


Systematic Review: Review of Frequently Performed Interventions During Labor with Evidence-based Practices*

Doğum Eyleminde Sık Yapılan Girişimlerin Kanıta Dayalı Uygulamalar ile İncelenmesi: Sistemik Derleme

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ABSTRACT

Objectives: This study was conducted to analyze the studies on interventions used during labor with evidence-based practices.

Methods: A literature review was conducted by reviewing the articles with a full text in PDF format published in the last decade (2007-2017) using Cochrane and Pubmed databases. 18 studies were included in this study as a result of the review.

Results: It was determined that an upright position during labor shortened the duration of labor. It was observed that oral intake of food and drink had no effect on the C-section rates. It was found that there was no significant difference in the incidence of perineal wound infection at the site of enema administration and that continuous use of cardiotocography increased the C-section rates. It was also seen that early amniotomy application had no effect on the length of the labor, and no significant difference was determined in the routine use of episiotomy in terms of pain.

Conclusions: It was determined that pregnant women should be supported in an upright position, pregnant women with low risk should take drinks and grain-free foods, enema should be performed routinely during the normally-progressing process, and amniotomy and episiotomy applications should be used.

Keywords: Labor, evidence-based applications, systematic review, nursing

Öz

Amaç: Doğum eyleminde yapılan girişimlerin kanıta dayalı uygulamalar ile incelenmesine yönelik yapılan çalışmaları analiz etmek amacıyla yapılmıştır.

Yöntem: Literatür incelemesi, Cochrane ve Pubmed/Medline veri tabanları kullanılarak son on yılda yayınlanmış (2007-2017) tam metni bulunan, PDF formatında makaleler irdelenerek yapılmıştır. Tarama İngilizce dilinde, 8 anahtar sözcük kullanılarak gerçekleştirilmiştir. Tarama sonucunda araştırma kapsamına 18 çalışma alınmıştır.

Bulgular: Doğumda dik pozisyonların doğum süresini kısalttığı, sezaryen doğum riskini ve epidural anestezi ihtiyacını azalttığı belirlenmiş ve maternal ve yenidoğanın iyi olma durumları üzerinde olumsuz etkileri bulunmamıştır. Maternal oksijen yönetiminin umbilikal arter Ph değerleri üzerinde etkisinin olmadığı bildirilmiştir.

Oral gıda ve sıvı alımının sezaryen oranları, vajinal doğumun müdahaleli olması ve 5 dakikadaki Apgar skorlarının 7' nin altında olması üzerinde etkisinin olmadığı belirlenmiştir. Lavman uygulamasının perine bölgesinde yara enfeksiyonu oluşumu, doğumun süresi, neonatal enfeksiyonlar ve gebelerin uygulamadan memnun kalma açısından anlamlı fark bulunmadığı ve sürekli kardiokografi kullanımının sezaryen oranlarını artırdığı bulunmuştur. Erken amniyotomi uygulamasının doğumun ilk evresinin uzunluk süresi üzerine etkisinin olmadığı ve rutin epizyotomi uygulamasının ağrı, disparoni, üriner inkontinans ve genital prolapsus yönünden anlamlı farklılık bulunmadığı saptanmıştır.

Sonuç: Doğum sürecinde gebelerin hareket etmelerine izin verilmesi, rahat ettiği ve dikey pozisyonların desteklenmesi, düşük riskli gebelerin sıvı ve tanesiz gıda alması ve birinci evrede 30 dk.'da bir, ikinci evrede ise her 15 dk.'da bir fetal monitörizasyon ile değerlendirilmesi, normal ilerleyen süreçte rutin olarak lavman uygulaması, amniyotomi ve epizyotomi yapılmaması gerektiği belirlenmiş olup maternal oksijenizasyon ile ilgili yeterli kanıtın olmadığı saptanmıştır.

Anahtar kelimeler: Doğum eylemi, kanıta dayalı uygulamalar, sistemik derleme, hemşirelik

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INTRODUCTION

In recent years, natural labor has been less preferred with the increase in the use of technology. A remarkable increase is seen in the intervention of healthcare professionals in the delivery, and C-section delivery rates due to women's failure to find the courage to perform normal delivery⁽¹⁾. WHO has announced the ideal C-section rates as between 10% and 15% since 1985⁽²⁾. However, C-section is still quite common in Turkey. According to TNSA (2013) data, C-section deliveries comprise 48 percent of all the deliveries given during the last five years⁽³⁾. Interventional labor lead to an increase in the C-section rates and consequently, the development of complications, therefore affecting the maternal-infant health negatively⁽⁴⁾.

Thus, the performance of evidence-based practices during labor instead of personal insights and traditional practices will enable an increase in patient satisfaction, standardization of care, elimination of unnecessary interventions, and improvement of maternal-infant health^(5,6).

The realization of evidence-based practices (EBPs) in nursing cannot be achieved at a desired level due to the characteristics of nursing studies, and the traditional nature of nursing practices⁽⁷⁾. Evidence-based practices not only enable nursing practices to be scientific, but also increase the efficiency and reliability of practices^(5,8). The distinction between evidence-based practices and traditional ones is that evidence-based practices reveal the gap in the field of practice, and evidence-based healthcare services provide practitioners with guidelines and tools that show themselves as a part of the solution⁽⁹⁾. In this context, evidence-based nursing practices increase the quality and results of care, create a difference in clinical practices and patient care results, and raise nurse satisfaction⁽⁷⁾. As in many other subjects, there are guidelines such as prenatal care, labor, postnatal care management, etc. related to the evidence-based practices. With these guidelines, the objective is to spread the use of evidence-based practices in the clinic⁽⁴⁾.

