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Abstract

Background: There is a paucity of published studies on factors influencing feeding practices for infants and young children born via caesarean section.

Aims: To assess whether the mode of childbirth affects early initiation and exclusive breastfeeding, and to identify factors that positively or negatively influence breastfeeding after caesarean births in selected countries in the Middle East.

Methods: We conducted a scoping review of publicly available population-based surveys and peer-reviewed literature on the associations between birthing mode and breastfeeding published between 2000 and 2018. The search identified 33 demographic surveys and 16 studies containing information on the mode of childbirth and breastfeeding in selected countries in the Middle East listed in PubMed, Embase, and CINAHL databases. Searches were completed in March 2019.

Results: Demographic surveys in 6 participating Middle Eastern countries demonstrated increased rates of births by caesarean section. All 3 countries with ≥ 3 datasets available demonstrated that early initiation of breastfeeding was less likely after caesarean section than after vaginal births. Eleven studies analysed differences in breastfeeding outcomes between caesarean section and vaginal births, and all of them identified significant differences between birthing modes. Five studies addressed factors influencing breastfeeding after caesarean births.

Conclusion: Caesarean births are associated with a higher risk of delayed initiation of breastfeeding as well as early cessation of exclusive breastfeeding.

Keywords: maternal health, newborn health, breastfeeding, caesarean section, Middle East

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Introduction

Caesarean section can be a life-saving intervention for mothers and newborns in the event of specific obstetric and fetal complications. However, the procedure poses increased risks of infection, haemorrhage, and postpartum depression that could cause maternal and perinatal deaths in low- and middle-income countries (1). There has been extensive debate about appropriate prevalence of caesarean births in a population, as rates in many countries have increased above the 10–15% considered to be optimal (2). The World Health Organization (WHO) has expressed concerns regarding caesarean section rates in many settings, as population-based rates > 10% are not correlated with reductions in maternal and neonatal mortality (3).

In the Middle East, the average annual rates of caesarean delivery are among the highest in the world (4). Exclusive breastfeeding rates are low compared with those in other regions, despite the fact that breastfeeding has a multitude of benefits for women and children (5). WHO recommends that breastfeeding should begin within the first hour of birth (early initiation) and that all infants should be exclusively breastfed from birth to 6 months of age (6). The early cessation of breastfeeding is proven to increase risks of infection, nutritional problems, future obesity, and asthma (7,8).

The association between the mode of childbirth and breastfeeding is an issue that deserves further exploration in the Middle East. Previous reviews have identified mode of childbirth as one of many factors associated with breastfeeding practices; others include maternal education, infant–mother separation, and maternal smoking (9,10). We are not aware of any publications examining caesarean section and breastfeeding rates in national population surveys from the Middle East, or reviews that focus specifically on factors affecting breastfeeding practices after caesarean section. The aims of this study were to explore the relationship between mode of childbirth, early initiation and exclusivity of breastfeeding, and identify factors that positively or negatively influence breastfeeding after caesarean deliveries in the Middle East.

Methods

We conducted a scoping review of publicly available national surveys conducted between 2000 and 2018, and peer-reviewed literature published in English between 2000 and 2018. Inclusion criteria were as follows. Locations of interest: countries in the Middle East, including Bahrain, Egypt, Islamic Republic of Iran, Iraq, Israel, Palestine, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates (UAE), and Yemen. Outcomes of interest: (1) early initiation of breastfeeding: initial provision of breast milk to an infant within 1 hour after birth; (2) delayed initiation of breastfeeding: initial provision of breast milk to an infant > 1 hour after birth; and (3) exclusive breastfeeding: sustenance of the infant solely on breast milk for the first 6 months of life, without the addition of any other food or beverages including water.

For the data review, we searched the Demographic and Health Surveys (DHS) Program website (11), Multiple Indicator Cluster Surveys (MICS) website (12), and Ministry of Health and Ministry of Statistics websites of each country for population-based surveys completed between 2000 and 2018. Earlier surveys were excluded from this research because exclusive breastfeeding was categorized between 0 and 3 months in many national surveys and initiation of breastfeeding was not often evaluated. Data on caesarean delivery, early initiation of breastfeeding and exclusive breastfeeding rates were extracted from surveys meeting eligibility criteria. Chi-square tests were used to compare the proportions of women with vaginal and caesarean births who reported early initiation of breastfeeding.

