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The effect of cold application to the sacral area on labor pain and labor process: A randomized controlled trial

Sakral bölgeye uygulanan soğuk uygulamanın doğum ağrısı ve sürecine etkisinin belirlenmesi: Randomize kontrollü bir çalışma

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Abstract

Aim: This study aims to determine the effect of cold application to the sacral area in the first stage of labor on labor pain and process.

Materials and Methods: The study was done as a randomized controlled experimental study. While the women in the experimental group received cold application for 10 minutes every 20 minutes after 4 cm of cervical dilatation, the women in control group received routine care protocol of the unit.

Results: The pregnant women in experimental group showed statistically significantly low score of pain on the 40th (p=0.041), 100th (p<0.001), and 160th (p=0.014) minutes and had statistically significantly shorter delivery time (p<0.001) in comparison to the control group. It was also found that dilatation and effacement happened in statistically significantly shorter time in the experimental group (p<0.05).

Conclusion: Cold application to the sacral area of pregnant women in the first stage of labor reduces labor pain, shortens labor time, and shortens dilatation and effacement time.

Keywords: Pain management; Dilation; Labor pain; Cold application; Sacral area.

Öz

Amaç: Bu çalışmada sakral bölgeye uygulanan soğuk uygulamanın doğum ağrısı ve sürecine etkisinin belirlenmesi amaçlanmıştır.

Gereç ve Yöntem: Araştırma randomize kontrollü deneysel bir çalışma olarak gerçekleştirildi. Deney grubundaki gebelere, 4 cm servikal açıklıktan sonra 20 dakika arayla 10 dakika süre ile soğuk uygulama yapılırken, kontrol grubundaki gebelere ünitenin rutin bakım protokolü uygulandı.

Bulgular: Soğuk uygulama sonrası deney grubu gebelerin, kontrol grubuna göre, 40. dakikada (p=0,041), 100. dakikada (p<0,001) ve 160. dakikada (p=0,014) ağrı skorlarının, istatistiksel olarak anlamlı ölçüde düşük olduğu, doğum eyleminin, kontrol grubuna göre istatistiksel düzeyde anlamlı ölçüde daha kısa sürede gerçekleştiği belirlendi (p<0,001). Ayrıca, deney grubundaki gebelerde dilatasyon ve efasmanın istatistiksel düzeyde anlamlı ölçüde daha kısa sürede gerçekleştiği görüldü (p<0,05).

Sonuç: Doğum eyleminin birinci evresinde sakral bölgeye yapılan soğuk uygulama, kadınların doğum ağrısını azaltmakta, doğum süresini kısaltmakta, efasman ve dilatasyonun daha hızlı gerçekleşmesine katkı sağlamaktadır.

Anahtar Kelimeler: Ağrı yönetimi; Dilatasyon; Doğum ağrısı; Soğuk uygulama, Sakral bölge.

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intihal incelemesinden geçirilmiştir.

Introduction

Labor is an important experience that affects the woman's life and the process of adaptation to motherhood. Studies show that a negative labor experience associated with labor pain could cause negative consequences such as deterioration in the mother's mental health[1] and development of fear of childbirth.[2,3] The positive effects of good management of labor pain may create an opportunity for next labor experiences to be positive.[3] The professional support given during labor increases the pregnant woman's feeling of control, reduces labor pain, and contributes to a positive labor experience.[4] Some of the nonpharmacological methods that could be used for the management of pain during labor could be listed as hot application,[5-7] cold application,[7,8] and acupuncture and acupressure.[9] The pain-reducing mechanism of cold application used for the management of pain during labor is explained with the gate control theory and endorphin theory.[10-13] The literature involves a limited number of studies that investigated the effect of cold application on labor pain.[7-9] These studies that investigated the effect of cold application on labor pain used cold application in different areas and in different durations and were usually conducted with primipara women. The results of the limited number of studies indicate the effect of cold application on reducing labor pain.[7-9] There are no studies that investigated the efficiency of cold application to only sacral area and that included both primipara and multipara pregnant women. The sacral area is one of the areas where labor pain is felt. Therefore, the sacral area was chosen for cold application to be effective in labor pain.

