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"Effectiveness of ice application on the adjoining valley (LI 4) in the reduction of labor pain among mothers who are in labor in selected hospitals at Udaipur, Rajasthan."

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Abstract:
Background: *Pain in labour is nearly universal experience for child bearing women. Pain and its relief for women in labour has been a subject of interest since the dawn of mankind. Child birth has been associated with pain and throughout history measures had been introduced to help relieve it. Pain can vary during different times in the same labour and during different birth by the same woman. Ice application has the potential benefits such as decreasing the intensity of pain, relieving the muscle spasm, increasing physical activity, promoting general relaxation and reducing anxiety.*
Materials and methods: *It included the True experimental research approach, randomized pre-test post-test control group design variables under study were Ice application as independent variable,Level of labour pain as dependent variable. Research used conceptual framework based on Helping Art of Clinical Nursing Theory by Wiedenbach's in 1964. Selected Hospital of Udaipur city as research setting, total 60 samples, and simple random sampling techniques was used. The nursing intervention was used for this study and tool used for data collection were socio-demographic data and Universal pain assessment scale. The data obtained were analysed and interpreted in the light of objectives and hypothesis using both descriptive and inferential statistical in terms of frequency, percentage and chi-square.*
Results: *Result revealed that calculated t value of labour pain (5.16) is found highly significant at the level of P=0.001.it shows that there is a significant relationship between effect of Ice application, labour pain. Hence research hypothesis H_1 is proved and accepted. In experimental group, the socio-demographic variables such as Age in Years ($\chi2$=7.97), educational qualification ($\chi2$ =8.29), religion($\chi2$=7.82), area of residence ($\chi2$ =11.86), Dietary pattern ($\chi2$ =5.66), Have you heard about ice application ($\chi2$ =4.8), If yes,source of information regarding ice application ($\chi2$ = 0)found significant (P=0.05) where as In control Group Age in Years ($\chi2$=5.19), educational qualification ($\chi2$ =2.15), religion($\chi2$=7.82), area of residence($\chi2$ =7.26), Dietary pattern ($\chi2$ =1.82), Have you heard about ice application($\chi2$ =1.82),If yes, source of information regarding ice application($\chi2$ = 0)found significant(P=0.05). Hence Research hypothesis H_2 is accepted.*
Conclusion: *The main focus of a study to evaluate the effectiveness of ice application on labour pain reduction among mothers who are in labor in selected hospitals. The mean labour pain score among experimental group Mean=8.37 was lower than the mean labour pain score for the control group Mean=9.27 and the calculated 't' value is t=5.16 greater than the table value. The finding shows that ice application was effective on labour pain reduction. Hence, research hypothesis H_1 accepted.*
Keywords: *Evaluate, Effectiveness, Ice application, LI 4, labor pain, mothers who are in labor.*

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I. Introduction:

Labor is the vital event in the life of women .Labor is one of the most marvelous and memorable segment in a woman's life. It does not really matter if the child is the first, second or the third one. Each experience is unique and calls for a celebration .The fear and anxiety about labor pain often prevents most women from enjoying this experience. Labor is a process by which the baby inside the womb adjusts itself to its surroundings and passes out of the uterus to be born as a new individual in the world. Adequate and appropriate care taken during the antenatal period reflects in the conduct and outcome of the labor. At the end of pregnancy, a woman's body begins the work of opening up and pushing the baby out into the world.[1]

The pain of labor is severe but despite this its memory diminishes with time. Labor pain has two components: Visceral pain which occurs during the early first stage and the second stage of childbirth, and somatic pain which occurs during the late first stage and the second stage. The pattern of labor pain differs between nulliparous and multiparous women and it is well documented that pain scores are higher in the nulliparous compared to the multiparous women especially if there has been no antenatal education. Consistent finding also indicate that nulliparous women on average experience greater sensory pain during early labor compared to multiparous women. It is unique to each individual, so a woman is the only person who can describe or know the extent of her pain. To assess the amount of discomfort a woman is having in labor one can carefully listen to what she is saying and also look for subtle signs such as facial tenseness, flushing or paleness, hands clenched in fists, rapid breathing or rapid pulse rate.[2]

II. Material and Methods

True-experimental approach, a sub type of quantitative approach was used for the present study. This approach would help the researcher to evaluate the effectiveness of Ice application on labour pain reduction among mothers who are in labor in selected hospitals at Udaipur, Rajasthan.
Research design –True experimental pre-test post-test control group design.
Research Settings: The study was conducted in the antenatal ward M.B. Govt. hospital Udaipur Rajasthan.
Study duration: February 2020 to March 2020
Sample Size:60 mothers who are in labor.
Population: The target Accessible population comprised of all mothers who are in labor admitted in hospitals. In this present study the sample consisted of 60 mothers,30 each in the experimental group and control group.
Sampling Technique: Simple random sampling technique.