For the literature review, we searched CINAHL, Embase and PubMed for studies published in English between January 2000 and December 2018. The search strategy included populations and outcomes of interest (caesarean and breastfeeding), locations of interest (selected countries in the Middle East), and time period of interest (January 2000–December 2018). Searches were completed in March 2019. The lead author screened all titles and abstracts to exclude duplicates and determine potential eligibility for inclusion, and then proceeded with full-text screening to identify observational studies (e.g., cross-sectional, cohort), quasi-experimental and experimental studies reporting on caesarean section and breastfeeding.

The quality of each included study was independently assessed by 2 reviewers, using Critical Appraisal Tools developed by the Joanna Briggs Institute (13); discrepancies were discussed and resolved by a third reviewer.

The following data were extracted from all included studies: authors, year of publication, study location (country), study design, study sample size and location, measured outcomes, and findings related to caesarean section and breastfeeding. For studies comparing breastfeeding outcomes between caesarean section and vaginal birth, odds ratios (ORs) for delayed initiation of breastfeeding (not initiating within 1 hour after birth) and cessation of exclusive breastfeeding before 6 months of age were extracted from studies or calculated based on data presented. Where reported, the proportion of women who breastfed was compared across modes of childbirth. The Chi-square tests was used and point estimates and confidence intervals for the ORs were calculated.

P Results

Data review

Thirty-three national population-based surveys from 10 countries in the Middle East were identified for inclusion in this review: 12 DHS surveys, 10 MICS, and 11 other national surveys (11,12,14,15). No English-language survey reports or datasets were identified from Bahrain, Israel, Kuwait, Saudi Arabia and the UAE. Table 1 shows the rates of caesarean section, early initiation of breastfeeding, and exclusive breastfeeding reported in each survey and the odds of early initiation of breastfeeding after caesarean birth in countries with ≥ 3 demographic surveys during the review period.

Eight of the 9 countries (all except Yemen) reported caesarean section rates > 15%. Egypt, Iraq, Islamic Republic of Iran, Palestine and Syrian Arab Republic reported increases in caesarean section rates over time. Only Yemen reported caesarean section rates decreasing over time: from 8.5% in 2003 to 4.8% in 2013. Over the same time period, early initiation of breastfeeding rates also increased in the Syrian Arab Republic and Yemen. Egypt, Iraq and Palestine reported increasing caesarean section rates and decreasing rates of early initiation of breastfeeding. There were no apparent patterns in the prevalence of exclusive breastfeeding. It was lowest in Yemen in 2013 (

When comparing changes in the rates of caesarean section and early initiation of breastfeeding, there was a decrease in the rates of the early initiation of breastfeeding along with increasing caesarean section rates in Egypt, Iraq and Palestine. There was also a decrease in exclusive breastfeeding rates and an increase in caesarean section rates in Egypt. For example, the caesarean section rate in Egypt increased from 28% to 52% between 2008 and 2014, while the

rate of early initiation of breastfeeding decreased from 53.8% to 27.1%, and the exclusive breastfeeding rate decreased from 52.8% to 39.5%.

Three countries conducted ≥ 3 comparable national population-based surveys during the study period: Egypt (DHS: 2000, 2003, 2005, 2008 and 2014), Iraq (MICS: 2006, 2011 and 2018) and Jordan (DHS: 2002, 2007, 2012 and 2017). Analysis showed a relationship between caesarean section and early initiation of breastfeeding rates, indicating that early initiation of breastfeeding was less likely after caesarean section than after vaginal birth. Table 1 presents data from the most recent surveys indicating that caesarean section was negatively associated with early initiation of breastfeeding in Egypt [OR: 0.48, 95% confidence interval (CI): 0.44–0.52], Jordan (OR: 0.44, 95% CI: 0.40–0.48) and Iraq (OR: 0.11, 95% CI: 0.09–0.14).

Literature review

Our initial search identified 49 studies after duplicates were removed. Only 16 studies (3 randomized control trials, 3 cohort studies and 10 cross-sectional studies) were determined to be eligible for inclusion after full-text screening and critical appraisal (Figure 1).

Eleven studies reported the association between mode of childbirth and breastfeeding outcomes (16–26). These studies reported on studies conducted in Saudi Arabia (n = 5), Jordan (n = 2), Egypt, Kuwait, Lebanon and the Islamic Republic of Iran (n = 1 each). Two studies reported findings from the same longitudinal cohort in Jordan. Most (91%) studies reported on studies conducted at health facilities, except for 1 that reported findings of a population-based survey in Jordan. Most data came from urban tertiary hospitals.