The aim of this study is to analyze the studies on interventions used during labor with evidence-based practices.

METHODS

A literature review has been carried out by reviewing articles with a full text in PDF format published during the last decade (2007-2017) through the use of Cochrane and Pubmed/Medline databases.

The review was performed by using 8 key words in English. "Positions during labor", "maternal oxygen administration", "food intake during labor", "oral food intake on labor progress", "enemas during labor", "electronic fetal monitoring (EFM)", "amniotomy", and "episiotomy for vaginal birth" were used as keywords in the review. The criteria for the inclusion of the reviewed studies into the review were identified as meta-analysis, systematic review, and randomized controlled studies. Exclusion criteria involved articles with abstracts only, qualitative studies, and descriptive studies. A total of 4513 (Pubmed/Medline: 4441, Cochrane: 72) studies could be found as a result of the review. These 4513 studies were firstly reviewed by their titles, and 3978 studies which were not related to the subject of the study were excluded. The abstracts and full texts of the remaining 535 studies were evaluated according to the inclusion and exclusion criteria, and a total of 17 studies that were suitable in terms of inclusion and exclusion criteria were found as a result. 1 randomized controlled study performed in our country in 2002 on the "routine episiotomy practice in vaginal deliveries" was also included. 18 studies (88834 women) were covered in this study for the whole of population.

Limitations

This study has limitations. Working samples can be extended using other databases. Despite the limitation, this study may be helpful in guiding further research.

RESULTS

In randomized controlled studies which examined the mobilization and position of women during labor, it was seen that pain levels of women that were in upright positions such as standing up, kneeling, sitting or squatting (mean score of 3.7) were lower as compared to women in reclining position (mean score of 7.1) ($p < 0.001$). Similarly, while the episiotomy practice and C-section rates were 32.7%