This study aims to determine the effects of the use of cold application to the sacral area in the first stage of labor on the labor pain and labor process (frequency, duration, and severity of contractions, duration of labor, cervical dilation and effacement).

Materials and Methods

Study design

The study was done as a randomized controlled experimental study

Setting and sample

The target population of the study was the women who presented to the delivery room of the training and research hospital in Niğde, Turkey between 15.06.2018 and 30.10.2018 to give birth. During this period of time, 1641 women presented to the hospital for the labor. Among them, 100 women, meeting the inclusion criteria of this study, were chosen. The sample of the study was determined by the power analysis. The women with cervical dilation of 4 cm who presented to the hospital for the labor were told about the research, and they were asked whether they wanted to participate in the study. The women who agreed to participate were included in the sample of the study. No pain relief was used in the hospital. The study conducted by Yıldırım et al.[14] was taken as the base for the values expected to be observed in the VAS (visual analogue scale) pain scores according to the dilation increase during labor. When the one-unit change of the pain score in the group that did not receive cold application was accepted as significant in the group that received cold application, the minimum sample size with a 5% margin of error and 80% power was determined as at least 22 multipara pregnant women per group. The one-unit change that can make the least change in VAS of the pain score was taken so that the sample size would be large. To have a more balanced design according to the pregnant women groups, it was decided that the experimental group should have 50 pregnant women, 25 primiparas and 25 multiparas each, and control group should also have 50 pregnant women, 25 primiparas and 25 multiparas each (Figure 1). The pregnant women to be included in the experimental and control groups were selected randomly. The groups were formed using computer-aided randomization program (https://www.randomizer.org). Stratified sampling method was utilized to make the number of primipara and multipara women to be included in the study equal. Hence, the researcher did not make any selections for the determination of the women to be included in the experimental and control groups. Having a vaginal dilatation of 4 cm was the criteria used for the selection of the participants. The

researcher was aware of cold application to the treatment group.