Table 2 presents characteristics of included studies and indicates where results included statistically significant associations between mode of childbirth and breastfeeding outcomes.

Initiation of breastfeeding

Timing of initiation of breastfeeding was an outcome of interest in 5 of 11 studies (45%) (16,20,21,24,25) Two of these studies examined the association between mode of childbirth and initiation of breastfeeding within 1 hour (16,24) and 2 reported on the initiation of breastfeeding within 24 or 48 hours of birth (24,25) One study reported on the initiation of breastfeeding within a few days of birth (21), and another reported on the initiation of breastfeeding before the mother and child were discharged from a health facility after birth (20). All 5 studies revealed lower rates of breastfeeding initiation during the time period of interest after caesarean section than after vaginal births. Four of the 5 studies, which compared timing

of breastfeeding initiation after caesarean section compared with vaginal birth, demonstrated a significant difference (16, 21,24,25). One of these studies showed a significant delay in early initiation of breastfeeding within 1 hour after caesarean section compared with vaginal births (OR: 7.50, 95% CI: 1.98–31.2) (16).

Exclusive breastfeeding

Exclusive breastfeeding was an outcome of interest in 7 of 11 studies. Three of these studies evaluated the associations between mode of childbirth and exclusive breastfeeding at 6 months after birth (17–20,22,23,26). Two studies examined the association between mode of childbirth and duration or continuity of exclusive breastfeeding (17,22). Two others reported on exclusive breastfeeding during the first 48 hours after birth or at discharge from the health facility after childbirth (18,19). One study examined exclusive breastfeeding practices among mothers of infants

Factors influencing breastfeeding after caesarean section

Five studies reported factors influencing breastfeeding outcomes after caesarean section (27–31). These studies were conducted at health facilities in Israel (n = 3), Islamic Republic of Iran (n = 1) and Egypt (n = 1). Three of these studies reported on randomized control trials among children born via caesarean section (27,29,30) and the other 2 reported analyses of the same longitudinal cohort in Israel (26,28). Factors with positive influences on early initiation and exclusive breastfeeding included oral carbohydrate consumption by mothers prior to surgery (29), periodic pain control (27), and early post-caesarean breastfeeding counselling and support (26–28). In contrast, use of general anaesthesia (27) and early discharge (24 vs 72 hours) from the health facility (30) were reported as having negative influences on breastfeeding practices.

One study found that delays in maternal–infant contact, limited maternal mobility, and maternal pain and exhaustion affected early initiation of breastfeeding (27). One study showed the importance of postpartum pain control in allowing successful breastfeeding (27). This study compared the administration of oral analgesics for the treatment of post-caesarean pain in the first 48 hours following surgery and compared the outcomes of on-demand administration to a predetermined interval of 6 hours between doses. Mothers who received analgesics at fixed times over 5 days after caesarean section breastfed their infants more often than those who were able to access analgesics on demand. Fewer feeds of artificial formula were given to the newborns of mothers who received oral analgesics at a fixed time interval, in comparison to the mothers who could access analgesics on demand (28). Two studies on the same longitudinal cohort demonstrated that early, culturally sensitive post-caesarean feeding guidance and education by trained professionals significantly improved breastfeeding outcomes (27,29). The remaining studies explained the positive influence of preoperative oral carbohydrate consumption (30) and negative influence of early discharge on breastfeeding after caesarean section (31).

Table 3 displays a summary of the results of the reviews.

Discussion

This scoping review summarizes available evidence on the association between mode of childbirth and breastfeeding practices in selected countries in the Middle East. Findings from secondary analyses of population-based surveys conducted between 2000 and 2018, and peer-reviewed studies published between 2000 and 2018 show an inverse relationship between caesarean section births and successful early initiation of breastfeeding. The literature reviewed also suggests that caesarean births decrease the likelihood of exclusive breastfeeding at or before the first 6 months of life, and duration or continuity of exclusive breastfeeding.

These findings are consistent with previous reviews of global evidence. However, there are no standardized criteria for measuring breastfeeding after caesarean section. Although MICS and DHS both measure breastfeeding outcomes, we found that studies used several different outcome measures and definitions. To make valid comparisons for a more detailed understanding of these issues, standardization of metrics and data collection methods may be helpful.

