

Effectiveness of SP6 Acupressure on Afterpain Among Postnatal Mothers admitted in Kamla Nehru State Hospital for Mother and Child, Shimla-Himachal Pradesh: A True- Experimental Study

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Abstract: Background: Afterpains are postpartum uterine contractions associated with uterine involution and may cause considerable discomfort among postnatal mothers. Acupressure may serve as a non-pharmacological adjunct to routine postpartum care. Aim: To evaluate the effectiveness of SP6 acupressure on afterpain among postnatal mothers admitted to Kamla Nehru State Hospital for Mother and Child, Shimla, Himachal Pradesh. Methods: A quantitative approach using a true-experimental pre-test post-test control-group design was adopted. Sixty eligible postnatal mothers were selected through simple random sampling and allocated by lottery to experimental and control groups ($n = 30$ each). The experimental group received bilateral SP6 acupressure for 10 minutes, while the control group received routine care. Afterpain was assessed using a self-structured Visual Analogue Scale (VAS). Descriptive statistics, paired and unpaired t -tests, and chi-square tests were used. Results: In the experimental group, severe pain decreased from 19 (63.3%) mothers to none (0%), while 19 (63.3%) mothers reported moderate pain and 11 (36.7%) reported mild pain at post-test. The mean afterpain score decreased significantly from 6.90 ± 1.125 to 4.00 ± 1.313 (paired $t = 20.931$, $df = 29$, $p < 0.001$). The control group, showed no statistically significant change 6.367 ± 1.129 to 6.13 ± 1.137 , ($t = 1.882$, $df = 29$, $p = 0.070$). The post-test difference between the groups was statistically significant (unpaired $t = 6.728$, $df = 58$, $p < 0.001$). Conclusion: SP6 acupressure effectively reduced immediate afterpain scores.

Keywords: SP6 acupressure, Afterpain, Postnatal mothers, Effectiveness.

1. Introduction

Childbirth is a significant life event involving physical, physiological, emotional, social, and psychological changes. The postpartum period, generally considered the first six to eight weeks after delivery, is an important phase of maternal recovery. However, some postpartum symptoms may persist beyond this period.[1]

Afterpains are intermittent uterine cramps that occur during the postpartum period as the uterus undergoes involution. These contractions may become more noticeable during breastfeeding due to the release of oxytocin, which stimulates uterine contractions. Afterpains can cause considerable discomfort and may interfere with a mother's rest, daily activities, and early experiences of caring for her newborn.[2]

According to Dr. Pascale Allotey, Director of Sexual and Reproductive Health and Research at WHO, "many postpartum conditions cause significant suffering in women's daily life long after birth, both emotionally and physically, and yet they are largely underappreciated, underrecognized, and underreported." In order to not only survive childbirth but also to enjoy good health and quality of life, women need access to a variety of services from health-care providers who listen to their concerns and meet their needs throughout their lives and beyond motherhood.[3]

Acupressure is a non-pharmacological technique rooted in Traditional Chinese Medicine that involves applying pressure to specific points on the body. It is used as a complementary approach to pain management. Its proposed mechanisms include modulation of pain transmission and stimulation of the body's endogenous pain-relief pathways.[4]

The SP6 acupressure point, known as "Sanyinjiao" or the "Three Yin Intersection," is located approximately four fingerbreadths above the medial malleolus, near the posterior border of the tibia. It is traditionally used in relation to various gynecological and obstetric conditions such as dysmenorrheic menstruation, difficult labor, afterpain and has been investigated as a complementary approach to pain management.[5]. By reducing a person's pain level as much as possible, acupressure is used primarily to control pain in order to minimize the need for painkillers. Because it doesn't affect only the health of the mother but also affects the bond between mother and child as well. Midwives and other maternal health-care professionals may consider evidence-based non-pharmacological interventions alongside routine postpartum care to improve maternal comfort.

2. Objectives

- 1) To assess the level of afterpain among Experimental and Control group of Postnatal Mothers admitted in Kamla Nehru State Hospital for Mother and Child, Shimla-H.P.

- 2) To evaluate the Effectiveness of SP6 acupressure on afterpain in Experimental group among the Postnatal Mothers admitted in Kamla Nehru State Hospital for Mother and Child, Shimla-H.P.
- 3) To compare the post-test level of afterpain among postnatal mothers of Experimental and Control group.
- 4) To find out the association on afterpain in Experimental and Control group with selected socio-demographic variables.

3. Methodology

3.1 Research design, Setting, Sample, and Sampling Technique

A quantitative research approach using a true-experimental pre-test–post-test control-group design was adopted. The study was conducted at Kamla Nehru State Hospital for Mother and Child, Shimla, Himachal Pradesh, India. Sixty eligible postnatal mothers were selected using simple random sampling and then allocated to the experimental group (n = 30) or control group (n = 30) by the lottery method.