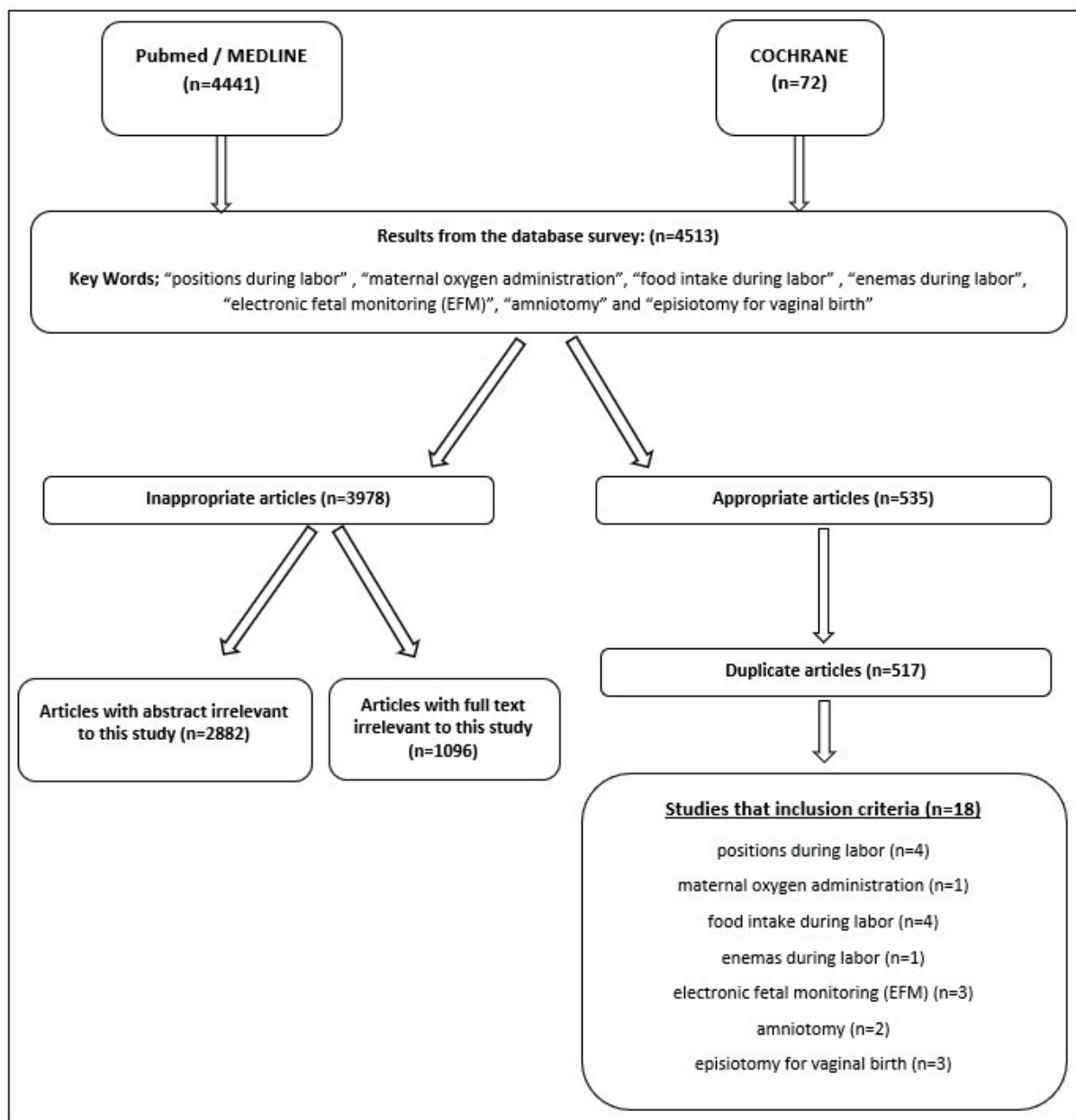


Figure 1. Flow Chart of Literature Search and Selection Criteria

and 5.8% respectively in women in the upright position, these figures were 100.0% and 26.1%, respectively, in women in the reclining position. At the latent phase of the second stage of labor, it was determined that squatting (mean score of 2.48) and lithotomy positions (mean score of 2.27) decreased the severity of pain more as compared to the sitting position (mean score of 5.33) ^(10,11).

In a systematic review study examining the mobilization and position, it was seen that walking

and upright positions at the first stage of labor decreased labor duration for about 1 hour and 20 minutes compared with reclining positions (mean MD -1.36, 95% confidence interval (CI) -2.22 to -0.51; 15 studies, 2503 women; random-effects, $T^2 = 2.39$, $Chi^2 = 203.55$, $df = 14$, $P < 0.00001$, $I^2 = 93\%$). It was also reported that these positions decreased the risk of C-section (RR 0.71, 95% CI 0.54 to 0.94; 14 studies, 2682 women) and decreased the need for epidural anesthesia (RR 0.81, 95% CI 0.66 to 0.99, nine studies, 2107 women; random-effects, $T^2 = 0.02$, $I^2 =$

61%), and babies of the mothers that gave birth at upright position stayed at the neonatal intensive care unit for a shorter time (RR 0.20, 95% CI 0.04 to 0.89, one study, 200 women) ⁽¹²⁾.

In a meta-analysis study examining the effects of upright positions in the second stage of labor on health, no significant relation was found between upright positions and vaginal delivery incidence (RR: 1.022; 95% CI=0.963-1.085, n=5, heterogeneous distribution $Q=8.432$, $I^2=52.562\%$), C-section rates (RR=1.029, 95% CI=0.448-2.363, n=7, heterogeneous distribution $Q=8.712$, $I^2=31.132\%$), perineal laceration (RR=1.064, 95% CI=0.857-1.320, n=8, heterogeneous distribution $Q=15.365$, $I^2=54.441\%$), and upright positions decreased interventional delivery (RR=0.682, 95% CI=0.504-0.924, n=17, heterogeneous distribution $Q=48.769$, $I^2=67.193\%$, no publication bias), episiotomy (RR=0.811, 95% CI=0.723-0.910, n=13, heterogeneous distribution $Q=20.394$, $I^2=41.158\%$, no publication bias) rates. However, it was determined that the incidence of postpartum hemorrhage (RR=1.389, 95% CI=1.123-1.717, n=12, heterogeneous distribution ($Q=20.259$, $I^2=50.640\%$) increased ⁽¹³⁾.

In a systematic review study conducted to evaluate the effect of maternal oxygenation administered prophylactically at the second stage of labor on the perinatal results, abnormal umbilical cord blood pH values (lower than 7.2) were observed more frequently as compared to the control group (RR 3.51, 95% CI 1.34 to 9.19) ⁽¹⁴⁾.

In randomized controlled studies that examined the oral intake of foods and drinks by women during labor, it was stated that the second stage of labor in the group that took oral carbohydrates (mean score of 12.6) in the early stage of labor was shorter as compared to the group that did not take food (mean score of 19.7) ($p<0.005$). 97% of the group that was free to eat and drink stated that they were satisfied with the practice whereas 57% of the pregnant women that were only given ice cubes indicated their frustration ^(15,16).

In a meta-analysis study examining the food intake during labor, it was observed that duration of labor was significantly shorter in the group with less restriction on food (mean difference -16 minutes, 95% CI -25 to -7); however, neither beneficial nor harmful results were seen in the obstetrics and neonatal results ⁽¹⁷⁾.

In the Cochrane systematic review performed to identify the benefits and harms of oral food and drink intake restriction during labor, no statistically significant difference was determined in the rates of C-section (average risk ratio (RR) 0.89, 95% confidence interval (CI) 0.63 to 1.25, five studies, 3103 women), interventional vaginal delivery (average RR 0.98, 95% CI 0.88 to 1.10, five studies, 3103 women) and Apgar scores below 7 in 5 minutes (average RR 1.43, 95% CI 0.77 to 2.68, three studies, 2574 infants) ⁽¹⁸⁾.

In a systemic review conducted to evaluate enema practice during labor, a statistically significant difference was not found in the occurrence of wound infection on the perineal region of enema practice (two RCTs; 594 women; risk ratio (RR) 0.66, 95% confidence (CI) 0.42 to 1.04) and neonatal infections (two RCTs; 592 women; RR 3.16, 95% CI 0.50 to 19.82; I^2 0%) ⁽¹⁹⁾.

