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ORIGINAL ARTICLE / ARAŞTIRMA YAZISI

Obstetrics and Gynecology / Kadın Hastalıkları ve Doğum

Effects of Low Back Pain During The First Stage of Labor on Maternal Birth Satisfaction: A Cross Sectional Study

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ABSTRACT

Objectives: Low back pain during labour may occur independently of uterine contractions and may continue without interruption during the labour process. In this study, the characteristics of this pain and its effects on birth satisfaction were evaluated.

Material and Methods: The study was of a cross-sectional study with recurrent measurements and consisted of women in the first stage of labour. Low-risk pregnant women in labour (n=300) were included in the study. Low back pain was repeatedly measured at the different phases of the first stage of the labour. The frequency and severity of low back pain, factors related to low back pain and the effects of pain on maternal satisfaction were evaluated. Descriptive statistics, One-way ANOVA, Cochran's Q test, Logistic regression were used to evaluate the data.

Results: The prevalence of low back pain in latent, active and transitional phases were 38.6%, 60% and 56.6% respectively. Mean pain score statistically, significantly increased from latent phase to active phase. Weight gain in pregnancy, heightened body mass index, occiput posterior presentation and dysmenorrhea were found to be related factors in low back pain. Maternal satisfaction scores were significantly higher in women without low back pain.

Conclusion: Low back pain during labour is often overlooked. This study demonstrated the high frequency of low back pain during labour and its negative effects on birth satisfaction. Especially women with occiput posterior presentation, women with high body mass index and dysmenorrhea are at increased risk.

Keywords: Pain, low back pain, midwives, pregnant, birth, birth satisfaction

Doğumun Birinci Evresindeki Bel Ağrısının Anne Doğum Memnuniyeti Üzerindeki Etkisi

ÖZET

Amaç: Doğum sırasındaki bel ağrısı, uterus kasılmalarından bağımsız olarak ortaya çıkabilir ve doğum sürecinde kesintisiz olarak devam edebilir. Bu çalışmada bu ağrının özellikleri ve doğum memnuniyetine etkileri değerlendirilmiştir.

Gereç ve Yöntem: Çalışma, doğumun ilk evresindeki kadınlardan oluşan, tekrarlayan ölçümlerin yapıldığı kesitsel tipte bir çalışmadır. Doğumdaki düşük riskli gebeler (n=300) çalışmaya dahil edildi. Bel ağrısı, doğumun ilk evresinin farklı evrelerinde tekrar tekrar ölçülmüştür. Bel ağrısının sıklığı ve şiddeti, bel ağrısı ile ilişkili faktörler ve ağrının anne memnuniyeti üzerindeki etkileri değerlendirildi. Verilerin değerlendirilmesinde tanımlayıcı istatistikler, One-way ANOVA, Cochran's Q testi, Lojistik regresyon kullanıldı.

Bulgular: Latent, aktif ve geçiş evrelerinde bel ağrısı prevalansı sırasıyla %38.6, %60 ve %56.6 idi. Ortalama ağrı skoru istatistiksel olarak, latent fazdan aktif faza anlamlı olarak arttı. Gebelikte kilo artışı vücut kitle indeksi, oksiput posterior prezentasyon ve dismenore bel ağrısı ile ilişkili faktörler olarak bulundu. Bel ağrısı olmayan kadınlarda anne doğum memnuniyet puanları anlamlı olarak daha yüksekti.

Sonuç: Doğum sırasındaki bel ağrısı genellikle gözden kaçar. Bu çalışma, doğum sırasında bel ağrısının şiddetini ve doğum memnuniyeti üzerindeki olumsuz etkilerini göstermiştir. Özellikle oksiput posterior prezentasyonu olan kadınlar, vücut kitle indeksi yüksek ve dismenoresi olan kadınlar yüksek risk altındadır.