Inclusion criteria:
1. Mothers who are in labor without any complication
2. Mothers who are available during the period of data collection
3. Mothers who are willing to participate in this study
4. Mothers who are able to communicate Hindi

Exclusion criteria:
1. Gestational age less than 36th weeks
2. Mothers who has planned for caesarean section

Procedure Methodology: The researcher adopted a quantitative experimental research approach with True experimental,randomized pre-test, post-test control group design. 60 mothers were selected, by using simple random (lottery) sampling technique. Pre-test was done with universal pain assessment scale. The average time taken by each participant was 30 minutes & scoring time was 3 minutes. Based on pre-test score the Ice application was applied on the Adjoining valley by the researcher to the participants. The post-test was conducted after 30 minutes of Pre-test. The collected data were analysed based on the above-mentioned objective using the descriptive and inferential statistics.

Statistical analysis: The obtained data were analysed in terms of objectives of the study using descriptive and inferential statistics. The plan for data analysis was as follows Organization of data in master sheet. Obtained data were analysed in terms of frequencies and percentages. Description Statistics: Description of demographic characteristics mean, median, SD and mean percentage is used to describe the area wise pre-test&post-test in experimental and control group of the participant regarding labour pain. Inferential Statistics: 't' test is used to find out the effectiveness of Ice application on labour pain reduction among mothers.Chi-square is used to find the Association between pre-test level of labour pain score of experimental group & control group participant with socio-demographic variables.

III. Results

Section A: Level of labour pain among experimental & control group.
Section B: Effect of the Ice application in reduction of labour pain.
Section-A: Level of labour pain and among experimental & control group

Table 1: Level of labour pain in experimental group

N=30

Level of pain	Pain score	Pre-test	%	Post-test	%
No pain	0	-	-	-	-
Mild pain	1-3	-	-	-	-
Moderate pain	4-6	-	-	09	30%
Severe pain	7-9	18	60%	20	66.66%
Worst pain	10	12	40%	01	3.33%

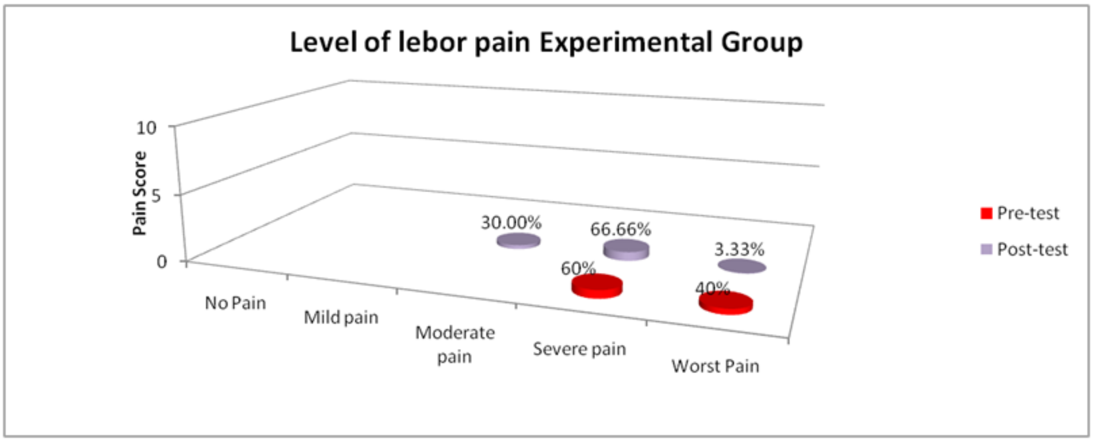

Figure1: Level of labour pain in Experimental Group

Table 1 and Figure 1: projected that level of labour pain in experimental group in this pre-test labour pain score i.e.60% had severe pain and 40% had worst pain & 66.66% participate in post-test had severe pain, 30% participate had moderate pain and 3.33%participate had worst pain, respectively. There is a significant difference in level of labour pain. Hence research hypothesis H_1 is accepted.

