

Effect of Sacral Warm Compress on Perception of Labour Pain among Parturient Mothers during First stage of Labour at Selected Hospital, Coimbatore

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ABSTRACT

An interventional study was conducted to assess the effect of sacral warm compress on the perception of labour pain among parturient mothers during the first stage of labour at Sri Ramakrishna Hospital, Coimbatore. Quasi-experimental pre-test post-test control group design was adopted for the study. Purposive sampling method was used and 40 parturient mothers were included based on inclusion and exclusion criteria. Every alternative sample was assigned to experimental group [n=20] and control group [n=20]. The pre-test was conducted to assess the perception of labour pain by using questionnaire and numerical pain rating scale. Sacral warm compress was applied for 20 minutes at every 1-hour interval during the active phase of the first stage of labour. The post-test was conducted using the same tool to find the effect of sacral warm compress on parturient mothers during the first stage of labour. The mean and standard deviation pre-test and post-test pain score of mothers in the experimental group were (7.13, 5.09) and 0.849, 0.875 respectively with a mean difference of 2.04. It proves that there is an effect of sacral warm compress on the perception of labour pain among parturient mothers in the experimental group ($t=3.883$; $p=0.001$). The mean and standard deviation of post test scores of mothers in the experimental and control group were 5.09, 7.495 and 0.875, 0.467 respectively with a mean difference of 2.405. It proves that there is an effect of sacral warm compress on perception of labour pain among parturient mothers in experimental group ($t=10.48$; $p=0.001$). The findings reveal that application of sacral warm compress is highly significant and effective in reducing the perception of labour pain among parturient mothers during active phase of the first stage of labour.

Keywords: Parturient Mothers during first stage of labour, Perception of labour pain, Sacral Warm Compress.

INTRODUCTION

Labour is one of the major events in every women's life. Most of the women need some form of pain alleviation during first stage of labour. (Julie 2015). Because of childbirth pain most women to refuse delivering in a natural way worldwide and by this reason it was led to caesarean section.(Lally et al. 2014). Sacral warm compress helps to improve the cervical dilatation and provides pain relief during labour process. Warm compresses are made in the lower abdomen, groin, perineum and sacrum can be very soothing mother (Aprillia, 2014).

In the early 20th century, most women gave birth in the comfort and familiarity of their own homes. As they deliver in their home setup it makes them be in contact with their family members who help them to be relaxed and automatically they gain the energy to tolerate the pain. But there were also high rates of maternal and infant mortality. Advances in obstetric technology and maternal and fetal medicine shifted birth from the home to the hospital. In India, Childbirth was estimated at around 2,72,71,000 births per year. Out of which, 72% undergone

normal vaginal deliveries and 90% occurs in hospital settings. Among them, 88% of the normal deliveries are conducted through pharmacological measures. Non Pharmacological measures are still alien to our society. In order to gain the trust of our society, accurate and current studies in this aspect are also essential. (Acihayati & Moeda 2019)

NEED FOR THE STUDY

A warm compress or heat application is easy to use and inexpensive that requires no prior practice and has minimal side effects. It is popular with labouring women for the reduction of pain. Heat is typically applied in women's back, lower abdomen, groin or perineum. It mainly includes a warm water bottle, warm compress and electric heating pads to avoid burns. Warm compresses on the body can be in the form of dry and wet. Dry warm compress can be used locally to heat conduction by using a hot water bottle or electric heating. The physiological impact of a warm compress is softening the fibrous tissue, making the body more relaxed muscles, decrease or eliminate pain, and facilitate the supply of blood flow. Warm compresses are made in the lower abdomen, waist, groin and perineum can be a very soothing mother (Aprillia & Yesie 2014). Various studies revealed that sacral warm compress was effective in reducing perception of labour pain among parturient mothers during first stage of labour.

STATEMENT OF THE PROBLEM

Effect of Sacral Warm Compress on Perception of Labour Pain among Parturient Mothers during First Stage of Labour at Selected Hospital, Coimbatore.

OBJECTIVES

- Assess the perception of labour pain among parturient mothers during the first stage of labour in both the experimental and control group.
- Evaluate the effectiveness of sacral warm compress on the perception of labour pain among parturient mothers during the first stage of labour in the experimental group.
- Find the association between the perception of labour pain of parturient mothers and selected demographic variables.

HYPOTHESES

H₁: There is a significant difference in the perception of labour pain among parturient mothers in the experimental group before and after the application of warm compress.