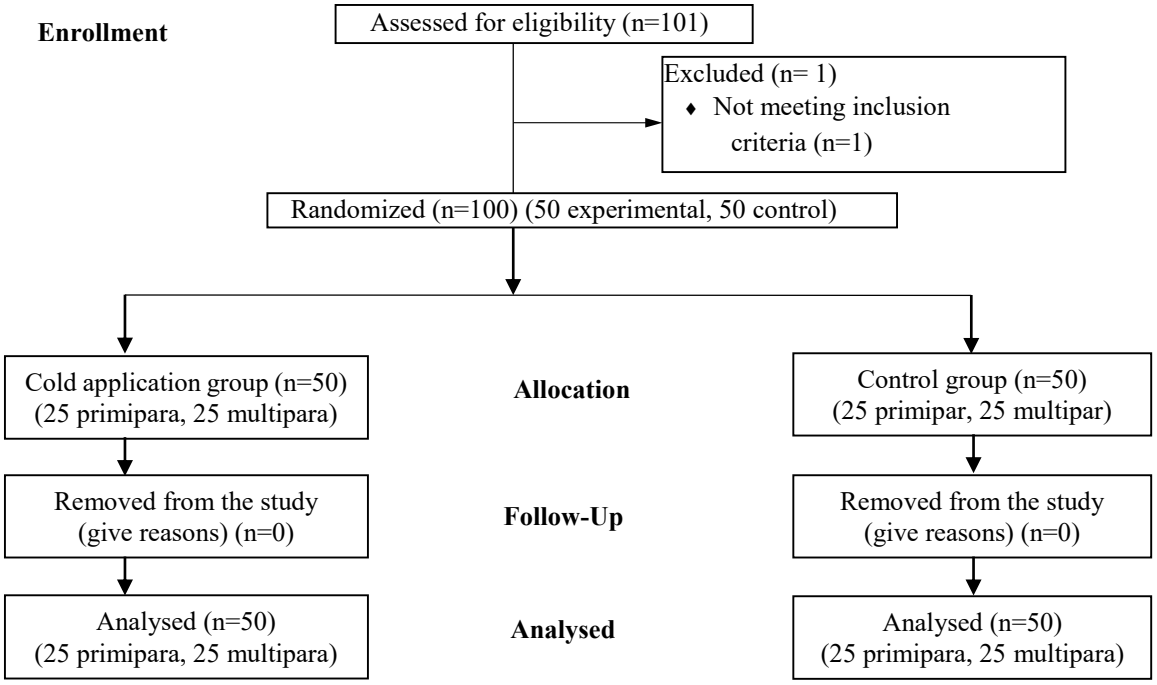

Figure 1. CONSORT flow diagram

Inclusion criteria: The inclusion criteria were having a full-term pregnancy (pregnancies between 37th and 42nd weeks), having a single fetus, having a cephalic presentation, fetal weight of 2.5- 4kg, pregnant women's having normal body mass index and receiving no antenatal trainings, and having a 4 cm cervical dilation.

Exclusion criteria: The women who had any kinds of pregnancy complications (placenta previa, preeclampsia, premature rupture of membranes, oligohydramnios and polyhydramnios, presentation disorder, intrauterine growth retardation, intrauterine dead fetus, macrosomia babies, fetal distress, etc.), who had any systemic or neurologic diseases and contraction anomalies (hypotonic or hypertonic contractions), who had induced labor, who received narcotic analgesics, who had occiput posterior, who were in the latent and transition phases of labor, and who had irregular contractions were excluded from the study since these factors were considered to affect contractions.

Data collection tools

Data were collected through the socio-demographic form, the labor monitoring form, and the visual analogue scale.

Socio-demographic form: The form prepared by the researchers in line with the literature[14,15] was composed of 20 questions that collected data about patients' socio-demographic features and pregnancy history.

Labor monitoring form: The form was prepared by the researchers in line with the literature.[14,15] It was developed to monitor the pregnant woman's labor-related features.

The visual analogue scale (VAS): The visual analogue scale was developed by Hayes and Patterson in 1921,[16] and the reliability and validity of the scale for assessing pain was performed by Price et al. in 1983.[17] Cronbach's alpha value of the scale was reported to be between 0.71 and 0.90.[17,18] VAS is a scale that is used to evaluate pain.[19-22] The patient indicates the pain s/he feels on a 10cm scale ranging from no pain on one side and severe pain on the other side. This line is used to measure the level of pain. In this study, it was used to assess pregnant women's level of pain based on their self-report.

The women who were included in the study were applied the following procedures:

Experimental group: The ice gel packs in the size of 25x15cm were taken out of the freezer of the fridge just before the application and administered by wrapping them in gauze bandages for the comfort and safety of the pregnant woman (Figure 2). All the ice gel packs had the same size. To fixate the gel packs to the area, the waistband used to determine the Toco probe in the non-stress test was utilized. The ice gel pack was placed between the waistband and waist to make it neither too tight nor too loose. The women were able to move when cold applications were applied. The cold applications were applied in left side lying position. Right before the cold application was used for the sacral area, labor pain of the women in both experimental and control groups was assessed using the VAS pain scale (VAS 1/before intervention - 4cm cervical dilation - beginning of the active phase). Starting from the active phase (when cervical dilation was 4cm), the cold application was used for the sacral area using ice gel packs 4 times for 10 minutes and in 20-minute intervals until the 100th minute. Cold application reduces pain when applied for 5 to 10 minutes.[7] The pregnant women's level of pain was assessed four times: at 4cm cervical dilation before the cold application (VAS1), in the 40th minute after cold application (VAS2), 100th minute after cold application (VAS 3), and 160th minute after cold application (VAS 4). The other measurements were also assessed at the same time at 4cm dilation before cold application, in the 40th minute after cold application, 100th minute after cold application, and 160th minute after cold application. All the measurements were done prior the labor.

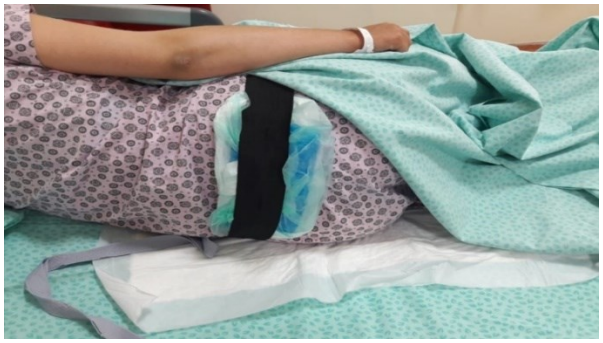

Figure 2. Sample cold application to the sacral area.