The increasing caesarean section rates and the decreasing rates of early initiation of breastfeeding in several countries of the Middle East deserve greater attention as a major public health concern. Several, but not all, included studies identified care practices during pregnancy and childbirth that influence the likelihood of breastfeeding after caesarean deliveries.

First, it is important to strengthen evidence-based practices that are proven to increase early initiation of breastfeeding for all women, regardless of mode of childbirth. These general practices are also effective for mothers who undergo caesarean section. The Middle Eastern region encompasses mothers who belong to varied religious and cultural backgrounds. Some cultural influences may also hinder early initiation of breastfeeding. For example, some sections of the Muslim community commonly believe that colostrum is either harmful to the baby, or that it has poor nutritional value (32). Such traditional practices must be respectfully addressed by trained personnel who can facilitate beneficial health practices for these communities and educate mothers about potentially harmful practices (29). Hospitals that followed the policy of bringing infants to mothers for night feeds and that kept mothers and infants together delivered significantly better breastfeeding results (21). WHO and United Nations Children’s Fund implemented the updated Baby-Friendly Hospital Initiative (BFHI) in 1991 to provide maternity and neonatal services in health facilities. The implementation of these policies has yielded increased breastfeeding rates worldwide, including the Middle East (33). However, BFHI does not provide specific guidance on breastfeeding after caesarean section.

Second, health personnel must be better informed of the importance of early initiation of breastfeeding to improve the care of mothers and infants born via caesarean section (34). The acute pain and the effect of anaesthesia after caesarean section make it more problematic for mothers to initiate breastfeeding within the first hour after birth. Hospitals should establish clear policies about the appropriate administration of anaesthesia and pain control medication for those undergoing caesarean section (35), and epidural anaesthesia should be prioritized. If infants are stable, they should be brought into the postoperative recovery room, and support should be provided for mothers to initiate early breastfeeding. Early initiation of breastfeeding should be supported by health personnel specifically trained to facilitate post-caesarean breastfeeding positioning that is tailored to mother's mobility limitations (27).

A strength of this review was that it incorporated analysis of both population-based surveys and scholarly research. Only a limited number of studies on post-caesarean breastfeeding have been conducted. However, there were limitations to this review. We only reviewed publicly available population-based surveys and peer-reviewed literature in English; therefore, literature published in Arabic was not included. Only studies reporting breastfeeding outcomes were included; studies examining factors related to breastfeeding outcomes, such as skin-to-skin care, may also provide valuable insights on breastfeeding practices after caesarean birth. Finally, some cross-sectional studies included were of moderate quality with a small sample size. Nevertheless, the findings of this investigation offer a valuable snapshot of the available evidence pertaining to breastfeeding after caesarean section, and a meta-analysis is desired for further evaluation.

Conclusion

This scoping review examined the association between the mode of childbirth and breastfeeding outcomes and identified factors related to breastfeeding after caesarean deliveries in several Middle Eastern countries. Caesarean section is a risk factor of delay in the initiation of breastfeeding and for cessation of exclusive breastfeeding in this region. More attention is needed in facilities performing caesarean section.

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Associations entre les naissances par césarienne et l'allaitement maternel

WHO EMRO | Associations between caesarean births and breastfeeding in the Middle East: a scoping rev

au Moyen-Orient : une étude exploratoire

Résumé

Contexte : Il existe peu d'études publiées sur les facteurs influençant les pratiques alimentaires des nourrissons et des jeunes enfants nés par césarienne.

Objectifs : Déterminer si le mode d'accouchement a une incidence sur la mise en route précoce de l'allaitement exclusif au sein, et identifier les facteurs qui influencent positivement ou négativement l'allaitement après une césarienne dans certains pays du Moyen-Orient.

Méthodes : Nous avons réalisé une étude exploratoire des enquêtes en population accessibles au public et de la littérature évaluée par les pairs sur les associations entre le mode d'accouchement et l'allaitement maternel publiée entre 2000 et 2018. La recherche a identifié 33 enquêtes démographiques et 16 études contenant des informations sur le mode d'accouchement et d'allaitement dans certains pays du Moyen-Orient répertoriés dans les bases de données PubMed, Embase et CINAHL. Les recherches se sont terminées en mars 2019.