Table 2: Level of labour pain in control group

N=30

Level of pain	Pain score	Pre-test	%	Post-test	%
No pain	0	-	-	-	-
Mild pain	1-3	-	-	-	-
Moderate pain	4-6	-	-	-	-
Severe pain	7-9	17	56.67%	13	43.33%
Worst pain	10	13	43.33%	17	56.67%

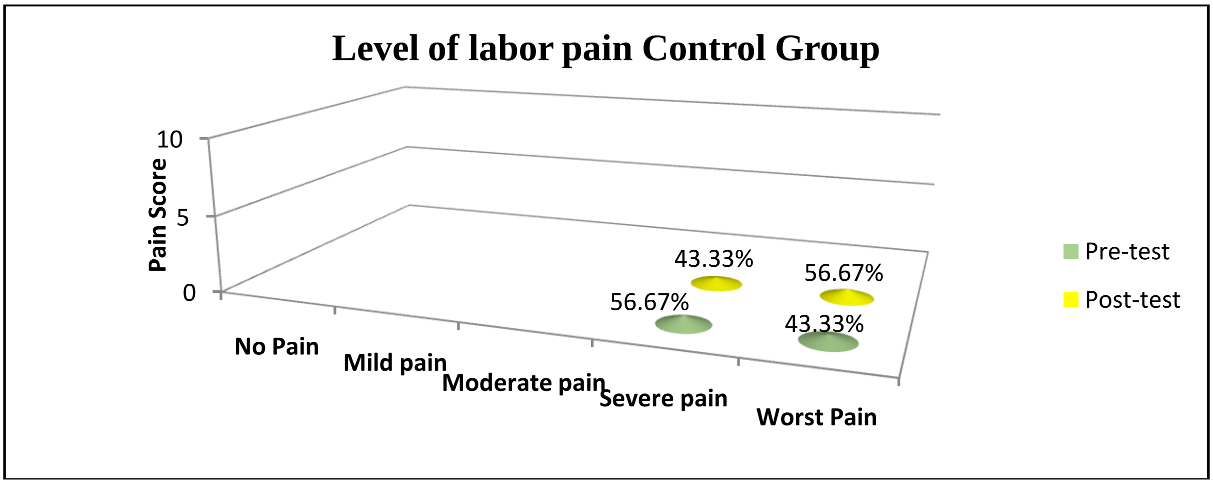

Figure2: Level of labour pain in control Group

Table 2 and Figure 2:projected that level of labour pain in control group in this pre-test labour pain score i.e56.67% had severe pain and 43.33% had worst pain &56.67% participate in post-test had worst pain& 43.33% participate had severe pain, respectively. There is no significant difference in level of labour pain. Hence research hypothesis H_1 is not accepted.

Section B: Effect of the Ice application in reduction of labour pain.

Table 3: Comparison of labour pain scores in experimental group

N=30

Labour pain	Mean	Mean Percentage (%)	SD	Mean Difference	DF	't' test	P Value	Inference
Pre-test	9.3	93%	1.01	9.3	29	5.16	58.30	S*
Post-test	8.37	83.7%	1.44					

