studies showed that foot massage was effective in reducing the amount of pain. Although the precise mechanism of action in massage therapy is not known, it seems to regulate the central nervous system neurotransmitters and as a result, improve anxiety disorders and alleviate pain. Around the world improvement in pain management among hospitalized patients is a high priority goal. Foot massage is an inexpensive and safe intervention when provided by an experienced therapist (nurses, physiotherapists or trainees) and on suitably assessed patients.

The research on the effect of foot massage on postpartum pain levels of mothers after vaginal delivery highlights the significant potential of this alternative therapy in improving maternal well-being. Previous studies have shown that foot massage can effectively reduce postpartum pain levels compared to traditional care alone. By integrating foot massage into postpartum care plans, healthcare providers can offer mothers a safe and non-invasive option for pain management. As postpartum care is crucial for the physical and emotional recovery of mothers, the inclusion of foot massage can enhance the overall experience and promote a smoother transition into motherhood. Further research and implementation of foot massage in postpartum settings are warranted to continue exploring its benefits and expanding options for maternal care.

### **CONCLUSION**

The benefits of incorporating foot massage in postpartum care for mothers in relieving pain is evident in several research findings. Additional utilization of other natural remedies, such as warm baths, gentle exercises, and adequate rest, can further

harness comfort in post-partum after a normal vaginal delivery.

Empowering mothers with holistic approaches like foot massage not only helps alleviate physical discomfort but also promotes relaxation and overall well-being during the crucial postpartum period. With its non-invasive nature and potential to enhance healing processes, foot massage stands out as a valuable complementary therapy for new mothers seeking natural ways to support their recovery journey.

By encouraging the integration of foot massage into standard postpartum care practices, healthcare providers can contribute to improving maternal health outcomes and enhancing the overall childbirth experience for women. As we continue to explore alternative modalities for managing postpartum pain, incorporating foot massage emerges as a promising avenue towards comprehensive and personalized care for mothers after giving birth.

The nurses should also note that every mother's journey is unique and collaboration with certified reflexologist will promote holistic care by supporting maternal well-being after childbirth.

The article review analysed that foot massage can offer postpartum mothers' relief from pain, promote relaxation, and contribute to their overall well-being. However, there is limited scientific evidence and the need for proper skill and training are important factors to consider. The nurses should seek professional guidance, invest in self-education and training which can help to maximize the benefits of foot massage for postpartum pain management.

#### ***Declaration by Authors***

**Ethical Approval:** Not Applicable

**Acknowledgement:** None

**Source of Funding:** None

**Conflict of Interest:** The authors declare no conflict of interest.

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How to cite this article: Kathing Lanluila, Mary V.J. Effect of foot massage in postpartum pain on normal delivery mothers. *International Journal of Science & Healthcare Research*. 2024; 9(3): 498-504.  
DOI: <https://doi.org/10.52403/ijshr.20240356>

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