In the systematic review that evaluated use of continuous cardiotocography as the EFM for fetus during labor, no significant difference was found in cerebral palsy (RR 1.75, 95% CI 0.84 to 3.63, N = 13,252, 2 trials, low quality evidence) and perinatal death (risk ratio (RR) 0.86, 95% confidence interval (CI) 0.59 to 1.23, N = 33,513, 11 trials, low quality evidence) rates between the intermittent auscultation and continuous cardiotocography. However, an increase was reported in the C-section (RR 1.63, 95% CI 1.29 to 2.07, N = 18,861, 11 trials, low quality evidence) and interventional delivery (RR 1.15, 95% CI 1.01 to 1.33, N = 18,615, 10 trials, low quality evidence) rates in the women that were applied continuous cardiotocography. No significant difference was observed between those that were and were not applied cardiotocography in terms of perinatal mortality (risk ratio (RR) 2.05, 95% confidence interval (CI) 0.95 to 4.42, 2.3% versus 1.1%, four studies, N = 1627, low quality evidence) or potential preventable deaths (RR 2.46, 95% CI 0.96 to 6.30, four studies, N = 1627), C-section (RR 1.06, 95% CI 0.88 to 1.28, 19.7% versus 18.5%, three trials, N = 1279, low quality evidence), and an APGAR score below 7 on minute 5 (RR 0.83, 95% CI 0.37 to 1.88, one trial, N = 396, very low quality evidence). Use of cardiotocography as Doppler and EFM was reported to increase the C-section rates (RR 2.92, 95% CI 1.78 to 4.80, 633 women, moderate-quality evidence), however it did not have a significant effect on short-term neonatal outputs such as low APGAR score (risk ratio (RR) 0.66, 95% confidence interval (CI) 0.24 to 1.83, 633 babies, very low-quality evidence) and

perinatal mortality (RR 0.88, 95% CI 0.34 to 2.25; 633 infants, very low-quality evidence) ⁽²⁰⁻²²⁾.

In systematic reviews conducted to identify the effectiveness of amniotomy practice aimed at reduction of the duration of spontaneous labor, no significant difference was observed between the group that underwent amniotomy and the control group in terms of the length of the first stage of labor (mean difference (MD) -20.43 minutes, 95% confidence interval (CI) -95.93 to 55.06), C-section (risk ratio (RR) 1.27, 95% CI 0.99 to 1.63), satisfaction of the mother about the labor (MD -1.10, 95% CI -7.15 to 4.95), and an Apgar score below seven on minute five (RR 0.53, 95% CI 0.28 to 1.00). Combination use of amniotomy and oxytocin was reported to shorten the duration of labor (average mean difference (MD) -1.28 hours; 95% CI -1.97 to -0.59; eight trials; 4816 women) ^(23,24).

In randomized controlled studies examining the routine episiotomy practice during labor, no significant difference was reported between the group that did not undergo episiotomy (mean score of 27.2) and the group that underwent episiotomy (mean score of 23.5) in terms of the duration of second stage of labor ($p < 0.005$). While the incidence of perineal lacerations and need for suture rates were determined as 2.5% and 77.1%, respectively, in the experimental group, these figures were 1.8% and 77.4%, respectively, in the control group ⁽²⁵⁾.

In the systematic review, limited episiotomy decreased perineal and vaginal traumas at a rate of 30%. Both the limited and routine episiotomy practices were reported to have very little or no effects on the Apgar score below seven on minute five (four trials, no events; 3908 women, moderate-certainty evidence) and perineal infections (RR 0.90, 95% CI 0.45 to 1.82, three trials, 1467 participants, low-certainty evidence). Additionally, no significant difference was found between two groups during the postpartum three-day period, in terms of moderate and severe pain (RR 0.71, 95% CI 0.48 to 1.05, one trial, 165 participants, very low certainty evidence), dyspareunia (RR 1.14, 95% CI 0.84 to 1.53, three trials, 1107 participants, moderate-certainty evidence) and urinary incontinence (mean RR 0.98, 95% CI 0.67 to 1.44, three trials, 1107 participants, low-certainty evidence) ⁽²⁶⁾ (see Table 1).

DISCUSSION

The study has been conducted to analyze the studies performed on interventions used during delivery with evidence-based practices. Although there are traditional evidence-based reviews on the commonly used interventions during delivery in our country, no systematic review studies exist. Unlike the literature, this is the first systematic review study performed for the review of the interventions carried out during delivery with the evidence-based practices. As a result of the systematic review, it has been seen that evidence-based studies related to the common practices performed during labor are insufficient. Such a problem is observed mainly in local publications, but also in the international ones. Therefore, there is a need for more evidence-based studies on the practices commonly performed during labor.

During our studies, we determined that upright positions decreased maternal pain during labor, duration of labor, interventional delivery rates, need for epidural anesthesia, and C-section and episiotomy rates, as compared to the reclining positions ⁽¹⁰⁻¹²⁾. In the study conducted by ⁽¹³⁾, it was found that upright positions reduced episiotomy and interventional delivery rates whereas they increased the risk of postpartum hemorrhage. In many healthcare institutions, pregnant women undergo the labor process in the reclining position due to intravenous (IV) fluid therapies, electronic fetal monitoring, and local analgesia/anesthesia administration ^(4,27). The reclining position facilitates the palpation of uterus contractions, performing vaginal examinations and invasive maneuvers, checking the position of the head of the fetus, and evaluation of the fetus heart rate ⁽¹⁰⁾. However, similar to our study, the literature shows that upright positions increase the uterus contractions, improve the harmony between the uterus and pelvis, thus facilitate fetal advancement, and decrease the intrapartum maternal and neonatal complications ⁽²⁸⁻³⁰⁾.