Anahtar Kelimeler: Ağrı, bel ağrısı, ebe, gebe, doğum, doğum memnuniyeti

One of the most difficult pains experienced by women is pain associated with childbirth. Women have many variations in the perception of the severity of labour pain. Very rarely, some women experience no pain at all while others experience the most severe pain in their life (1,2). There are also variations in the localization of labour pain with Low Back Pain (LBP) being one of these variations. Melzack and Schaffelberg identified three types of pain at different frequencies and characteristics during labour: abdominal contraction pain (96%), intermittent LBP (74%), and continuous LBP (33%). In a recent study, Thezgi and Su (2008) found that 70% of women in labour had LBP (3).

One of the causes of LBP in labour is increased pressure on pain sensitive pelvic structures. Another cause is reflected pain (3,4). Complex nerve distribution of the abdomen and pelvis plays a role in reflected back pain during labour. Spinal cord neurons receive impulses from both the pelvic organs and the surface of the skin (1). As a result of the crossing of the nerve fibers in the dorsal horn of the spinal cord, these two pain pathways are in communication with each other. The sensory cortex cannot distinguish these impulses (5).

Therefore, pain caused by pelvic structures during birth may cause reflected pain in the lumbosacral region.1 In addition, various grades of fetal malpositions, especially occipito-posterior position, have been associated with LBP in labour (6).

Back pain sometimes persists throughout childbirth and continues during periods of contractions. This continuous LBP is seen in 30% of all women during the birthing process (2). In this case, women have no opportunity for rest and relaxation between the contractions (2,7). This leads to fatigue, anxiety, and therefore functional dystocia in women (1,8). In addition, this pain may cause an increase in the frequency of obstetric analgesia applications and associated complications (1).

The term "labour pain" usually refers to the pain caused by uterine contractions and the pain in the back is often overlooked. The presence of low data on the incidences of LBP during birth and related factors have been influential in the planning of this study. There is limited data on the frequency, characteristics, associated factors, and effects on birth satisfaction related to LBP experienced during labour. The purpose of this study was to provide data on these issues.

MATERIALS and METHODS

Design

The study was of correlational and cross-sectional study with recurrent measurements and consisted of women in the first stage of labour. Evaluation of the frequency of LBP during labour, the trend of severity, and the factors that associated LBP constituted the aims of the study. The effect of LBP on birth satisfaction levels was also assessed. In this context, the research questions are as follows;

•What is the incidence of low back pain in the first stage of labor?

•What are the factors that cause low back pain in the first stage of labor?

•What is the effect of pain in the first stage of labor on birth satisfaction?

Study Sample

The study was conducted in a maternity clinic of an education and research hospital in Istanbul between September and November 2016. The population of the study consisted of women who applied to the obstetrics clinic of a training and research hospital in Istanbul between September and November 2016. The population of the study consisted of women who applied to the obstetrics clinic of a training and research hospital in Istanbul between September and November 2016.The sample size of the study was determined based on the findings of a previous study on the subject. According to this study, the prevalence of LBP at labour is 75.3%. When the precision was taken as 5%, the prevalence as 75.3%, and the confidence interval was taken as 95%, the minimum sample size required to detect the prevalence of LBP was calculated as 286.

Participants

Three hundred cases in the early stage of labour (0-4 cm), at gestational weeks 37-42, with low risk, without any complications, and expected vaginal delivery were included in the study. Three cases were excluded from the study due to labour complications, seven cases were excluded as they did not want to take part in the study, so the study was completed with a total of 290 cases (Figure. 1).