H₂: There is a significant difference in the perception of labour pain among parturient mothers between experimental and control group after application of warm compress.

H₃: There is a significant association between the perception of labour pain of parturient mothers and selected demographic variables.

METHODOLOGY

A quantitative research approach and a quasi experimental pre and post test with control group design was adopted in this study. The study was conducted in labour ward at Sri Ramakrishna Hospital, Coimbatore. Purposive sampling technique was used in this study. The sample consist of 40 parturient mothers alternatively assigned experimental group (n= 20) and control group (n=20) inmates of the selected old age home in Coimbatore. The perception of labour pain was assessed using Numerical Pain Rating Scale.

RESULTS

Table 4.4.2

Analysis on Effect of Sacral Warm Compress on Perception of Labour Pain Among Parturient Mothers in Experimental Group

n=20

Test assessment	Experimental group				
	Mean	SD	Mean difference	Table value	Calculated 't' value
Before	7.13	0.849	2.04	3.883	19.07 ***
After	5.09	0.875			

*** Significant at 0.001 level.

The above table 4.4.2 shows the effect of sacral warm compress on perception of labour pain among parturient mothers during first stage of labour. The result of the study shows that, the mean score of perception of labour pain before and after sacral warm compress were 7.13 and 5.09 respectively with a mean difference of 2.04. Standard deviations were 0.849 and 0.875. The calculated 't' value 19.07 was greater than the table value 3.883 at 0.001 level of significance. Thus the research hypothesis, 'There is a significant difference in perception of labour pain among parturient mothers in experimental group before and after the application of sacral warm compress' was accepted.

MAJOR FINDINGS

From the present study, it was found that the sacral warm compress was effective in perception of labour pain among parturient mothers during first stage of labour.

CONCLUSION

Application of Sacral Warm Compress reduces perception of labour pain among parturient mothers during active phase of first stage of labour. Since this therapy is cost effective, the researcher suggests that the nurse midwives should adopt this intervention in their clinical practice to reduce perception of labour pain among parturient mother during active phase of first stage of labour and thus promote their comfort and well being.

REFERENCES

1. Acihayati, P. J., & Moeda, S. S. (2019). Factors related to the pre-eclampsia case in Oesapa Health Center. *International Journal of Research in Medical Sciences*, 7(8), 2962-2966.
<https://www.msjonline.org/index.php/ijrms/article/viewFile/6684/4954>.
2. Aduloju, P.Q., (2013). Pain perception among parturients at a university teaching hospital, south-western Nigeria. *nigerian medical journal*, 54.(4), 211-216.
3. Aprillia., & Yesie. (2014). Gentle labour Birth Balance. *Journal of Persalinan Holistik, Mind, Body and Soul*
<https://forum.femaledaily.com/showthread.php?3427->
4. Akbarzadeh, M et al., (2018). Effect of two-staged warm compress on the pain duration of first and second labor stages and apgar score in prim gravida women: a randomized clinical trial. *Journal of caring sciences*. 7 (1), 21-26.
<http://journals.tbzmed.ac.ir/jcs>.
5. Albattawi, I.J., Mahmoud, M.N., & Essa, M.R (2017). Effect of ice pack application on pain intensity during active phase of the first stage of labor among primiparaous *Journal of Nursing Education and Practice* 2018, 8, 35-45file:///C:/Users/Jai%20Shree%20Ram/Downloads/11323-43064-1-PB.pdf.
6. Arinze, C. J., Agnes N., & Anarado. N. (2018). Effect of non pharmacological method on perception of labour pain among gravid women in enugu. *American journal of midwifery and womens health*, 12.
<https://www.researchgate.net/publication/328949501>
7. Anggraini, D.F. (2010). Effectiveness of warm compress in reducing pain contraction on first stage of labor. *Journal of nursing research*, 11(4).
8. Yonneau, A.T. (2011). Effect of sacral warm compress on labour among parturient,*BritishJournalofAnaesthesia*,(4)<http://repositorytnmgrmu.ac.in/3213/1/3003283301423152pdf>
9. Bobak. (1995). MATERNITY NURSING. First edition, London, Mosby publications.
10. Bhanu, H.M. (2008). Effectiveness of warm compress on lumbar and sacral region during first stage of labour among primigravida mothers.
www.rghus.ac.in/onlinecdc/uploads.
11. Bahuguna. P. (2014). Effectiveness of warm compress on pain among primimothers with first stage of labour international. *Journal of trend in scientific research and development*, 2(7), 1245.
<https://www.academia.edu>
12. Behmanesh. F et al., (2009). The effect of heat therapy on labor pain severity and delivery outcome in parturient women Iranian. *Red Crescent medical journal*, 11(2), 188-192.
13. Brown, S.T., Campbell. D., Kurtz. A. (2004). Characteristics of labor pain at two stages of cervical dilation. *Journal of Pain management*, 38(3):289-95 <https://www.ncbi.nlm.nih.gov/pubmed/2812840>.
14. Brown,S., Doughlass,C., Flood,L.P. (2001).Women evaluation of intrapartum non pharmacological pain relief methods used during labour.<http://www.acu.co.in>.
15. Choudhary. S., Prakash. K., Mahalingam. G., & Prakash Mahala. P. (2018). Effectiveness of labor support measures on the pain perception of mothers in labor. *International Journal of Medical Science and Public Health*, 7(5), 385-389.
<https://www.ejmanager.com/mnstemps/67/67-1517637996.pdf?t=1564599136>
16. Chitra. S. (2016). Effectiveness of acupressure and warm compress on labour pain during first stage of labour among primigravidae mothers.
17. Clutter, E.R., Nikodem, V. C, Mccandlish, R.E., & Burns, E.E. (2004). Immersion in water in pregnancy, labour and childbirth. *Cochrane Database syst. Rev.* (2), CD000111.