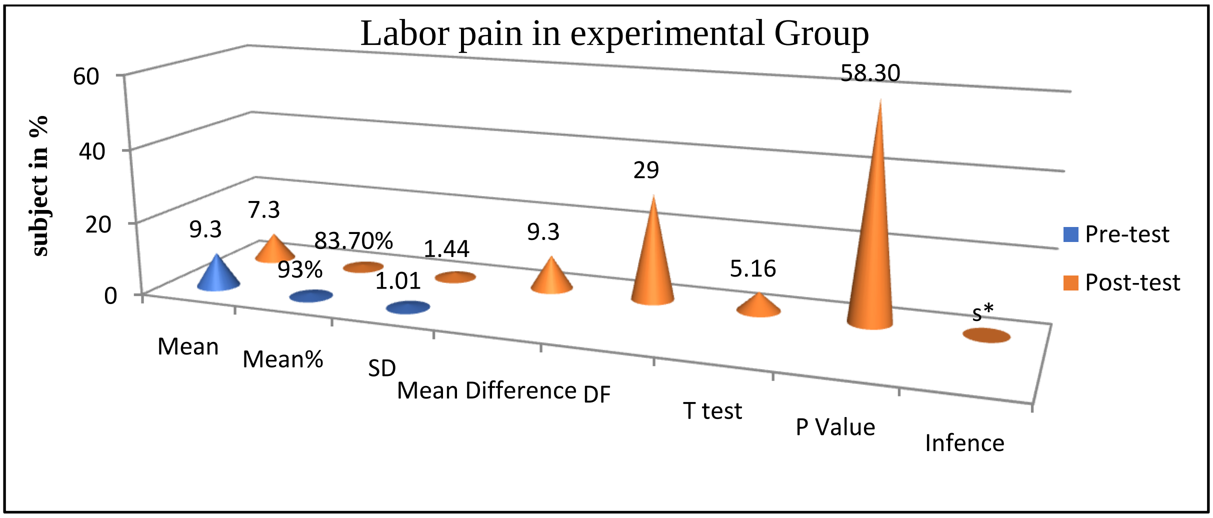

Figure 3: Comparison of labour pain scores in experimental group

Table 3 and Figure 3: projected that in experimental group, pre-test v/s post-test wise analysis shows that in pre-test the mean obtained by the respondents was 9.3 with mean percentage of 93%, SD of 1.01& in post-test the mean obtained by the respondents was 8.37 with the mean percentage of 83.7%,SD of 1.44,the mean difference is 9.3,df 29,the obtained 't'value is 5.16, P= 58.30,(significant).

There is a significant difference between the pre-test, post-test labour pain score among mothers. A hypothesis was tested at 0.05levels. The calculated 't' value 5.16 is significantly higher than the table value 58.30 at 0.001 level of significance.Hence research hypothesis H_1 is proved & accepted.

Table 4: Comparison of labour pain scores in control group

N=30

Labour pain	Mean	Mean Percentage (%)	SD	Mean Difference	DF	't' test	P Value	Inference
Pre-test	9.06	90.6%	0.99	2.1	29	0.79	58.30	NS
Post-test	9.27	92.7%	0.95					

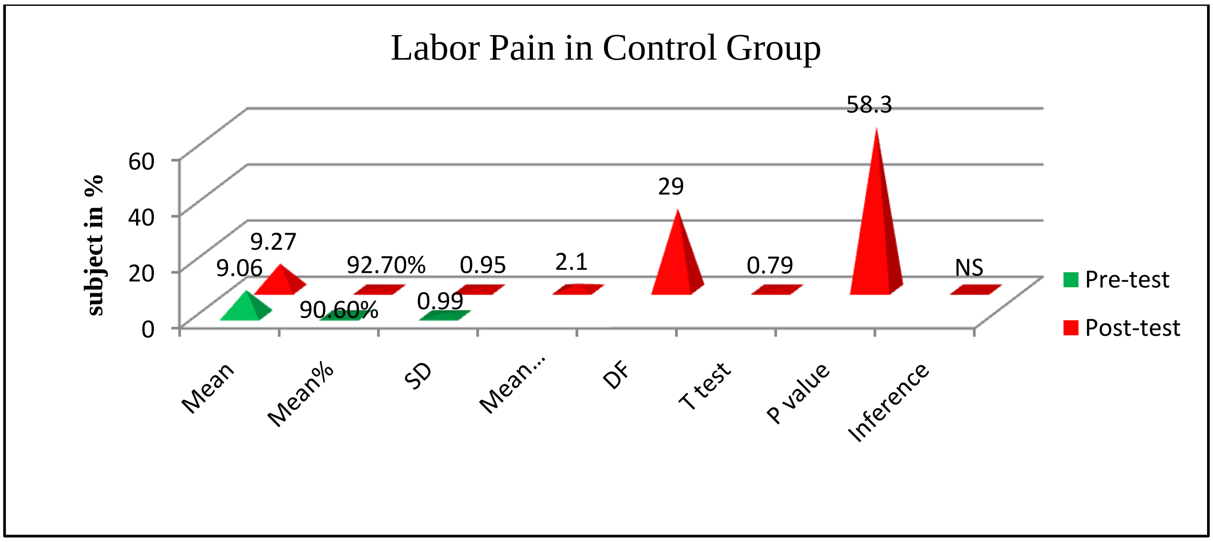

Figure 4: Comparison of labour pain scores in control group.