Résultats : Des enquêtes démographiques menées dans six pays du Moyen-Orient qui y ont participé ont mis en évidence une augmentation des taux de naissances par césarienne. Les trois pays disposant de trois ensembles de données ou plus ont tous démontré que la mise en route précoce de l'allaitement au sein était moins probable après une césarienne qu'après un accouchement par voie basse. Onze études ont analysé les différences de résultats en matière d'allaitement maternel entre les accouchements par césarienne et par voie basse, et toutes ont identifié des différences significatives entre les modes d'accouchement. Cinq études ont abordé les facteurs influençant l'allaitement maternel après une césarienne.

Conclusion : Les accouchements par césarienne sont associés à un risque plus élevé de mise en route tardive de l'allaitement ainsi que d'arrêt précoce de l'allaitement exclusif au sein.

الارتباط بين الولادات القيصرية والرضاعة الطبيعية في الشرق الأوسط :
استعراض استطلاعي

ميهو سودينو، حنا تابيس، جيلبرت برنهام، ميجا فيرفرز

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WHO EMRO | Associations between caesarean births and breastfeeding in the Middle East: a scoping rev

الخلاصة

: هناك ندرة في الدراسات المنشورة عن العوامل التي تؤثِّر في ممارسات تغذيةالخلفية
الرضَّع وصغار الأطفال الذين يولدون ولادات قيصرية .

: هدفت هذه الدراسة إلى تقييم ما إذا كان نمط الولادة يؤثِّر في التبكيرالأهداف
بالرضاعة الطبيعية والرضاعة الطبيعية الخالصة، وتحديد العوامل التي تؤثِّر إيجابًا
أو سلبًا في الرضاعة الطبيعية بعد الولادة القيصرية في بلدان محدَّدة في منطقة الشرق
الأوسط .

: أجرينا استعراضًا استطلاعيًّا للدراسات الاستقصائية السكانية المتاحةطُرق البحث
لعموم الناس، والمنشورات التي استعرضها الأقران عن العلاقة بين نمط الولادة والرضاعة
الطبيعية المنشورة بين عامَيْ 2000 و2018. وحدد البحث 33 دراسة استقصائية سكانية و 16
دراسة شملت معلومات عن نمط الولادة والرضاعة الطبيعية في بلدان محدَّدة في منطقة
الشرق الأوسط، ووردت تلك الدراسات في قواعد بيانات PubMed، Embase، CINAHL.
واستُكملت عمليات البحث في مارس / آذار 2019.

: أظهرت الدراسات الاستقصائية السكانية في 6 من أصل 7 بلدان في الشرق الأوسطالنتائج
زيادة معدلات الولادات القيصرية . وأظهرت البلدان الثلاثة التي تتوفر فيها 3 مجموعات
بيانات أو أكثر أن التبكير بالرضاعة الطبيعية كان أقل احتمالاً بعد الولادات القيصرية
منه بعد الولادات الطبيعية . وحلَّلت إحدى عشر دراسة الاختلافات في نتائج الرضاعة
الطبيعية بين الولادة القيصرية والولادة الطبيعية، وحددت جميعها اختلافاتٍ كبيرة بين
أنماط الولادة . وتناولت خمس دراسات العوامل التي تؤثِّر في الرضاعة الطبيعية بعد
الولادة القيصرية .

: ترتبط الولادة القيصرية بزيادة مخاطر البدء المتأخر في الرضاعةالاستنتاجات
الطبيعية، فضلاً عن التوقُّف المبكر عن الرضاعة الطبيعية الخالصة .

References

1. Sobhy S, Arroyo-Manzano D, Murugesu N, Karthikeyan G, Kumar V, Kau I et al. Maternal

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and perinatal mortality and complications associated with caesarean section in low-income and middle-income countries: a systematic review and meta-analysis. Lancet. 2019 May 11;393(10184):1973–82. https://doi.org/10.1016/S0140-6736(18)32386-9 PMID:30929893

2. Boerma T, Ronsmans C, Melesse DY, Barros AJD, Barros FC, Juan L. Global epidemiology of use of and disparities in caesarean sections. Lancet. 2018 Oct 13;392(10155):1341–8. https://doi.org/10.1016/S0140-6736(18)31928-7

3. World Health Organization Human Reproduction Programme. WHO Statement on caesarean section rates. Reprod Health Matters. 2015 May;23(45):149–50. https://doi.org/10.1016/j.rhm.2015.07.007 PMID:26278843