18. Cyan. G., Auliffe, M.L., & Andrew. M. (2016) Relaxation technique for pain relief in labour and childbirth: a systematic review. *British Journal of Anaesthesia*, 93(4), 505-511.
19. Davim, B, M.R., Torres, V.G., & Dantas, C.A. (2009). Effectiveness of non-pharmacological strategies in relieving labor pain, 43(2), 438-445.
<https://www.researchgate.net/publication/26717890>.
20. Devi. R. T., Memchoubi. K., & Sujitadevi. (2017). Effect of sacral warm compress on the level of pain during first stage of labour among primi gravida mothers. *International journal of applied research*, 3(6), 144-149.
<https://pdfs.semanticscholar.org/6786/ede732a4ed14d62ee523ed69f867863cfbd9.pdf>
21. Dolatian. M., Hasan, P.A., & Majd, A. H. (2011). Effect of Reflexology on pain intensity and duration of labor on primiparas, Iran. *Red Crescent Med Journal* 13(7), 475-479.
22. Deepak., Kaur. A., & Chopra. S. (2013). Effect of acupressure on intensity of labour pains and duration of first stage of labour among primigravida mothers. *Nursing and midwifery research journal*, 9, 178-181.
<http://medind.nic.in/nad/t13/i4/nadt13i4p178.pdf>.
23. Essal, M. R. (2015). Effect of second stage perineal warm compresses on perineal pain and outcome among primiparae obstetric and gynecologic nursing, faculty of nursing, damnhour university, Egypt. *Online published*, 6, 46.
24. Eman. G. (2015). Efficacy of Reflexology on First Stage Labour Pains. *Journal of Health Medicine and Nursing*, (18), 53-64.
<https://pdfs.semanticscholar.org/3b68/6cda313a0741d30f325dd3cc090393886c09.pdf>
25. Fahami. F., Behmanesh.F., Valiani. M., & Ashouri. E. (2011). Effect of heat therapy on pain severity in primigravida women. *Iran journal nursing midwifery winter*, 16(1), 113–116.
26. Goodman. P., Mackey. M. C., & Tavakoli A.S. (2004). Factors related to childbirth satisfaction. *Journal of Advance Nursing*, 46(2), 212–219.
doi: 10.1111/j.1365-2648.2003.02981.x.
27. Ghani, A,M.R. (2014). Effect of heat and cold therapy during the first stage of labor on women perception of birth experience: a randomized controlled trial. *Journal of biology agriculture and healthcare*, 4 (26), 66-76.
28. Ganji. Z., Shirvani, A.M., Abhari, R.F., & Danesh. M. (2013). Effect of intermittent local heat and cold on labor pain and child birth outcome. *Iran journal of nursing midwifery*, 18(4), 298–303.
29. Hall, K.S., Moreau. C., & Trussell. J. (2012). Determinants of and disparities in reproductive health service use among adolescent and young adult women. *American Journal of Public Health*, 102 (2), 359–67.
30. Hosseini, E. S., Bagheri1. N., & Honarparvaran. (2013). Investigating the effect of music on labor pain and progress in the active stage of first labor. *European review for medical and pharmacological sciences*, 17, 1479 – 1487.
<https://www.europeanreview.org/wp/wp-content/uploads/1479-1487.pdf>
31. Jagdishan, S.G., & Abirami.P. (2016). Effectiveness of circular hip massage on first stage labour pain among primi gravida mothers at chrompet government general hospital. *International journal of pharmacy and biological sciences*, 6(2), 17-22.
32. Jayasudha. A. (2013). Effect of antenatal exercises on labour outcome among primigravid mothers. *The Nursing Journal of India*, 104(1), 10 - 3. <https://www.ncbi.nlm.nih.gov/pubmed/23923184>
33. Joyce, C.A., Agnes, N.A., Eunice, I.N., Chidinma, E.O., Ijeoma, O.M & Obinna, C.A. (2018). Perceptions of labour pain among gravid women in enugu, Nigeria. *Africal journal of midwifery and womens health*, (12), 194-199.
<https://www.researchgate.net/publication/328949501> Perceptions of labour pain among gravid-