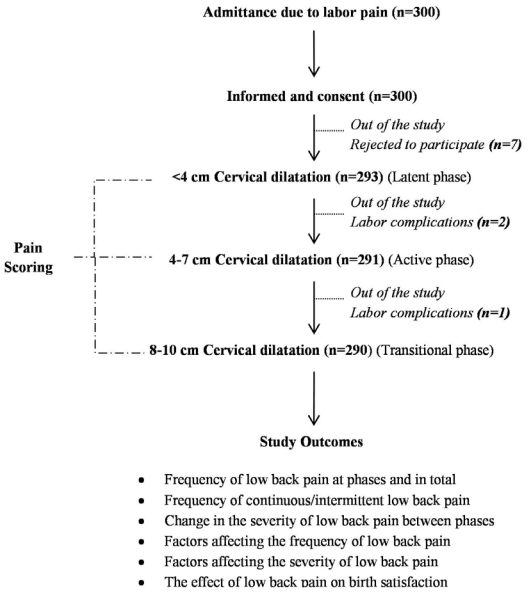

Figure 1: Participant flow and study outcomes

Data Collection

The first stage of labour was examined based on the Early Phase (0-3 cm), Active Phase (4-7 cm) and Transition Phase (8-10 cm). In the early phase (<4cm) the purpose and procedure of study was described to the women, then written and verbal consent was obtained. Socio-demographic information of the women (age, parity, education level, occupation, body weight during hospitalization, gestational weight gain, body mass index, participation in a prenatal education program, dysmenorrhea history, and any presence of pre-pregnancy LBP) was recorded. At the indicated phases of the first stage of labour, women were asked whether they had back pain, and whether the pain was continuous or intermittent.

Measurement

Introductory Information Form: The Introductory Information Form was developed by the researchers in line with the literature. This form consists of 17 questions in total.This form includes questions; Age, Body Weight, Height, Body Mass Index (BMI), Education, Working Status during Pregnancy, Antenatal Follow-up, Prenatal Education, Dysmenorrhea, Low Back Pain during Pregnancy, Low Back Pain in Previous Labor.

Visual Analogue Scale: Pain intensity was assessed by a visual analogue scale. Visual analog scale is used to measure perceived pain. This scale is in a 10 cm line form, with one end refers to "no pain" (0 cm), and the other end refers to (10 cm) "most severe pain". Women were asked to mark a point on the line corresponding to the intensity of pain they feel. The distance from the point that women mark, to the zero point was measured with a ruler and the result was calculated in centimeters or millimeters. It is very easy to use and can be administered in a very short time without any extra burden on women during childbirth. Pain scoring were performed at different stages of the first stage of labor according to cervical dilatation, and immediately before discharge in the postpartum period. A different scale was used for each pain scoring to prevent women from being affected by the previous measurement (9).

The Birth Satisfaction Scale (BSS): The women's birth satisfaction was assessed by the BSS scale before discharge from the hospital. The BSS is a scale of 30 questions developed by Martin and Fleming (10). The total score from the scale ranges from 30-150. This scale was designed to quantitatively measure women's birth experiences. Turkish validity and reliability have been verified by Cetin, Sezer & Doğan (11).

Data Analysis

Percentage, mean and standard deviation were used in the evaluation of the demographic data. Cochran's Q test was used to determine if the percentage of back pain was different at the different phases. A one-way repeated measures ANOVA was conducted to determine whether there were statistically significant differences in pain scores (VAS) over the course of the different phases of the first stage of labour. A binomial logistic regression was performed to ascertain the effects of various factors on the likelihood that participants have back pain during labour. The analyses were performed using Statistical Package for the Social Sciences (SPSS) version 17. A p value of <0.05 was considered statistically significant.

Ethics

The study was conducted in accordance with the Helsinki Declaration Principles, and "Informed consent" was obtained from the cases participating in the study. The ethical committee approval numbered 2016/38 dated 21.09.2016 was obtained from the ethical committee of the hospital where the research was carried out. Additionally, written permission was received from the institutions.

RESULTS

The study was completed with 290 cases (Figure 1). The mean age of the cases was 24.73 ± 5.30. The mean body weight of the cases was 69.82 ± 6.38 kg, and the BMI was 26.66 ± 2.63 kg/m2. Of the cases, 30% were nullipara, 30% were primipara and 40% were multipara.

The majority of the women had a secondary level of education. The regular antenatal follow-up rate was 62.4% and participation in prenatal education classes was 16.5%. The mean weight of newborns was 3211.94 ± 350.82 grams, and the average of head circumference was 35.98 ± 1.20 cm. Of the cases 45.5% had a history of dysmenorrhea. History of back pain before and during pregnancy, and in a previous pregnancy was 52.5%, 34.8% and 33%, respectively. Occiput posterior presentation was seen in 8.9% of cases during labour progression (Table 1).