In the study carried out by Fawole and Hofmeyr (2012), it was reported that maternal oxygen management had no effect on the umbilical artery Ph values. No studies based on different evidences have been found in literature about the oxygenation of the mother, and there is a need for further research ⁽¹⁴⁾.

Table 1. Characteristics of the Study Reviewed

Author	Date	Method	Sample	Conclusion
Gizzo, S., Di Gangi, S., Noventa, M., Bacile, V., Zambon, A., Battista Nardelli, G.	2014	Cohort type of experimental study	225 women 156: Experimental group 69: Control group	It was determined that upright positions reduced maternal pain, interventional delivery, C-section and episiotomy rates during labor as compared to reclining position.
Valiani, M., Rezaie, M., Shahshahan, Z.	2016	Randomized controlled study	96 primigravida 32: Squatting position group 32: Sitting position group 32: Control group (Lithotomy position)	It was found that squatting position in the active phase of the second stage of labor reduces the severity of pain more as compared to the lithotomy position.
Lawrence, A., Lewis, L., Hofmeyr, G.J., Styles, C.	2013	Systematic review	25 studies including 5218 women	It was reported that walking and upright positions at the first stage of labor decreased labor duration for about 1 hour and 20 minutes and reduced the risk of C-section and the need for epidural anesthesia, and babies stayed in the neonatal intensive care unit for a shorter time compared with reclining positions. No negative effects were observed on the maternal and neonatal well-being.
Deliktaş, A., & Kukulu, K.,	2017	Meta-analysis	22 studies	It was determined that upright positions reduce episiotomy and interventional delivery rates while increasing the risk of postpartum hemorrhage.
Fawole, B. Hofmeyr, G.J.	2012	Systematic review	2 studies including 166 women	It was reported that sufficient evidence was not found in fetal distress method in terms of maternal oxygenation, and oxygen management had no effect on the umbilical artery pH values
Rahmani, R., Khakbazan, Z., Yavari, P., Granmayeh, M., Yavari L.	2012	Randomized controlled study	190 women 87: Experimental group 90: Control group	It was reported that eating and drinking in the early stage of labor shortened the second stage of labor, and had no negative effects on maternal and neonatal results.
Gyte	2007	Randomized controlled study	301 women	97% of the group that was free to eat and drink at the first stage of labor stated that they were satisfied with this practice whereas more than half (57%) of the pregnant women that were only given ice cubes indicated their frustration.
Ciardulli, A., Saccone, G., Anastasio, H., Berghella, V.	2017	Meta-analysis	10 studies including 3982 women	It was stated that eating and drinking should be allowed for pregnant women with low risk until the active period.
Singata, M., Tranmer, J., Gyte, G.M.L.	2013	Systematic review	5 studies including 3130 women	It was observed that oral intake of food and drinks had no significant effect on the C-section rates, interventional vaginal delivery, and the Apgar scores below 7 in 5 minutes.
Revez, L., Gaitán, H.G., Cuervo, L.G.	2013	Systematic review	Four studies including 1917 women	It was found that there was no significant difference in terms of occurrence of wound infection on the perineal region of enema practice, duration of labor, neonatal infections, and satisfaction of pregnant women about the practice.
Alfirevic, Z., Devane, D., Gyte, G.M.	2013	Systematic review	12 studies including 37000 women	No significant difference was observed between intermittent auscultation and continuous cardiotocography in terms of cerebral palsy and perinatal death. However, it was reported that cardiotocography practice led to an increase in C-section and interventional delivery rates.

Table 1. Continued

Author	Date	Method	Sample	Conclusion
Alfirevic, Z., Devane, D., Gyte, G.M.	2013	Systematic review	12 studies including 37000 women	No significant difference was observed between intermittent auscultation and continuous cardiotocography in terms of cerebral palsy and perinatal death. However, it was reported that cardiotocography practice led to an increase in C-section and interventional delivery rates.
Grivell, R.M., Alfirevic, Z., Gyte, G.M.L, Devane, D.	2015	Systematic review	6 studies including 2015 women	No significant difference was found between patients that were and were not applied cardiotocography traditional cardiotocography in terms of perinatal mortality or potential preventable deaths, C-section and an APGAR score below 7 on minute 5
Martis, R., Emilia, O., Nurdiati, D.S., Brown, J.	2017	Systematic review	3 studies including 6241 women	It was reported that use of cardiotocography as Doppler and EFM increased the C-section rates, but did not have a significant effect on the short-term neonatal outputs such as low APGAR score and perinatal mortality
Smyth, R.M.D, Markham, C., Dowswell, T.	2013	Systematic review	15 studies including 5583 women	No significant difference was seen between the group that received amniotomy and the control group in terms of length of the first stage of labor, C-section, mother's satisfaction about labor, and an Apgar score below seven on the fifth minute.
Wei, S., Wo, B.L., Qi, H.P., Xu, H., Luo, Z.C., Roy, C., Fraser, W.D.	2013	Systematic review	14 studies including 8033 women	It is reported that the combination use of early amniotomy and oxytocin increases the risk of C-section.
Amorim, M.M., Cristina Coutinho, I., Melo, I., Katz, L.	2017	Randomized controlled study	241 women 122: Experimental group 115: Control group	No significant difference was reported between the control group that did not receive episiotomy and the one that underwent limited episiotomy in terms of maternal and perinatal outputs such as the length of the second stage of labor, frequency and severity of perineal lacerations, and the need for perineal suture.
Jiang, H., Qian, X., Carroli, G., Garner, P.	2017	Systematic review	12 studies including 6177 women	Limited episiotomy was reported to decrease perineal and vaginal traumas by 30%, but results on whether it creates a difference in the amount of blood lost during labor are not known. Both the limited and routine episiotomy practices were reported to have very little or no effects on the Apgar score below seven on minute five, and perineal infections. Besides, no significant difference was discovered between two groups in the moderate and severe pain during a period of three days, dyspareunia, urinary incontinence, and genital prolapses
Duran, E.H., Eroğlu, D., Sandıkçı, N., Lembet, A., Bağış, T., Zeyneloğlu, H.B.	2002	Randomized controlled study	52 women 27: Experimental group 25: Control group	While periurethral lacerations were more common in the group that did not receive episiotomy, no significant difference was observed in terms of deep perineal (3rd degree) lacerations. It was stated that the group receiving episiotomy stayed in the delivery room for a longer time as compared to the control group, and there was no significant difference between the groups in terms of birth weights, heights and Apgar scores of the neonates.