Table 4 and Figure 4: projected that in control group, pre-test v/s post-test wise analysis shows that in pre-test the mean obtained by the respondents was 9.06 with mean percentage of 90.6%, SD of 0.99& in post-test the mean obtained by the respondents was 9.27 with the mean percentage of 92.7%,SD of 0.95,the mean difference is 2.1,df 29,the obtained 't'value is 0.79, P= 58.30,(non-significant).

There is a no significant difference between the pre-test, post-test labour pain score among mothers. A hypothesis was tested at 0.05levels. The calculated 't' value 0.79 is non significantly lower than the table value 58.30 at 0.05 level of non-significance .Hence research hypothesis H_1 is not accepted.

IV. Discussions

The present study has been undertaken to "Effectiveness of Ice application on adjoining valley (LI 4) in the reduction of labor pain among mothers who are in labor in selected hospitals at Udaipur, Rajasthan."

Section I: Assessment of pre-test post-test level of labor pain in experimental and control group of respondents regarding effect of Ice application.

Experimental group - The majority of the respondents shows the pre-test post-test level of labor pain among mothers, before & after ice application, in pre-test, 18(60%) of mothers are having severe pain and 12(40%) of them having worst pain whereas in post-test 20(66.66%) of mothers are having severe pain and 9(30%) of mothers are having moderate pain and 1(3.33%) of them having worst pain.

Control group - The majority of the respondents shows the pre-test post-test pain level among mothers, before & after without intervention, in pre-test 17(56.67%) of mothers are having severe pain and 13(43.33%) of them having worst pain whereas in post-test 17(56.67%) of mothers are having worst pain and 13(43.33%) of them having severe pain.

A similar study was conducted by **Rajani Sharma (2018)** According to the first objective of the study, to determine the intensity of labour pain during active Phase of labour Among the experimental and control group, the result shows that a severe degree of pain was experienced by the primigravida Mothers during active phase of labour. The Above findings supported by the study report Khaskheli M, Baloch S(2010). Who conducted descriptive study on 400 labouring women at Obstetrics and Gynaecology Department. Four hundred full term labouring women in first stage of labour were included in the study. This study shows an acceptable birth experience in 136 (34%) cases, while 264 (66%) patients found itan exhausting painful experience.[7]

Section II: To assess the effectiveness of ice application in labour pain reduction among mothers who are in labor.

The result showed that the overall mean scores among pre test & post test of experimental group. Mean percentage of pretest 93 % was obtain in pretest with mean was 9.3 and SD of 1.01 and mean percentage of post test 83.7% was obtained in the post test with mean was8..37 and SD was 1.44 The mean difference was 9.3. Difference is large. This difference is statistically significant. Statistical significance was calculated by using difference of mean 't' test. The 't' value was 5.16(significant at 0.05 level).

The result showed that the overall mean scores among pre test & post test of control group. Mean percentage of pre test 90.6% was obtain in pretest with mean was 9.06 and SD of 0.99 and mean percentage of post test 92.7% was obtained in the post test with mean was 9.27 and SD was 0.95. The mean difference was 2.1. Difference is small. This difference is statistically non-significant. Statistical non significance was calculated by using difference of mean 't' test. The 't' value was 0.79 (non-significant at 0.05 level).

A similar experimental study was conducted by According to the **Rajani Sharma (2018)** Second objective of the Study, to assess the effectiveness of Ice massage at LI4 point among primigarvida Mothers in reducing perception of labour pain during active phase of labour among Experimental group, the result shows that reduction of 40% in pain assessment score was observed in Experimental Group. The Above findings supported by the study report Kordi M (MSc.) –Firoozi M,EsmailiH February 25, 2013. The purpose of this study was to compare the effects of LI-4 acupressure on labor pain in women during first stage of labor.A single blind randomized clinical trial study was carried out on 83 primipara women. Results Findings indicated that acupressure group had lower labor pain in the active phase of the first stage of labor immediately after intervention than the other groups (P=0.026). The results of this study suggested that LI4 acupressure reduced the intensity of labor pain in the first stage of labor without any side effects to mother and infant. The above findings is also supported with the study of Azam Hamidzadeh (March/April 2012)**,** Journal of Midwifery & Women's Health on Effects of LI4 Acupressure on Labor Pain in the First Stage of Labor ,the result of this reveals that LI4 acupressure is effective at decreasing pain and duration of labor.[7]

Section III: Association between pre-test score of mothers regarding effectiveness of ice application with selected socio demographic variables.