women in Enugu Nigeria

34. Klaikham. T. (2013). Effects of massage and hot compress on labor pain and pain coping behavior in primigravidas.
35. Kalevi. V., & Risto. E. (2005). The effect of short-term heat stress on uterine contractility, fetal heart rate and fetal movements at late pregnancy. *Journal of obstetrics and gynecology*, 9(12), 200–205.
36. Klayvised. J. (2017). Effects of Massage, and/or Hot Compress, on Pain Level during Active Phase and Perception of Childbirth Experience among First-Time Laboring Women. *Ramathibodi Nursing Journal*, 22(3), 25 – 55.
37. Kumarilohar. S., Deepak. Y., & Vaishnav. A. (2018). Effectiveness of Music Therapy in Labor Pain Reduction among Primigravida Mothers in First Stage of Labor. *IOSR Journal of Nursing and Health Science Volume* 7(4), 28-32.
<http://www.iosrjournals.org/iosr-jnhs/papers/vol7-issue4/Version5/E0704052832.pdf>.
38. Liangkiuwiliu., & Siva.N. (2018). Effectiveness of Warm Compress on Sacral Region in Reducing Labour Pain during First Stage of Labour among the Primi-Gravida. *International Journal of Science and Research*, 8(7), 1277-1279.
<https://www.ijsr.net/archive/v8i7/ART20199493.pdf>
39. Lee, M. K., Soon, N. R., & Chang. B. (2004). Effects of sp6 acupressure on labor pain and length of delivery time in women during labor. *The journal of alternative and complementary medicine*, 10, 959–965.
40. Lee, L. S., & Liu, L. M. (2013). Efficacy of warm showers on labor pain and birth experiences during the first stage of labor. *Journal of Obstetrics and Gynecologic Neonatal Nursing*, 42, 19-28.
41. Levett, M. K et al., (2018). Relaxation techniques for pain management in labour. *Cochrane database system*, (3), cd009514.
<https://www.ncbi.nlm.nih.gov/pmc/articles/pmc6494625/>
42. Lee, S.L., Liu, C.Y., Lu, Y.Y., & Gau, M.L. (2013). Efficacy of warm showers on labor pain and birth experiences during the first labor stage. *Journal of Obstetric Gynecological Neonatal Nursing*, 42(1), 19-28.
43. Lowne, N.K. (1996). The pain and discomfort during labour and birth. *Journal of obstetrical gynecological and neonatal nursing*, 25(1), 82-92.
44. Lee, M. K. (2005). Effects of SP6 acupressure on labor pain and length of delivery time in women during labor. *Journal of Alternative and Complementary Medicine*, 10(6), 959-965.
<https://www.liebertpub.com/doi/10.1089/acm.2004.10.959>
45. Lowdermilk, L. D., & Perry, E.S. (1996). Maternity and womens health care. Eighth edition. California, Mosby publication.
46. Melzack. R. (1993). Labour pain as a model of acute Pain, 53 (2), 117-120. <https://www.sciencedirect.com/science/article/pii/S1871519217306297#bib0025>.
47. May, A.K., & Mahlmeister, R..L.(1990).Comprehensive Maternity Nursing process and child bearing family, second edition, Lippincott publication, 738-742
48. Mathew. A., & Nayak. S. (2012). A comparative study on effect of ambulation and birthing ball on maternal and newborn outcome among primigravida mothers in selected hospitals in Mangalore. *Nitte university journal of health science*, 2,(2), 2249-7110.
49. Maria. R. (2012). Effectiveness of sacral hot application on pain during the first stage of labour among primiparturients at selected hospital in Mangalore Rajiv Gandhi University of health sciences Karnataka, Bangalore.
50. Nancy. k. (2002). The nature and management of labor pain: peer-reviewed papers from an evidence-based symposium. *American journal of obstetrics and gynecology*, 186(5), 16-24.
51. Pilliteri. A. (2010). Maternal and child health nursing care of the childbearing & childrearing family, sixth