In the study performed by Rahmani et al. (2012), oral food intake at the early stage of labor was reported to shorten the duration of the second stage of labor⁽¹⁵⁾. In Gyte's study (2007), women that took food at the early stage of labor were reported to be satisfied with the practice⁽¹⁶⁾. In the study of Ciardulli et al. (2017), it was seen that the duration of labor was significantly shorter in the group whose food intake was less restricted, however neither beneficial nor harmful results were found among the obstetric and neonatal results⁽¹⁷⁾. In the study performed by Singata et al. (2013), negative effects of oral nutrition could not be found in the delivery method and maternal-infant health⁽¹⁸⁾. Similarly, Ergöl et al. (2012) showed that the duration of labor was two hours shorter in the women that received liquid food supplements as compared to the group that had no oral intake⁽³¹⁾. Countries or health institutions follow different procedures for food and drink intake during labor. Women make a lot of physical effort during labor. Accordingly, plenty of carbohydrates, proteins and liquids must be consumed. However, no standardization has been established on this matter⁽³²⁾.

It was found in the study conducted by Reveiz et al. (2013) that there was no significant difference in terms of occurrence of wound infection on the perineal region of enema practice, duration of labor, neonatal infections, and satisfaction of pregnant women about the practice⁽¹⁹⁾. Similarly, Chalmers et al. (2009) suggested that 5.4% of women used enemas during labor, but there was no finding related to its effect on the maternal and neonatal health⁽³³⁾. As a result, it was suggested that enema practice during labor should be removed from the routine practice procedure⁽¹⁹⁾.

In studies where routine electronic fetal monitorization (EFM) during labor was evaluated, while there was no significant difference in cerebral palsy and perinatal death rates, C-section and interventional delivery rates were reported to have increased⁽²⁰⁻²²⁾. Contrary to the findings of our study, EFM was administered on 89% of the pregnant women in the study of Chen et al. (2011), and it was observed to have decreased early neonatal death rates⁽³⁴⁾. Lack of any negative EFM effects on the neonatal deaths in this study might be attributed to the fact that the studies conducted covered a large number of samples obtained from multiple randomized controlled studies. The American College of Obstetricians and Gynecologists (ACOG)

has emphasized that pregnant women with low risk must be evaluated with fetal monitoring once every 30 minutes in the first stage of labor, and once every 15 minutes in the second stage. Pregnant women with high risk, on the other hand, are recommended to be evaluated with fetal monitoring every 15 minutes in the first stage, and every 5 minutes in the second one^(35,36). All these results lead to the explanation that EFM should not be used routinely on a continuous basis.

In the study performed by Smyth et al. (2013), no significant difference was seen between the group that received amniotomy and the control group in terms of the length of the first stage of labor, and C-section⁽²³⁾. In the study carried out by Wei et al. (2013), combination use of amniotomy and oxytocin was evaluated, and reported to have decreased the risk of C-section⁽²⁴⁾. In the study of Ghafarzadeh et al. (2015), the duration of labor was shorter and the risk of C-section was decreased in the women that underwent early amniotomy as compared to those that did not⁽³⁷⁾. According to Macones et al. (2012), the duration of labor was two hours shorter in women that underwent amniotomy⁽³⁸⁾. The fact that early amniotomy practice did not shorten the duration of labor and had no effect on the C-section risk in our study might be attributed to the fact that it was performed on all women rather than just the nulliparous ones, and a larger sample, unlike the studies in literature. However, as a result, routine amniotomy practice is not recommended in the normally-progressing labor in evidence-based studies⁽²³⁾.