Control group: The control group did not receive any anesthesia and the pregnant women's level of pain was assessed 4 times: at the beginning of the active phase (4cm dilation, VAS 1), following 40th minute (VAS 2), 100th minute (VAS 3), and 160th minute (VAS 4).

Labor process: Labor process was assessed in both groups at the same time for 4 times by the same midwife: before the use of the application, in the 40th minute, 100th minute and 160th minute.

Data analysis

The IBM SPSS Statistics version 20.0 package program was used in the statistical analysis of the data. While the categorical measurements such as education level and labor experience were summarized as numbers and percentages, numerical measurements such as age and number of pregnancies were summarized as means and standard deviation (mean and minimum-maximum when necessary). The comparison of the categorical variables such as education level, labor experience, and labor type between the groups was performed using Chi-square test. Shapiro-Wilk test was performed in order to test if numerical measurements, such as age or number of pregnancies, met the normal distribution assumptions of this study. The comparison of the numerical measurements such as age, time of labor, and level of pain between the groups was performed using independent samples t-test; Mann-Whitney U test was used when the assumptions such as the number of pregnancies and antenatal follow-up were met. Repeated measures analysis of variance was utilized to compare the changes in numerical measurements such as the pain scores measured before and after the intervention, effacement, dilation, and duration of labor. Statistical significance was taken as <0.05 in all tests.

Ethics committee approval

Ethics Committee Approval was obtained from the Ethics Committee at Medical Faculty of Çukurova University (13th of April, 2018; meeting no:76, resolution no:29) and written approval was obtained from Niğde Ömer Halisdemir University training and research

hospital, the institution where the study was conducted. Before the intervention, the patients were informed about the purpose of the study as well as the forms (socio-demographic form, labor monitoring form, and VAS scale) and procedures (cold applications and how often they would be applied, and vaginal examinations and how often they would be done). Patients' verbal consent was received, and they signed the informed consent form. They were also informed that they could withdraw from the study at any time. Data were collected by the researcher in line with the patients' responses. In order to ensure standardization in practice, cold application was applied to pregnant women by the same person and using the same materials. The pain level of the pregnant women and the duration of labor were evaluated in both the experimental and control groups at the same time and using the same tools. In terms of the reliability of the data, the evaluation of pain was scored according to the self-reports of the pregnant women using the VAS pain scale. Thus, it was ensured that the researcher was not involved in the pain scoring process of pregnant women. Contraction duration, frequency and severity were measured with the probe of the non-stress test (NST) device in pregnant women in both the experimental and control groups. Cervical dilatation and effacement were determined by vaginal examination by the same person. In addition, the delivery rooms were single rooms, so that the patients were not affected by each other. This study was conducted under the principles of the Declaration of Helsinki.

Results

No significant differences were found when the experimental and control groups were compared in terms of age, educational level, number of pregnancies and deliveries, intervention in the birth of the mother, and gender, weight, and height of the baby (p>0.05) (Table 1).

Table 1. Comparison of features of the mother and the baby (N=100).

Features of the mother	**Group**		***p* value**
	Control(n=50)	**Experimental(n=50)**	
Age mean±SD	26.7±6.5	26.0±7.0	0.627 (t=0.488)
Education level n (%)			
Illiterate	2 (4%)	3 (6%)	
Literate	5 (10%)	5 (10%)	0.972
Primary school	23 (46%)	20 (40%)	(χ^2=0.513)
High school	13 (26%)	14 (28%)	
University and higher	7 (14%)	8 (16%)	
	Median (Min-Max)	Median (Min-Max)	
Number of pregnancies	2 (1-6)	2 (1-7)	0,858 (z=-0.179)
Number of deliveries	0.5 (0-5)	0.5 (0-5)	0,838 (z=-0.204)
Intervention in birth n (%)			
No	19 (76%)	14 (56%)	0,136
Yes	6 (24%)	11 (44%)	(χ^2=2.228)
Features of the baby			
Gender n (%)			
Female	29 (58%)	30 (60%)	0.839
Male	21 (42%)	20 (40%)	(χ^2=0.041)
Weight n (%)	3256.6±336	3284.6±387.4	0.700 (t=-0.386)
Height n (%)	50±0.6	49.9±0.5	0.468 (t=0.729)