Low back pain was assessed three times in the first trimester of birth: at the latent phase, active phase, and transition phase. Cochran's Q test was run to determine if the percentage of back pain was different at the different phases. The sample size was adequate to use the χ2-distribution approximation. In the latent phase 38.6% (112 cases) of women had LBP. The percentage of LBP increased to %60 (174 cases) in the active phase and %56.6 (164) in the transition phase. The percentage of LBP was statistically, significantly different at the phases of the first stage of the labour ($\chi^2(2) = 62.131$, $p<0.0001$). Pairwise comparisons were performed using Dunn's procedure with a Bonferroni correction for multiple comparisons. Adjusted p-values were presented. McNemar's tests were used to assess all pairwise comparisons with the binomial distribution used for small sample sizes. A Bonferroni correction was applied with statistical significance accepted at $p< 0.0167$. Compared to the to the initial (latent phase) percentage of LBP, there was a statistically significant increase in the percentage of LBP in the active phase ($p<0.0001$), and in the transition phase ($\chi^2(1) =26.541$, $p<0.0001$). There was no statistically significant difference in the percentage of LBP between the active phase and the transition phase, p=0.041 (Figure 2).

Table 1. Socio-demographic findings of women (n=290)

	Mean±SD	n	%
Age	24.73±5.30		
Body Weight	69.82±6.38		
Height	161.88±3.76		
BMI	26.66±2.63		
Weight gained during pregnancy	12.13±3.02		
Parity	1.70±1.43		
Nullipara		87	30
Primipara		86	29.7
Multipara		117	40.3
Birth Weight	3211.94±350.82		
Head Circumference	35.98±1.20		
Education			
Primary Education		65	22.4
Secondary Education		157	54.1
Higher Education		68	23.4
Working Status during Pregnancy		89	30.7
Antenatal Follow-up		181	62.4
Prenatal Education		48	16.5
Dysmenorrhea		132	45.5
Low Back Pain during Pregnancy		153	52.8
Low Back Pain outside Pregnancy		101	34.8
Low Back Pain in Previous Labor		67	23.1
OP presentation		26	8.9

SD: Standard Deviation OP: Occiput Posterior Presentation
BMI: Body Mass Index

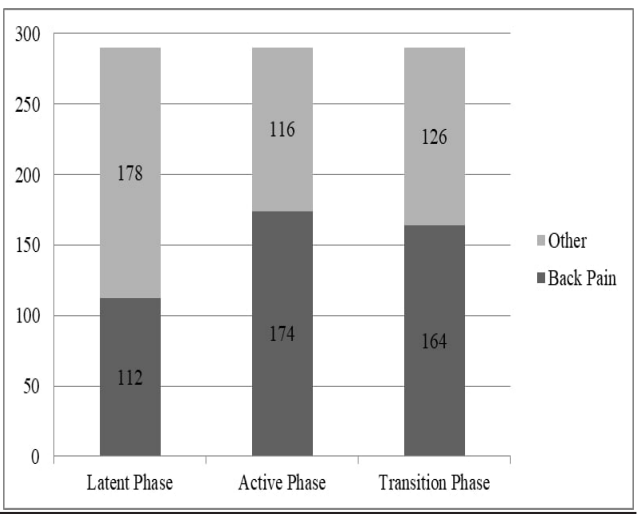

Figure 2: Percentage of LBP in different phases of the first stage of labour (Related Samples Cochran's Q Test