Amorim et al. (2017) found no significant difference between the control group that did not receive episiotomy and the experimental group that underwent limited episiotomy in terms of maternal and perinatal outputs such as the length of the second stage of labor, the frequency and severity of perineal lacerations, and the need for perineal suture⁽²⁵⁾. In the study of Jiang et al. (2017), both the limited and routine episiotomy practices were reported to have very little or no effects on the Apgar score below seven on minute five, and perineal infections. In addition, no significant difference was discovered between two groups in the moderate and severe pain during a period of three days, dyspareunia, urinary incontinence, and genital prolapse⁽²⁶⁾. In the study carried out by Duran et al. (2002), it was stated that the group receiving episiotomy stayed in the delivery room for a longer time as compared

to the control group, and there was no significant difference between the groups in terms of birth weights, heights and Apgar scores of the neonates⁽³⁹⁾. Similar to other studies, no significant difference was found between the groups that underwent and did not undergo episiotomy in terms of perineal lacerations in the study of researchers⁽⁴⁰⁾. Some believe that episiotomy routinely performed on the perineum prevents severe lacerations that might occur during delivery while some think that the practice of episiotomy is a guaranteed option. However, evidence-based studies show that it should not be performed routinely.

CONCLUSION

In conclusion, while practices such as upright positions and grain less liquid intake by pregnant women with low risk during labor are recommended, routine amniotomy, episiotomy, enema, and electronic fetal monitoring EFM for pregnant women with low risk are not supported, and there is a need for more evidence-based studies. Additionally, the increase in participation rates of caregiving nurses to evidence-based practices, and their cooperation with academic nurses, the follow-up of professional publications using databases, the receipt of institutional support, and the combination with clinical practices play an important role in obtaining the best evidence, and the professionalization of nursing as an occupation that requires thinking rather than fulfillment.

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Study conception and design: EK and SÇ; data collection: EK; analysis and interpretation of results: EK; draft manuscript preparation: EK and SÇ. All authors reviewed the results and approved the final version of the manuscript.

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Araştırma fikri ve tasarımı: EK ve SÇ; veri toplama: EK; sonuçların analizi ve yorumlanması: EK; araştırma metnini hazırlama: EK ve SÇ. Tüm yazarlar araştırma sonuçlarını gözden geçirdi ve araştırmanın son halini onayladı.

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REFERENCES

1. Serçekus P, Isbir GG. Investigation of active birth method with evidence based practice. TAF Prev Med Bull. 2012; 11(1): 97-102. [Crossref]
2. World Health Organization (WHO). WHO statement on caesarean section rates. Available at: <https://www.who.int/publications/i/item/WHO-RHR-15.02> (Accessed on November 7, 2017).
3. Hacettepe University Institute of Population Studies. 2013 Turkey Demographic and Health Survey (TDHS-2013). Ankara: Hacettepe University Institute of Population Studies, Republic of Türkiye Ministry of Development, and TUBITAK; 2014.
4. Basgol S, Kızılkaya Beji N. Frequent practices and evidence based approach in the first phase of labor. DÜ Journal of Institute of Health Sciences. 2015; 5(2): 32-9.
5. Rathfish YG, Güngör I. Evidence based practices in the management of the first phase of labor. HEMAR-G. 2009; 11(3): 53-64.
6. Bilgin NC, Potur DC. Evidence based approach in postpartum period and nursing. Maltepe University Journal of Nursing Sciences and Art. 2010; 3(3): 80-7.
7. Kocaman G. Evidence based practices in nursing. HEMAR-G. 2003; 5(2): 61-9.
8. Yurtsever S, Altıok M. Evidence based practices and nursing. Fırat University Journal of Health Sciences. 2006; 20(2): 159-66.
9. Erden A. Evidence based radyology. Turkish Journal of Diagnostic and Interventional Radyology. 2004; 10(2): 89-91.
10. Gizzo S, Di Gangi S, Noventa M, Bacile V, Zambon A, Nardelli GB. Women's choice of positions during labour: return to the past or a modern way to give birth? A cohort study in Italy. Biomed Res Int. 2014; 2014: 638093. [Crossref]
11. Valiani M, Rezaie M, Shahshahan Z. Comparative study on the influence of three delivery positions on pain intensity during the second stage of labor. Iran J Nurs Midwifery Res. 2016; 21(4): 372-8. [Crossref]
12. Lawrence A, Lewis L, Hofmeyr GJ, Styles C. Maternal positions and mobility during first stage labour. Cochrane Database Syst Rev. 2013; 10: CD003934. [Crossref]