[a]Chi-square was used. SD: Standard deviation

When the pain scores of the pregnant women were compared between the groups, no significant differences were found before the application (p=0.516); However, the pain scores of the experimental group were significantly lower than the pain scores of the control group in the 40th minute (p=0.041), 100th minute (p<0.001) and 160th minute (p=0.014) after the application.

When the duration of labor was compared between the groups, it was found to be significantly shorter in the experimental group in comparison to the control group (approximately 80 minutes) (p<0.001) (Table 2).

Table 2. Comparison of the experimental and control groups on pain scores and labor duration (N=100).

VAS	Group		*p* value
	Control (n=50)	Experimental (n=50)	
	Mean±SD	Mean±SD	
Before the intervention (VAS 1)	7.3±1.2	7.5±1.2	0.516 (t=-0.652)
40th min after the intervention (VAS 2)	7.8±1.1	7.4±1.2	**0.041** (t=2.066)
100th min after the intervention (VAS 3)	9±0.7	6.4±1.2	**<0.001** (t=13.870)
160th min after the intervention (VAS 4)	10±0.1	9.8±0.4	**0.014** (t=2.497)
P value (change over time)	**<0.001** (F=172.337)	**<0.001** (F=176.605)	
The duration between 4 cm dilation and the labor (min)	395.7±71.9	313.6±72.4	**<0.001** (t=5.691)

[a]Repeated measures analysis of variance was used. SD: Standard deviation VAS: Visual analogue scale

When the cervical dilation values of the pregnant women were compared, the dilation values between the groups indicated no differences in the 40th minute after the intervention (p=0.860); however, the comparison in the 100th minute (p<0.001), and 160th minute (p=0.001) showed that the pregnant women in the experimental group had higher dilation values (Table 3). The cervical effacement levels of the participating women were compared before the application, and it did not indicate any differences between the experimental and control groups (p=0.137), but the effacement levels in the 40th minute (p=0.034), 100th minute (p=0.001), and 160th minute (p<0.001) were significantly higher in the experimental group (Table 3).

Table 3. Pregnant women's cervical dilation and effacement findings (N=100).

Dilation (cm)	Group		*p* value
	Control (n=50)	Experimental (n=50)	
	Mean±SD	Mean±SD	
40th min after the intervention	4.8±0.5	4.8±0.7	0.860 (t=-0.177)
100th min after the intervention	5.7±0.5	7.2±0.9	**<0.001** (t=-9.864)
160th min after the intervention	7.7±0.9	8.8±1.3	**<0.001** (t=-5.424)
P value (change over time)	**<0.001** (F=745.685)	**<0.001** (F=325.045)	
Effacement (%) Before the intervention	40.2±1.4	39±5.4	0.137 (t=1.510)
40th min after the intervention	49.2±4.9	51.6±6.2	**0.034** (t=-2.155)
100th min after the intervention	59.2±5.3	74.2±8.1	**<0.001** (t=-10.964)
160th min after the intervention	76.8±7.7	88.2±12.2	**<0.001** (t=-5.580)
P value (change over time)	**<0.001** (F=748.961)	**<0.001** (F=345.320)	

Repeated measures analysis of variance was used. SD: Standard deviation

The contraction duration of the pregnant women was compared between the groups, and no significant difference was found in the 40th minute (p=0.621) after the application; however, the contraction duration of the experimental group was found to be significantly longer in the 100th minute and 160th minute after the application (p<0.001) (Table 4).

When the contraction frequency of the participants was compared according to the groups, no significant differences were detected before the intervention (p=0.110) and in the 40th minute after the application (p=0.131); the contraction frequency of the experimental group was found to be significantly higher in the 100th minute (p<0.001) and 160th minute (p<0.001) after the application (p<0.001 for both groups) (Table 4).