A one-way repeated measures ANOVA was conducted to determine whether there were statistically significant differences in pain scores (VAS) over the course of the different phases of the first stage of labour. There were no outliers and the data was normally distributed, as assessed by the Boxplot and Shapiro-Wilk test (p> 0.05), respectively. The assumption of sphericity was violated, as assessed by Mauchly's test of sphericity, $\chi^2(2) = 5.580$, p=0.045. Therefore, a Greenhouse-Geisser correction was applied (ε=0.889). Progression of labour elicited statistically significant changes in the VAS score over time, F(2,17)=1042.878, p< .0001, partial η^2=0.950, with the mean VAS score increasing from 44.08±5.11 latent phase to 76.08±6.72 at the active phase and to 82.59±8.27 at the transition phase. Post hoc analysis with a Bonferroni adjustment revealed that the mean VAS score was statistically, significantly increased from latent phase to active phase [-31.98 (95% CI, -33.56 to -30.42), p < 0.0001], latent phase to transition phase [-38.50 (95% CI, -40.32 to -36.69), p = 0.001], and active phase to transition phase [(-6.55 (95% CI, -8.48 to -4.53), p<0.0001] (Figure 3).

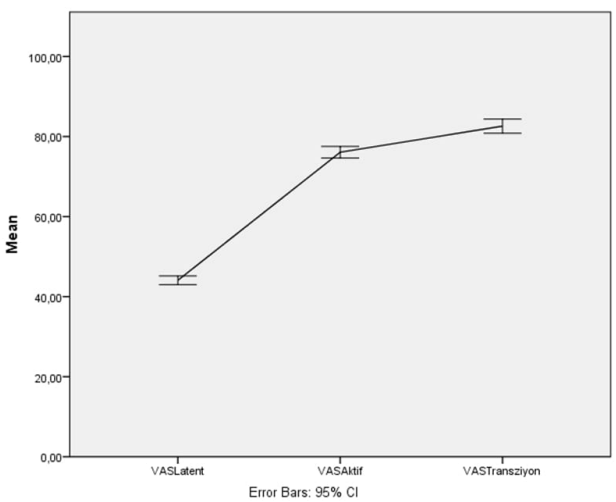

Figure 3: Comparison of mean pain scores between different phases at the first stage of labor

During the latent phase, back pain was continuous in 38.4% of women and intermittent in 61.6%. However, in the majority of women in the active phase and in the transitional phase, the LBP remained largely continuous (67.2% and 76.2%, respectively).

Of the cases, 36.9% (107 women) had LBP in one or two of the three phases. The percentage of women with persistent LBP during all phases of the first stage of labour was 29.7% (86 women). A binomial logistic regression was performed to ascertain the effects of various factors on the likelihood that participants have LBP during labour. The logistic regression model was statistically significant, $\chi^2(12) = 100.464$, p=0.001. The model explained 41.6% (Nagelkerke R2) of the variance in back pain and correctly classified 82.8% of the cases. Sensitivity was 62.8 %, specificity was 91.2 %, the positive predictive value was 75% and the negative predictive value was 85%. Of the thirteen predictor variables, four were statistically significant: weight gain during pregnancy, BMI, history of dysmenorrhea, and occiput posterior presentation (as shown in Table). (Table 2, Figure 4).

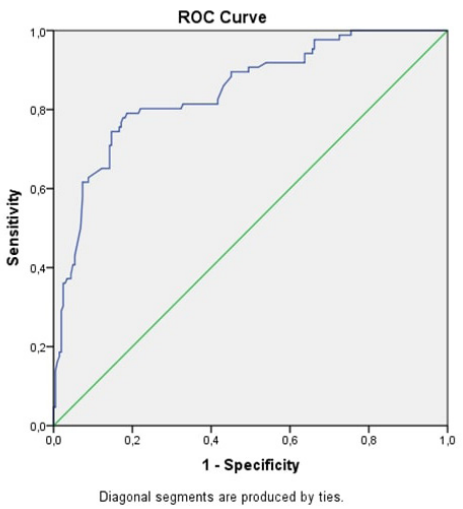

Figure 4: ROC Curve (The area under the ROC curve was 0.846 [95% CI, 0.796 to 0.896])

After the birth, the women were asked about the factors that affected the severity of their LBP. Vaginal examination (46.5%), electronic fetal monitorization (32.6%) and uterine contractions (20.9%) were the most common causes of increased severity of LBP. The most important factor that reduced the severity of LBP was mobilization. Another factor that reduced the pain was the change in position.