13. Deliktas A, Kukul K. A meta-analysis of the effect on maternal health of upright positions during the second stage of labour, without routine epidural analgesia. *J Adv Nurs*. 2018; 74(2): 263-78. [\[Crossref\]](#)
14. Fawole B, Hofmeyr GJ. Maternal oxygen administration for fetal distress. *Cochrane Database Syst Rev*. 2012; 4: CD000136. [\[Crossref\]](#)
15. Rahmani R, Khakbazan Z, Yavari P, Granmayeh M, Yavari L. Effect of oral carbohydrate intake on labor progress: randomized controlled trial. *Iran J Public Health*. 2012; 41(11): 59-66.
16. Gyte G. NCT Evidence based briefing: eating and drinking in labour. *New Digest*. 2007; 25-9.
17. Ciardulli A, Saccone G, Anastasio H, Berghella V. Less-Restrictive Food Intake During Labor in Low-Risk Singleton Pregnancies: A Systematic Review and Meta-analysis. *Obstet Gynecol*. 2017; 129(3): 473-80. [\[Crossref\]](#)
18. Singata M, Tranmer J, Gyte GM. Restricting oral fluid and food intake during labour. *Cochrane Database Syst Rev*. 2013; 8: CD003930. [\[Crossref\]](#)
19. Reveiz L, Gaitán HG, Cuervo LG. Enemas during labour. *Cochrane Database Syst Rev*. 2013; 7: CD000330. [\[Crossref\]](#)
20. Alfircvic Z, Devane D, Gyte GM. Continuous cardiotocography (CTG) as a form of electronic fetal monitoring (EFM) for fetal assessment during labour. *Cochrane Database Syst Rev*. 2013; 5: CD006066. [\[Crossref\]](#)
21. Grivell RM, Alfircvic Z, Gyte GML, Devane D. Antenatal cardiotocography for fetal assessment. *Cochrane Database Syst Rev*. 2015; 2015(9): CD007863. [\[Crossref\]](#)
22. Martis R, Emilia O, Nurdiani DS, Brown J. Intermittent auscultation (IA) of fetal heart rate in labour for fetal well-being. *Cochrane Database Syst Rev*. 2017; 2(2): CD008680. [\[Crossref\]](#)
23. Smyth RM, Alldred SK, Markham C. Amniotomy for shortening spontaneous labour. *Cochrane Database Syst Rev*. 2013; 6: CD006167. [\[Crossref\]](#)
24. Wei S, Wo BL, Qi HP, et al. Early amniotomy and early oxytocin for prevention of, or therapy for, delay in first stage spontaneous labour compared with routine care. *Cochrane Database Syst Rev*. 2013; 8: CD006794. [\[Crossref\]](#)
25. Amorim MM, Coutinho IC, Melo I, Katz L. Selective episiotomy vs. implementation of a non-episiotomy protocol: a randomized clinical trial. *Reprod Health*. 2017; 14(1): 55. [\[Crossref\]](#)
26. Jiang H, Qian X, Carroli G, Garner P. Selective versus routine use of episiotomy for vaginal birth. *Cochrane Database Syst Rev*. 2017; 2(2): CD000081. [\[Crossref\]](#)
27. Öztürk D, Yılmaz Sezer N, Eroğlu K. Evidence based practices in perinatology. *Ankara Journal of Health Sciences*. 2014; 3(1-2-3): 13-28. [\[Crossref\]](#)
28. Gupta JK, Hofmeyr GJ, Shehmar M. Position in the second stage of labour for women without epidural anaesthesia. *Cochrane Database Syst Rev*. 2012; 5: CD002006. [\[Crossref\]](#)
29. Souza JP, Miquelutti MA, Cecatti JG, Makuch MY. Maternal position during the first stage of labor: a systematic review. *Reprod Health*. 2006; 3: 10. [\[Crossref\]](#)
30. Walker C, Rodríguez T, Herranz A, Espinosa JA, Sánchez E, Espuña-Pons M. Alternative model of birth to reduce the risk of assisted vaginal delivery and perineal trauma. *Int Urogynecol J*. 2012; 23(9): 1249-56. [\[Crossref\]](#)
31. Ergöl S, Eroglu K, Taskin L. Approach to the Woman in Labor: Oral nutrition. *J Nurs Sci*. 2012; 4(1): 23-9.
32. Rathfish G. Labor. In: Beji NK, editor. *Woman's Health and Diseases*. 1st ed. Istanbul: Nobel Medicine Bookstore; 2015: 312-4.
33. Chalmers B, Kaczorowski J, Levitt C, et al. Use of routine interventions in vaginal labor and birth: findings from the Maternity Experiences Survey. *Birth*. 2009; 36(1): 13-25. [\[Crossref\]](#)
34. Chen HY, Chauhan SP, Ananth CV, Vintzileos AM, Abuhamad AZ. Electronic fetal heart rate monitoring and its relationship to neonatal and infant mortality in the United States. *Am J Obstet Gynecol*. 2011; 204(6): 491.e1-10. [\[Crossref\]](#)
35. Miller DA, Miller LA. Electronic fetal heart rate monitoring: applying principles of patient safety. *Am J Obstet Gynecol*. 2012; 206(4): 278-83. [\[Crossref\]](#)
36. Funai E, Norwitz E. Canada: Equity Ownership/Stock Options: Merck; Pfizer; Abbvie. 2014. Available at: <https://www.uptodate.com/contents/labor-and-delivery-management-of-the-normal-first-stage>
37. Ghafarzadeh M, Moeininasab S, Namdari M. Effect of early amniotomy on dystocia risk and cesarean delivery in nulliparous women: a randomized clinical trial. *Arch Gynecol Obstet*. 2015; 292(2): 321-5. [\[Crossref\]](#)
38. Macones GA, Cahill A, Stamilio DM, Odibo AO. The efficacy of early amniotomy in nulliparous labor induction: a randomized controlled trial. *Am J Obstet Gynecol*. 2012; 207(5): 403.e1-5. [\[Crossref\]](#)
39. Duran H, Eroğlu D, Sandıkçı N, Lembet A, Bağış T, Zeyneloğlu H. A prospective randomized study on routine use of episiotomy in vaginal deliveries. *J Clin Obstet Gynecol*. 2002; 12(1): 16-9.
40. Sagi-Dain L, Sagi S. Morbidity associated with episiotomy in vacuum delivery: a systematic review and meta-analysis. *BJOG*. 2015; 122(8): 1073-81. [\[Crossref\]](#)