When the contraction severity of the participants was compared according to the groups, while no significant differences were detected between the groups in the 40th minute after the intervention (p=0.055), the contraction severity of the pregnant women in the experimental group was found to be significantly higher in the 100th minute (p<0.001) and 160th minute (p<0.001) (Table 4).

Table 4. Comparison of the contraction features of the pregnant women (N=100).

Contraction duration	**Group**		***p* value**
	Control(n=50) Mean±SD	**Experimental(n=50) Mean±SD**	
Before the intervention	41.7±3.7	37.4±8	**0.001** (t=3.399)
40th min after the intervention	51.5±5.4	52.1±6.6	0.621 (t=-0.496)
100th min after the intervention	58.2±7	74.9±8.7	**<0.001** (t=-10.572)
160th min after the intervention	71.5±7.7	84.7±7.4	**<0.001** (t=-8.755)
P value (change over time)	**<0.001** (F=675.866)	**<0.001** (F=199.193)	
Contraction frequency			
Before the intervention	5.6±1.5	6.2±1.8	0.110 (t=-1.612)
40th min after the intervention	4.4±0.7	4.7±1.2	0.131 (t=-1.528)
100th min after the intervention	3.4±0.6	2.5±0.6	**<0.001** (t=7.519)
160th min after the intervention	2.4±0.6	1.5±0.6	**<0.001** (t=7.273)
P value (change over time)	**<0.001** (F=328.054)	**<0.001** (F=134.943)	
Contraction severity			
Before the intervention	50±6.9	41.3±9.2	**<0.001** (t=5.390)
40th min after the intervention	56±8	52.6±9.3	0.055 (t=1.941)
100th min after the intervention	64.7±6	78±7.1	**<0.001** (t=-10.192)
160th min after the intervention	76±5	87.1±9	**<0.001** (t=-7.621)
P value (change over time)	**<0.001** (F=377.893)	**<0.001** (F=239.273)	

Repeated measures analysis of variance was used. SD: Standard deviation

Primipara and multipara women's pain levels were compared by experimental and control groups. The pain levels were found to be higher in the in primipara women in comparison to the multipara women; pain levels increased in both primipara and multipara women throughout the labor process, but this increase was found to be

significantly lower in the 100th minute after the cold application similarly in both primipara and multipara women in the experimental group (p=0.001) (Table 5).

The duration of labor in primipara and multipara women was compared by experimental and control groups. Although the duration of labor was longer in primipara women compared to multipara women, duration of labor significantly reduced similarly in both primipara and multipara pregnant women who were applied cold application (p=0.743) (Table 5).

Table 5. Comparison of Pregnant Women's VAS Pain Scores and Duration of Labor according to being Primipara and Multipara (N=100).

VAS	Control			Experimental			
	Primipara	Multipara	*p*	Primipara	Multipara	*p*	*p***
	Mean±SD	Mean±SD		Mean±SD	Mean±SD		
Level of pain before the application	7.9±1.1	6.8±1.1	**0.001**	8.1±1.0	6.8±1.1	**<0.001**	0.547
Level of pain in the 40th min after the application	8.4±0,9	7.2±0,9	**<0.001**	8.0±0.9	6.7±1.2	**<0.001**	
Level of pain in the 100th min after the application	9.3±0.6	8.7±0.6	**0.001**	7.0±1.1	5.8±0.9	**<0.001**	
Level of pain in the 160th min after the application	10.0±0.2	10.0±0.0	0.327	9.9±0.3	9.8±0.4	0.451	
P (change over time)	**<0.001**	**<0.001**		**<0.001**	**<0.001**		
	Control			Experimental			
	Primipara	Multipara	*p*	Primipara	Multipara	*p*	*p***
	Mean±SD	Mean±SD		Mean±SD	Mean±SD		
After how many minutes labor occurred after 4cm of dilation	462.1±34	329.3±14.9	**<0.001**	381.6±26.5	245.6±18.7	**<0.001**	0.743

Mean±SD: Mean ± Standard deviation, t test in independent groups and repeated measures analysis of variance were utilised.
*p*** *p* value indicating the effect of the pregnant woman' parity and the cold application on the change over time

Discussion

This study aimed to determine the effects of the use of cold application to the sacral area in the first stage of labor on the labor pain and labor process. The pain level of the women who received cold application was found to be significantly lower compared to the women who did not receive cold application in this study.