Table 2. Logistic regression predicting likelihood of Low Back Pain during first stage of labor

Predictor variable	Exp (B)	95% C.I.for EXP (B)	P value
Age	0.987	0.888 – 1.098	0.814
Parity	4.208	1.455 – 12.170	0.04
0 (reference)			
≥1			
BMI	2.755	1.266 – 5.994	0.011
<28 kg/m2 (reference)			
≥28 kg/m2			
Weight put on during pregnancy	2.436	1.048 – 5.659	0.038
<12 kg (reference)			
≥12 kg			
Pre-pregnancy low back pain	0.391	0.676 – 0.277	0.391
No (reference)			
Yes			
LBP during pregnancy	1.375	0.629 – 3.002	0.425
No (reference)			
Yes			
History of dysmenorrhea	5.065	2.270 – 11.302	<0.001
No (reference)			
Yes			
Birth weight	0.979	0.476 – 2.015	0.954
<3200 gr (reference)			
≥3200 gr			
Working during the pregnancy	1.791	0.729 – 4.398	0.204
No (reference)			
Yes			
Antenatal follow-up	2.003	0.825 – 4.862	0.125
No (reference)			
Yes			
Prenatal training	1.326	0.558 – 3.152	0.523
No (reference)			
Yes			
OP presentation	6.402	1.999 – 20.503	0.002
No (reference)			
Yes			

OP: Occiput Posterior BMI: Body Mass Index

A one-way Welch ANOVA was conducted to determine if the BSS scores were different between the groups. Participants were classified into 3 groups: women with no LBP (n=97, GA), women with LBP in one or two phases (n=107, GB) and women with LBP in all phases (GC, n=86). There were no outliers and the data was normally distributed for each group, as assessed by the Box-plot and Shapiro-Wilk test ($p < .05$). Homogeneity of variances was assessed by Levene's Test of Homogeneity of Variance ($p = 0.001$). The BBS scores were significantly different between the LBP groups, Welch's F (2, 189.595) = 77.008, $p<0.0001$. The BSS scores decreased from the GA (107.78±11.13) to the GB (93.41±10.03), and GC (90.63±7.96). The Games-Howell post hoc analysis revealed that the decrease from GA to GB was statistically significant [14.37, 95% CI (11.11 to 17.63), $p <0.001$], as well as decrease from GA to GC [17.14, (95% CI 13.69 to 20.58), $p< 0.001$)]. There was no statistically significant difference in BSS scores between GB and GC [2.77, (95% CI -0.59 to 6.13), $p=0.130$)]. The BSS score was statistically, significantly higher in the GA (107.78±11.13) compared to women with LBP in at least one of the three phases (GB+GC, mean of 92.02), a mean difference of 15.75 (95% CI, 12.794 to 18.723), $p< 0.001$. (Figure 5).

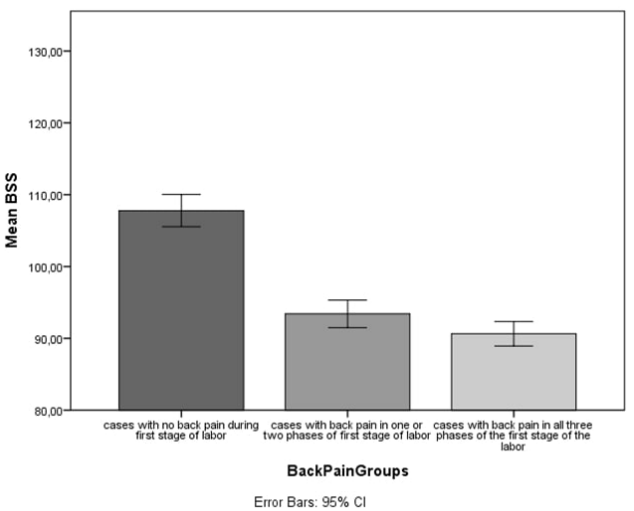

Figure 5: Comparison of the mean Birth Satisfaction scores (BSS) between the different LBP groups according to frequency