3.2 Description of the Tool

The research tool consisted of two sections:

- **Section A: Socio Demographic variables** including age, religion, educational qualification, occupation, residential area, monthly income of family, type of family, number of children.
- **Section B: Self-structured Visual Analogue Scale (VAS)** was used to assess afterpain on a 0 to 10 cm scale: 0 indicated no pain, 1-3 mild pain, 4-6 moderate pain, 7-9 severe pain and 10 the worst pain imaginable.

3.3 Procedure for SP6 Acupressure

Participants were positioned comfortably in the supine position. The SP6 point was identified four fingerbreadths above the medial malleolus, posterior to the border of the tibia, and marked on both legs. Firm, perpendicular pressure was applied simultaneously using both thumbs for 8 seconds, followed by 2 seconds of rest, for 60 cycles over 10 minutes. Data were collected in two phases: pre-test and post-test. The pre-test was conducted immediately after delivery, followed by 10 minutes of SP6 acupressure in the experimental group. Post-test pain intensity was assessed immediately after the intervention using the self structured VAS. The control group underwent the same assessments without receiving SP6 acupressure.

3.4 Ethical Considerations

Ethical approval for the study was obtained from the Research Ethical Committee, Sister Nivedita Government Nursing College, Indira Gandhi Medical College (IGMC), Shimla, Himachal Pradesh (Ref. No. 295; dated 5 March 2026). Permission to conduct the study was also obtained from the concerned hospital authorities of Kamla Nehru State Hospital for Mother and Child, Shimla. Written informed consent was

obtained from all participating postnatal mothers before data collection. The purpose of the study was explained to the participants, and confidentiality and anonymity were maintained throughout the study.

3.5 Statistical Analysis

Data were analysed using descriptive and inferential statistics. Frequency, percentage, mean, and standard deviation were used to summarize the data. Paired t-tests were used to compare pre-test and post-test pain scores within each group, while an independent-samples t-test was used to compare mean pain scores between groups. The chi-square test was used to examine associations between afterpain and selected socio-demographic and obstetric variables. Statistical significance was set at $p \leq 0.05$.

4. Results

Analysis and interpretation of data

In the experimental group, the majority of participants were aged 24–28 years (33.3%), whereas in the control group, the largest proportion belonged to the 19–23 years age group (36.7%). Most participants in both groups were Hindu (100% in the experimental group and 96.7% in the control group), while only 3.3% were Muslim. Regarding educational status, 46.7% of participants in the experimental group were graduates, while 43.3% in the control group had secondary education. Homemakers constituted the majority in both the experimental (80.0%) and control (73.3%) groups. Most participants resided in rural areas (66.7% and 73.3%, respectively) and belonged to families with a monthly income of ₹10,001–30,000 (63.3% and 66.7%, respectively). Nuclear families were predominant in both groups (60.0% and 63.3%, respectively). Regarding the number of children, 80.0% of participants in the experimental group and 63.3% in the control group had one child.

Table 1: Findings related to afterpain scores before and after intervention, N=60

Level of pain	Score	Pre		Post		Pre		Post	
		Experimental (f)	(%)	Experimental (f)	(%)	Control (f)	(%)	Control (f)	(%)
Worst	10	-	-	-	-	-	-	-	-
Severe	7-9	19	63.3	-	-	12	40	9	30
Moderate	4-6	11	36.7	19	63.3	18	60	21	70
Mild	1-3	-	-	11	36.7	-	-	-	-
No Pain	0	-	-	-	-	-	-	-	-
Maximum=10					Minimum = 0				

Findings related to effectiveness of SP6 acupressure on afterpain

The findings showed that the mean afterpain score in the experimental group decreased significantly from 6.90 ± 1.125 to 4.00 ± 1.313 ($t=20.931$, $p<0.001$). In the control group, the decrease from 6.367 ± 1.129 to 6.13 ± 1.137 was not statistically significant ($t = 1.882$, $p = 0.070$). The groups did not differ significantly at pre-test ($t = 1.833$, $p = 0.072$); however, a significant difference was observed at post-test (t

= 6.728, $p < 0.001$), with lower afterpain scores in the experimental group, supporting the effectiveness of SP6 acupressure.

Table 2: Comparison of pre-test and post-test afterpain scores within the experimental and control groups using paired 't'-test.

Group	Pre-test Mean $\pm$ SD	Post-test Mean $\pm$ SD	Paired 't' value	df	p- value
Experimental Group	6.90 $\pm$ 1.125	4.00 $\pm$ 1.313	20.931***	29	<0.001
Control Group	6.367 $\pm$ 1.129	6.13 $\pm$ 1.137	1.882	29	0.07

Table 3: Comparison of pre-test and post-test afterpain scores between the experimental and control groups using unpaired 't'-test.

Assessment	Experimental group Mean $\pm$ SD	Control group Mean $\pm$ SD	Unpaired 't' value	df	p- value
Pre-test	6.90 $\pm$ 1.125	6.367 $\pm$ 1.129	1.833	58	0.072
Post-test	4.00 $\pm$ 1.313	6.13 $\pm$ 1.137	6.728***	58	<0.001

5. Discussion

First objective is to assess the level of afterpain among experimental and control group of postnatal mothers admitted in Kamla Nehru State Hospital for Mother and Child, Shimla (H.P). The present study revealed that, in the pre-test, 19 (63.3%) mothers in the experimental group experienced severe pain and 11 (36.7%) experienced moderate pain. In the control group, 12 (40.0%) mothers experienced severe pain and 18 (60.0%) experienced moderate pain.