edition, Lippincott Williams and Wilkins publication.370-408.

52. Rubneide. (2013). Massage reduced severity of pain during labour. *Journal of physiotherapy*, 59(2), 109-116.
53. Ranta. P. (1995). Maternal expectations and experiences of labour pain. *acta anaesthesiol scand*, 39(1), 60-6.
54. Shirvani, A. M., & Ganji. J. (2016). Comparison of separate and intermittent heat and cold therapy in labour pain management. *Nursing Practice Today*, 3(4), 179-186.
55. Simkin. P., & Bolding. A. (2004). Non pharmacologic approaches to relieve labor pain and prevent suffering. *Journal of Midwifery Womens Health*, 49(6), 489–504.
56. Shirley. J. (2005). Effectiveness of warm compress on sacral area to women in labour pain during first stage in a selected hospital at Bangalore.
57. Shrestha, I., Pradhan. N., & Sharma. J. (2013). Factors Influencing Perception of Labor Pain among Parturient Women at Tribhuvan University Teaching Hospital. *National Journal of Obsterical and Gynaecology*, 8(1), 26-30.
[file:///C:/Users/Jai%20Shree%20Ram/Downloads/8857-Article%20Text-31215110 20131009%20\(3\).](file:///C:/Users/Jai%20Shree%20Ram/Downloads/8857-Article%20Text-31215110 20131009%20(3).)
58. Sittner. B., Hudson, D.B., Grossman, C. C., & Johansson, G. F. (2012). The quality and intensity of labour pain among adolescents. *Clinical Nursing Research*, 7(1), 82-93. <https://www.ncbi.nlm.nih.gov/pubmed/9526316>.
59. Smith, C.A., Levett K.M., Collins, C.T., Dahlen, H.G., Ee, C.C, Suganuma. M. (2018). Massage, reflexology and other manual methods for pain management in labour Cochrane Database System Review, (28)3,CD009290
<https://www.ncbi.nlm.nih.gov/pubmed/29589380>
60. Shirvani.A.M., & Ganji.J. (2016). Comparison of separate and intermittent heat and cold therapy in labour pain management. *Nursing Practice Today*, 3(4), 179-186.
61. Subbulakshmi. (2017). Effectiveness of moist heat application over the sacrum on pain during the first stage of labour among primigravida mothers.
62. Sriwahyuni. N., Tri., Yuswanto. A. J. (2014). The Effectiveness of Hot Compress toward Pain Reduction Due To Phlebitis Caused By Intravenous Line Set Up. *IOSR Journal of Nursing and Health Science*, 3, 28-31.
www.iosrjournals.org
63. Suganthi. S et al., (2018). Effectiveness of warm shower on pain perception, and labour outcome amongprimi parturient mothers. *International journal advance research* (9), 965-968.
https://shodhganga.inflibnet.ac.in/bitstream/10603/41612/11/11_chapte.
64. Taavoni. S., Abdolahian.S., & Haghani. H. (2013). Effect of sacrum perineum heat therapy on active phase of labor pain and client satisfaction. *Pain medicine*, 14, 1301-1306.
65. Taghinejad. H., Delpisheh. A., & Zeinab. S. (2010). Comparison between massage and music therapies to relieve the severity of labor pain. *Women's Health*, 6(3), 377–381.
<https://journals.sagepub.com/doi/pdf/10.2217/WHE.10.15>
66. Yazdkhasti. M. (2018). Conducted a study on the effect of localized heat and cold therapy on pain intensity duration of phases of labour, and birth outcomes among primiparous women.