DISCUSSION

Giving birth is a physiological and psychological experience for women. Labour pain is considered one of the severest types of pain and is affected by physiological and psychological factors (2,6,12). While some women never feel labour pain for others it is the severest pain they have experienced in their lives (1,2). Labour pain comes from different regions in the body and at different phases in the birthing process. In the first phase, it is seen during contractions and it is visceral or cramping. It begins in the uterus and cervix and is caused by the stretching of uterine structures and cervical dilatation. It is carried to the medulla spinalis by spinal nerves at the T10-L1 level. It can be felt in the abdomen, lumbosacral, iliac crest, gluteal region and thighs (13). Among these, low back pain can be seen as pain resulting from pain-sensitive structures being pressed or as a reflective pain (3,13).

One of the first studies to draw attention to LBP experienced by women during labour was done by Bonica.4 A few years later, Melzack and Schaffelberg performed one of the most important research studies on the subject (5).

In the following years, studies have been carried out investigating various methods for reducing LBP during labour. One of the most popular of these was the application of a sterile water injection. Studies examining the effects of sterile water injection on LBP seen during labour have shown the importance of this pain. However, our knowledge about the frequency and characteristics of this pain is limited. This study shows that women also have high incidences of LBP as well as abdominal pain during labour. While 36.9% of the women had LBP in one or two of the three phases, in 29.7%, LBP was persistent throughout the first stage of labour. In Melzack and Schaffelberg's study (3), 33% of the women in the first stage of labour had LBP. The same rate was given as 75.3% in the study of Tzeng and Su (14). In this study the frequency of LBP at different phases of the first stage of labour was also assessed. Frequency was lowest in the latent phase (38.6%). In the active phase this frequency increased approximately 1.5-fold (60%), and in the transitional phase, no significant difference was observed compared to the active phase (56.6%).

In some studies that examine the effect of sterile water injection on low back pain, the severity of low back pain was measured in the study at different intervals from the placebo groups. However, no data was found regarding the differences between the phases. Lee, Kildea & Stapleton, stated that the LBP in labour was severe enough to keep all the physical senses away from the mind (5). Women have described the the pain as their bones being crushed or fractured. Many of the women have stated that the pain starts from the early stages of labour and requires professional help and analgesia. Tzeng and Su reported the severity of the low back pain evaluated by VAS was between 36.66-76.20 during the first phase (14). It was stated that as the first stage progressed, the severity of the low back pain increased. In our study, wherein the pain was scored at similar time intervals, the differences between the intensity of pain between the phases of the first stage were evaluated using A one-way repeated measures ANOVA. It was found that pain scores were significantly different between the first stage phases and increased with the progression of labour. Planned contrasts showed that the pain score statistically, significantly increased from the latent phase to the transition phase, a mean difference of -38.50 [95% CI, -40.59 to -36.42), ($p = 0.0001$]. In addition, there was a statistically significant increase in VAS score from the latent phase (44.08±5.11) to the average of the active (76.08±6.72) and transition phase (82.59±8.27), a mean difference of -35.253 (95% CI, -36.83 to -33.67) mg/L, $p < 0.0001$, $\eta 2 = 0.95$.

Another feature of low back pain which is as important as its frequency and severity is whether it is continuous or intermittent. Sometimes it can be persistent even between contractions.7 In such cases, it has been reported that it is more difficult to cope with contractions, as the woman is deprived of the normal painless intervals required for rest (15).

This frequency of continuous low back pain was reported as 33% and 45.71% in the studies of Melzack and Schaffelberg, (3) and Tzeng and Su (14) respectively. In this study, the frequency of continuous back pain was found to be 38.4% in the latent phase. It was 67.2% in the active phase and 76.2% in the transitional phase. This result shows that there is an increase in the continuity of the first stage progression as well as the frequency and severity of low back pain. Continuous low back pain is most probably the result of the fetal pressure on the pain-sensitive structures on the pelvis (3).