4. Betran AP, Ye J, Moller A-B, Zhang J, Gülmezoglu AM, Torloni MR. The increasing trend in caesarean section rates: global, regional and national estimates: 1990–2014. PLoS One. 2016 Feb 5;11(2):e0148343. https://doi.org/10.1371/journal.pone.0148343 PMID:26849801

5. Victora CG, Bahl R, Barros AJD, Franca GVA, Horton S, Krasevec J, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. Lancet. 2016 Jan 30;387(10017):475–90. https://doi.org/10.1016/S0140-6736(15)01024-7 PMID:26869575

6. Balogun OO, O'Sullivan EJ, McFadden A, Ota E, Gavine A, Garner CD, et al. Interventions for promoting the initiation of breastfeeding. Cochrane Database Syst Rev. 2016 Nov 9;11(11):CD001688. https://doi.org/10.1002/14651858.CD001688.pub3 PMID:27827515

7. Entz R, Rai U, Rycroft J, Chari RS, Kozyrskyj AL. Regional caesarean delivery practices, the maternal-infant microbiome, and risk for asthma. J Obstet Gynaecol Can. 2018 Aug;40(8):1061–5. https://doi.org/10.1016/j.jogc.2018.01.025 PMID:29887361

8. Prior E, Santhakumaran S, Gale C, Philipps LH, Modi N, Hyde MJ. Breastfeeding after cesarean delivery: a systematic review and meta-analysis of world literature. Am J Clin Nutr. 2012 May;95(5):1113–35. https://doi.org/10.3945/ajcn.111.030254 PMID:22456657

9. Cohen SS, Alexander DD, Krebs NF, Young BE, Cabana MD, Erdmann P, et al. Factors associated with breastfeeding initiation and continuation: a meta-analysis. J Pediatr. 2018 Dec;203:190–196.e21. https://doi.org/10.1016/j.jpeds.2018.08.008 PMID:30293638

10. Alzaheb RA. A review of the factors associated with the timely initiation of breastfeeding and exclusive breastfeeding in the Middle East. Clin Med Insights Pediatr. 2017 Dec 17;11:1179556517748912. https://doi.org/10.1177/1179556517748912 PMID:29317851

11. The Demographic and Health Surveys Program: data [website]. USAID. (https://dhsprogram.com/Data/, accessed 22 April 2021).

12. Multiple indicator cluster surveys: MICS [website]. UNICEF (http://mics.unicef.org/surveys, accessed 22 April 2021).

13. Effective Public Health Practice Project: quality assessment tool for quantitative studies [website]. McMasterUniversity (https://merst.ca/ephpp/, accessed 22 April 2021).

14. Central Administration of Statistics [website]. Presidency of the Council of Ministers, Lebanese Republic (http://www.cas.gov.lb/index.php ,accessed 27 April 2021).

15. Children's situation [website]. Lebanon: Central Administration of Statistics (http://www.cas.gov.lb/index.php/demographic-and-social-en/childrensituation-en, accessed 22 April 2021).

16. Sallam SA, Babrs GM, Sadek RR, Mostafa AM. Knowledge, attitude, and practices regarding early start of breastfeeding among pregnant, lactating women and healthcare workers in El-Minia University Hospital. Breastfeed Med. 2013 Jun;8(3):312–6. https://doi.org/10.1089/bfm.2012.0040 PMID:23039401

17. Sharifi F, Nouraei S, Sharifi N. Factors affecting the choice of type of delivery with breast feeding in Iranian mothers. Electron Physician. 2017 Sep 25;9(9):5265–9. https://doi.org/10.19082/5265 PMID:29038708

18. Khassawneh M, Khader Y, Amarin Z, Alkafajei A. Knowledge, attitude and practice of breastfeeding in the north of Jordan: a cross-sectional study. Int Breastfeed J. 2006 Sep 23;1:17. https://doi.org/10.1186/1746-4358-1-17 PMID:16995953

19. Khasawneh W, Khasawneh AA. Predictors and barriers to breastfeeding in north of Jordan: could we do better? Int Breastfeed J. 2017 Dec 8;12:49. https://doi.org/10.1186/s13006-017-0140-y PMID:29234457

20. Dashti M, Scott JA, Edwards CA, Al-Sughayer M. Determinants of breastfeeding initiation among mothers in Kuwait. Int Breastfeed J., 2010 Jul 28;5:7. https://doi.org/10.1186/1746-4358-5-7 PMID:20667112