There was significant association between level of pain perception among mothers with selected demographic variables in experimental group such as Age in Years ($\chi 2$=7.97), educational qualification ($\chi 2$ =8.29), religion($\chi 2$=7.82), area of residence ($\chi 2$ =11.86), Dietary pattern ($\chi 2$ =5.66), Have you heard about ice application ($\chi 2$ =4.8), If yes,source of information regarding ice application ($\chi 2$ = 0) were found to be significant at 0.05 level. Hence research hypothesis H_2 is proved and accepted.

There was significant association between level of pain perception among mothers with selected demographic variables in control group such as Age in Years ($\chi2$=5.19), educational qualification ($\chi2$ =2.15), religion($\chi2$=7.82), area of residence($\chi2$ =7.26), Dietary pattern ($\chi2$ =1.82), Have you heard about ice application($\chi2$ =1.82),If yes, source of information regarding ice application($\chi2$ = 0) were found to be not significant at 0.05 level. Hence research hypothesis H_2 is not proved and accepted.

A similar study was conducted by **Rajani Sharma (2018)** according to third objective of the study, to find association between labour pain level with selected demographic variables. The application of Z test (Double Proportion)for different type of variables in general history between Experimental group and Control group revealed Significant difference for the age of the marriage, Educational Status, Type of activity performed during antenatal period ,Type of Family, Community and Spiritual belief of 1 % level of significance. Also highly significant difference was observed for complain Dysmenorrhoea, Mental acceptance regarding labour pain, Accompanied during labour, Emotional Status, Planned pregnancy at 1%level of Significance i.e.($p<0.01$)further No significant difference was observed for History of operative procedure ,category of operation, and History of practicing Exercises /Yoga/Antenatal Sessions at 1%level of significance.

V. Conclusion

The study was conducted on "Effectiveness of Ice application on adjoining valley (LI 4) in the reduction of labor pain among mothers who are in labor in selected hospitals at Udaipur, Rajasthan."

In the present study 60Parturients who are admitted in hospital were selected through simple random sampling technique. Researcher used True Experimental, pre-test, post-test control group research design to assess the level of labour pain of mothers. Data were collected through universal pain assessment scale and data were analysed through suitable statistical method.

References

[1] Mudaliar and Menon's Obstetrics -www.babycentre.co.uk Published on Jan 02,2013 Last Updated on Oct 10, 2018 Available from- https://www.medindia.net/patients/patientinfo/labor.htm

[2] Sheiner E, Sheiner EK, Shoham-Vardi I. The relationship between parity and labor pain. Int J Gynaecol Obstet 1998; 63: 287–8. [PubMed] [Google Scholar]
Available from-https://www.ncbi.nlm.nih.gov/pmc/articles/pmc4589939

[3] Nastaran Mohammad Ali Beigi et. al. Women's experience of pain during childbirth; Iran J Nurs Midwifery Res. 2010 Spring; 15(2): 77–82.

[4] Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093177/
Dr Nagwa AbdEl Fadeel Abd el Hamid Journal of Natural Sciences Research www.iiste.org ISSN 2224-3186 (Paper) ISSN 2225-0921 (Online) Vol.5, No.22, 2015, Effect of Ice Cold Massage and Acupressure on Labor Pain and Labor Duration: A Randomized Controlled Trial Available from
https://www.researchgate.net/profile/Nagwa_Afefy2/publication/327719960_Effect_of_Ice_Cold_Massage_and_Acupressure_on_Labor_Pain_and_Labor_Duration_A_Randomized_Controlled_Trial/links/5ba0999492851ca9ed11cb7d/Effect-of-Ice-Cold-Massage-and-Acupressure-on-Labor-Pain-and-Labor-Duration-A-Rand omized-Controlled-Trial.pdf?origin=publication_detail

[5] Waters BL. Ice Massage for the Reduction of Labor Pain. Monograph: Professional Papers, Australia/America Nurses Exchange, 1. St. Louis (MO): Barnes College Press, 1992.
Available from: https://www.medscape.com/viewarticle/462441

[6] hafize ozturk1 and Aynur saruhan2 Iran J Nurs Midwifery Res. 2015 Jan-Feb; 20(1): 129–138Evaluation of the effects of ice massage applied to large intestine 4 (hegu) on postpartum pain during the active phase of labor.
Available from:file:///G:/desktop%2016may%202020/ice%20massage%20 review /important%20ice%20massage.pdf

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