Low back pain in labour is frequently accompanied by occipito-posterior position (16). It was reported that introduction and progression of the fetus with a larger diameter in the maternal pelvis and the decrease in the fetal head and maternal cervical contact may lead to ineffective contractions, dystocia, slow progression in the first and second phase and increased pain (17,18). Previous history of back pain, dysmenorrhea, history of low back pain in pregnancy, and excessive weight are considered to be associated with low back pain in labour (2,14,19).

Excessive weight can have an effect on the increase in the pain due to the pressure and load on the pelvic organs. Melzack and Bélanger (19) reported that there was a significant correlation between dysmenorrhea and birth pain, and this result showed that both cases had a common mechanism. They found that prenatal episodic low back pain was not correlated with any of the birth pains but acute low back pain during pregnancy was correlated with low back pain observed in labour. According to the logistic regression analysis conducted in this study, weight gain, BMI, history of dysmenorrhea and OP presentation during pregnancy were determined as the factors that increased the frequency of low back pain. Women who have gained 12 or more kilos in pregnancy have a 2.436-fold odds for LBP. Women with BMI ≥28 kg/m2 have 2.755, women with a history of dysmenorrhea have 5.065, women with occiput-posterior presentation have 6.402-fold odds for LBP during their first stage of labour. Vaginal examination, EFM, external factors that increase back pain, mobilization and posture changes were found to be external factors.

The birth satisfaction of women has long-term and short-term effects. Low satisfaction in labour is associated with postpartum psychiatric disorders, poor communication with the neonate, postpartum fear and future C-section birth (20). Birth satisfaction can be thought to be influenced by other factors such as socio-cultural factors, antenatal education, previous experiences, and the care given in labour. However, pain and pain management is the most common among these factors (20). This study showed the negative effects of low back pain, which may be a component of labour pain, on birth satisfaction of women. Birth satisfaction scores are significantly higher in women without low back pain than in women with low back pain in at least one phase of the first phase of labour.

Limitations

This study was limited to the pregnant women who agreed to participate in the study. Therefore, the findings are limited only to the sample of this study and cannot be generalized; that is, they can only be applied to the study sample.

CONCLUSION

It was shown in the study that low back pain in the first stage of birth was a frequent and severe pain modality in labour, severity of labour pain gradually increased as labour progressed and that it might have negative effects on birth satisfaction scores. Therefore, it is important to investigate the low back pain in women who are admitted due to labour pain, evaluate the problem in terms of risk factors (BMI, dysmenorrhea and OP), and to follow up during labour progression.

Management of individual low back pain should be planned in order to prevent low birth satisfaction and its negative effects, reduce the severity of pain and provide a more comfortable birth experience for women. It is also important to avoid unnecessary examinations and EFM, and encourage women to be mobile and make posture changes. When needed, pharmacological analgesic methods or non-pharmacological (biofeedback, motion, hypnosis, acupuncture, acupressure, music sofrology, haptonomy, vocalization; focusing, distraction, daydreaming; intradermal sterile water injection, TENS, massage, aramotherapy, hot application, hydrotherapy; lamaze, dick read) can be applied (21).

In this context; midwives and nurses working in maternity wards play a key role in the management of pain. Midwives and nurses should meet the physical and psychosocial care needs of every woman during pregnancy and help her cope with the labour pain. For this purpose, midwives and nurses should know pharmacological and non-pharmacological methods of coping with pain and apply them effectively.

It was shown in the study that low back pain in the first stage of birth was a frequent and severe pain modality in labour, severity of labour pain gradually increased as labour progressed and that it might have negative effects on birth satisfaction scores. Therefore, it is important to investigate the low back pain in women who are admitted due to labour pain, evaluate the problem in terms of risk factors (BMI, dysmenorrhea and OP), and to follow up during labour progression.

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