21. Batal M, Boulghourjan C, Abdallah A, Afifi R. Breast-feeding and feeding practices of infants in a developing country: a national survey in Lebanon. Public Health Nutr. 2006 May;9(3):313–9. https://doi.org/10.1079/phn2006860 PMID:16684382

22. Shawky S, Abalkhail BA. Maternal factors associated with the duration of breast feeding in Jeddah, Saudi Arabia. Paediatr Perinat Epidemiol. 2003 Jan;17(1):91–6. https://doi.org/10.1046/j.1365-3016.2003.00468.x PMID:12562476

23. Abusaad F, El-Gilany A-H. Exclusive breastfeeding and infant morbidity in Sakaka City, Saudi Arabia. Middle East J Nurs. 2011 Nov;5(6):3–8. https://doi.org/10.5742/MEJN.2011.56108

24. Albokhary AA, James JP. Does cesarean section have an impact on the successful initiation of breastfeeding in Saudi Arabia? Saudi Med J. 2014 Nov;35(11):1400–3. PMID:25399221

25. Alzaheb RA. Factors associated with the initiation of breastfeeding within the first 48 hours of life in Tabuk, Saudi Arabia. Int Breastfeed J. 2016 Jul 21;11:21. https://doi.org/10.1186/s13006-016-0079-4 PMID:27446231

26. Alzaheb RA. Factors influencing exclusive breastfeeding in Tabuk, Saudi Arabia. Clin Med Insights Pediatr. 2017 Mar 10;11:1179556517698136. https://doi.org/10.1177/1179556517698136 PMID:28469519

27. Chertok IR. Breast-feeding initiation among post-Caesarean women of the Negev, Israel. Br J Nurs. 2006 Feb 23–Mar 8;15(4):205–8. https://doi.org/10.12968/bjon.2006.15.4.20545 PMID:16603986

28. Yefet E, Taha H, Salim R, Hasanein J, Carmeli Y, Schwartz N, et al. Fixed time interval compared with on-demand oral analgesia protocols for post-caesarean pain: a randomised controlled trial. BJOG. 2017 Jun;124(7):1063–70. https://doi.org/10.1111/1471-0528.14546 PMID:28236348

29. Chertok IR, Shoham-Vardi I, Hallak M. Four-month breastfeeding duration in postcesarean women of different cultures in the Israeli Negev. J Perinat Neonatal Nurs. 2004 Apr–Jun;18(2):145–60. https://doi.org/10.1097/00005237-200404000-00009 PMID:15214252

30. Fard RK, Tabassi Z, Qorbani M, Hosseini S. The effect of preoperative oral carbohydrate on breastfeeding after cesarean section: a double-blind, randomized controlled clinical trial. J Diet Suppl. 2018 Jul 4;15(4):445–51. https://doi.org/10.1080/19390211.2017.1353566 PMID:28937862

31. Bayoumi YA, Bassiouny YA, Hassan AA, Gouda HM, Zaki SS, Abdelrazek AA. Is there a difference in the maternal and neonatal outcomes between patients discharged after 24 h versus 72 h following cesarean section? A prospective randomized observational study on 2998 patients. J Matern Fetal Neonatal Med. 2016;29(8):1339–43. https://doi.org/10.3109/14767058.2015.1048678 PMID:26037723

32. Gatra AR, Sheikh A. Muslim birth customs. Arch Dis Child Fetal Neonatal Ed. 2001 Jan;84(1):F6–8. https://doi.org/10.1136/fn.84.1.f6 PMID:11124915

33. Smith ER, Hurt L, Chowdhury R, Sinha B, Fawzi W, Edmond KM, et al. Delayed breastfeeding initiation and infant survival: a systematic review and meta-analysis. PLoS One. 2017 Jul 26;12(7):e0180722. https://doi.org/10.1371/journal.pone.0180722 PMID:28746353

34. Al-Zwaini EJ, Al-Haili S-J, Al-Alousi TM. Knowledge of Iraqi primary health care physicians about breastfeeding. East Mediterr Health J. 2008 Mar–Apr;14(2):381–8. PMID:18561731

35. Solt I, Melcer A, Yehieli I, Ophir E, Bornstein J. [The treatment of post partum pain: survey of 26 maternity departments in Israel]. Harefuah. 2009 Jul;148(7):427–31, 477, 476 (in Hebrew). PMID:19848327

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