In their study conducted with 90 primipara pregnant women in the first stage of labor, 45 women in the experimental group and 45 women in the control group, Rahimi-Kian et al.[24] used cold application for 10 minutes and in 30-minute intervals; they found that the pain level of the pregnant women did not reduce in the first hour but it reduced significantly in the following hours.[24] In their study conducted with 64 nullipara pregnant women, 32 women in the experimental group and 32 women in the control group, Shirvani and Ganji used cold application to the stomach, lower stomach, and low back and found that the pain level in the experimental group was significantly lower.[7] In their study conducted with 80 primipara pregnant women, 40 women in the experimental group and 40 women in the control group, Al-Battawi et al.[9] used cold application to lower stomach and low back in the first stage of labor for 10 minutes in 20-minute intervals and reported that the pain level of the experimental group was significantly lower.

The results of this study are in line with the literature. It shows that the use of cold application to the sacral area is efficient in reducing pain, like cold application to the stomach and low stomach or low back and stomach in combination.[7,9,24] Comparing with other studies, the use of cold application in this manuscript only to the sacral area could be preferred both by midwives and pregnant women since its administration is easier and it does not limit the pregnant woman's

movements. The mechanism of cold application is based on the gate control and endorphin theories.[10-13]

When pregnant women were compared in terms of the labor duration, it was found that the experimental group's labor duration was shorter in comparison to the control group (Table 2). In the study that used cold application for pregnant women, Shirvani and Ganji[7] reported that the labor duration in the experimental group was shorter. In their study conducted with primipara pregnant women who received cold application to the stomach, lower stomach, and low back, Yazdkhasti et al.[25] found no significant differences between the groups in terms of the duration of the first stage of labor, but the duration of the second stage of labor was significantly shorter in the experimental group.[25] This study's findings regarding labor duration are in line with the other prior studies.[7,25]

When the pregnant women's cervical dilation and effacement values were compared according to the groups, the participants in the experimental group were found to have higher dilation and effacement values. No studies in the literature were found to have investigated the effect of cold application on cervical dilation and effacement.

Higher cervical dilation and effacement enable to shorten the duration of labor. The higher cervical dilation and effacement of the women who received cold application in this study were considered to be associated with the shorter duration of labor. This study found that the frequency, duration, and severity of contractions in women who received cold application were higher in comparison to the control group. The study conducted by Al-Battawi et al.[9] reported that the contraction duration was longer and the contractions were more frequent in the experimental group. The results of the present study were in line with the study conducted by Al-Battawi et al.[9] Dilation and effacement values were higher and the frequency, duration, and severity of contractions were higher in the experimental group, which indicated that the pregnant women felt relieved as their pain reduced and thus their labor progressed faster and the duration of labor was shorter in this group.

A study showed that cold application did not have any side effects on the mother or the baby.[26] In addition, when the short-term effects of cold application on labor pain were examined, no side effects were observed in other studies.[8,9] This study has some limitations. Firstly, the short-term effects of cold application were determined and no side effects were observed, but the long-term effects could not be examined. Secondly, the efficiency of cold application in labor pain was determined only in the active phase of labor, so it cannot be generalized to other stages of labor.

Conclusion

This study shows that cold application to the sacral area reduced labor pain, shortened the labor duration, accelerates cervical dilation and cervical effacement, and increases frequency, duration, and severity of contractions. Therefore, cold application was found be effective during the active phase of labor process and thus it can be recommended to use. The effects of cold application in the latent phase of labor process can be investigated in future studies. Future studies could also investigate the long-term effects of cold application.

Ethics Committee Approval

This study was approved by Ethics Committee at Medical Faculty of Çukurova University (13th of April, 2018; meeting no:76, resolution no:29). The study was conducted under the principles of the Declaration of Helsinki.

Informed Consent

The purpose of the study was explained to the women who volunteered to participate in the study and their consents were obtained.

Author Contributions

Study concept / design, data collecting, data analysis and interpretation, literature review, writers: EY., Sİ. The final version of this article was read and approved by all authors.

Conflict of interest

The authors have no conflicts of interest to declare.

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