In the similar study by **Kurian R. N. (2022)**, Results reported that the mean afterpain score in the experimental group decreased from 5.85 ± 1.50 before SP6 acupressure to 0.35 ± 0.49 immediately after the intervention. Lower mean scores were also reported at subsequent assessments. These findings are comparable to the immediate reduction in afterpain observed in the present study.[2]

Second objective is to evaluate the effectiveness of SP6 acupressure on afterpain in experimental group among the postnatal mothers admitted in kamla Nehru State Hospital for mother and child (H.P). The present study reveals that in post-test of experimental group, 19(63.3%) were experienced moderate pain and 11(36.7%) and in control group 9(30%) were still experienced severe pain and 21(70%) were experienced moderate pain. So the mean VAS score decrease significantly from pre-test to post-test in the experimental group, indicating effectiveness of SP6 acupressure.

Similarly, **Maleki N. M. S., Heydarpour S., Nikrai R., and Heydarpour F.** reported a statistically significant reduction in postpartum pain intensity following SP6 acupressure ($p < 0.001$), supporting its effectiveness in pain reduction.[6]

Third objective is to compare the post-test level of afterpain among experimental and control group. The present study revealed that the experimental group had a lower post-test mean afterpain score (4.00 ± 1.313 ; mean percentage = 40.00%) than the control group (6.13 ± 1.137 ; mean percentage = 61.33%). This difference was statistically significant ($t = 6.728$, $p < 0.001$), indicating lower afterpain intensity in the experimental group.

Results of similar study by **Ghiasi A., Sharafrazi F., Bagheri L.**, showed that the pain intensity in pre-test and post-test scores in second stage of labor was lower in the SP6 group and combined SP6 and L14 acupressure groups compared to the control group ($p=0.001$, $p=0.017$), and there was no significant difference between the SP6 acupressure group and combined groups. So this study showed that by comparing these pre-test and post-test scores of both groups there is reduction in pain intensity after giving intervention in the experimental groups.[7]

Fourth objective is to find out the association of afterpain in experimental and control group with selected socio-demographic variables.

The findings of the present study revealed that, in the experimental group, the number of children was significantly associated with pre-intervention afterpain ($\chi^2 = 7.033$, $p = 0.008$) and post-intervention afterpain ($\chi^2 = 7.033$, $p = 0.008$). In the control group, type of family was significantly associated with pre-intervention afterpain ($\chi^2 = 4.043$, $p = 0.044$) and post-intervention afterpain ($\chi^2 = 9.357$, $p = 0.002$). No statistically significant associations were observed between afterpain and the other selected demographic variables, based on the reported results.

Similarly, **Kurian R. N. (2022)** reported significant associations between some demographic variables and study outcomes, whereas other variables showed no significant association.[2]

6. Limitation of the Study

The study was conducted among 60 postnatal mothers at a single selected hospital, which may limit the generalizability of the findings. The short follow-up period did not allow assessment of the long-term effects of SP6 acupressure. Additionally, the study focused exclusively on afterpain and did not assess its effects on other postnatal discomforts.

7. Nursing Implications

- 1) **Nursing Practice:** Nurses can use SP6 acupressure as a complementary non-pharmacological approach to reduce afterpain and improve maternal comfort during the postnatal period.
- 2) **Nursing Education:** Nursing curricula can include acupressure techniques, their benefits, and practical demonstrations to enhance students' knowledge and skills in non-pharmacological pain management.

- 3) **Nursing Administration:** Nursing administrators can organize staff training and develop appropriate protocols for the safe integration of SP6 acupressure into postnatal nursing care.
- 4) **Nursing Research:** Further studies with larger samples and longer follow-up periods can evaluate the effectiveness of SP6 acupressure and its long-term effects on postpartum pain.

8. Conclusion

In this study, the experimental group's mean afterpain score decreased from 6.90 ± 1.125 before intervention to 4.00 ± 1.313 immediately after SP6 acupressure, while the control group did not show a statistically significant pre-test/post-test change. The post-test difference between groups was statistically significant. These findings support a short-term reduction in afterpain scores in this sample; they do not establish the duration of benefit or replace the need for further research.

9. Recommendations

- 1) Similar studies should be conducted with larger samples and in multiple settings to improve the generalizability of findings.
- 2) Comparative studies should evaluate SP6 acupressure among primiparous and multiparous mothers.
- 3) Further research should assess the effects of SP6 acupressure on other postnatal discomforts, such as anxiety, fatigue, and stress.
- 4) Studies should compare different durations and frequencies of SP6 acupressure application.
- 5) Future studies should evaluate maternal satisfaction and the long-term effects of SP6 acupressure.
- 6) Training programmes should be organized to enhance nurses' knowledge and skills in applying SP6 acupressure during postnatal care.

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