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THE EFFECTS OF SECTION CAESAREA TO EARLY BREASTFEEDING INITIATION: A SYSTEMATIC REVIEW

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ABSTRACT

***Background**: The early breastfeeding initiation is one of the crusial process for successful in exclusive breastfeeding, unfortunately based on UNICEF, globally only 45% of newborns were put to the breast within the first hours of life. The other condition, nowdays caesarean sections have become increasingly common in both developed and developing countries, research showed that mothers who delivered their baby section caesarea have a higher percentage failure of early breastfeeding initiation than mother with vaginal delivery, from that condition his research aims to analyze effects section caesarea to early breastfeeding initiation.*
***Methods**: This study used systematic review based on the Prisma (Preferred Reporting Items For Systematic Reviews & Meta-Analyses) Protocol to identify all the published literature using relevant keywords. The initial screening was conducted by human population, the year of publication (5 years) and free full text, then reading the titles, abstracts than assessed for eligibility founded 6 articles, those studies included in this review after selected using inclusion and exclusion criteria. Inclusion are journal from rearch reported in english, has no accompanying disease or health problem as cardiac disease, cancer, herpes, HIV/AIDS, obesity ect. The baby is normal, baby can drink orally. Exclusion: the articles published less than 2013, after sectio caesarea mother and infant require special therapy.*
***Results**: The studies showed there were effects of section caesarea to early breastfeeding initiation, the mothers who birth their babies with caesarea most of them failure to initiate early breastfeeding.*
***Conclusions**: The way to Improve the rates of early breastfeeding initiation with giving antenatal breastfeeding education to all mothers especially who known to be having a cesarean section and health care professionals must support. All of the hospitals must apply baby friendly hospital initiative to support success of early breastfeeding initiation*

***Keywords**: Ceasarea delivery, breastfeeding initiation*

INTRODUCTION

Globally, the infant mortality rates were 30.5 per 1,000 live births in 2016 [1]. One of the ways to decrease infant mortality rates is by breastfeeding. Breast milk is the perfect food for newborns and infants, it gives complete nutrients for their healthy growth to protect them from common childhood illness. Breast milk is readily available and affordable, which helps to ensure that infants get adequate nutrition [2]. Breastfeeding is one of the most effective ways to ensure infants health and survival [3], "Breastfeeding is a unique and powerful medium of communication between mother and baby" [4]. Breastfeeding has a positive impact,

reducing neonatal mortality when the infants start breastfeeding in the first hour [5]. The first hour of life to initiate breastfeeding means to place the baby naked skin-to-skin on mother's naked chest, facing her, and cover them together. Allowing the baby to seek the breast next the mother will stimulate the baby with her touch and may help position the baby closer to the nipple (do not force the baby to the nipple), next keep the baby skin-to-skin with the mother until the first feeding is accomplished and as long as she desires thereafter [6].

Early initiation of breastfeeding is one of three recommended breastfeeding practices by WHO and UNICEF. Early initiation of breastfeeding – place newborns skin-to-skin with their mother immediately after birth, and support mothers to initiate breastfeeding within the baby's first hour of life. This process has the potential to significantly improve neonatal outcomes [7]. The benefits are baby warm, developing an immune system, boosting a mother's milk supply and as one of the crucial processes for successful in exclusive breastfeeding. Unfortunately, based on UNICEF, globally, from 140 million live births in 2005, 77 million newborns had to wait too long to be put to the breast, only 45% of newborns were put to the breast within the first hours of life [4]. That is the scope of the problem because if the babies are failed for the early initiation of breastfeeding, it impacts to big potential to fail in exclusive breastfeeding. Another condition, nowadays cesarean section has become increasingly common in both developed and developing countries more than the ideal rates that have been considered by the international healthcare community [8]. Emergency and planned caesarean section may adversely affect breastfeeding initiation [9]. The above problem becomes the main aim for this systematic review, all the published literature related to the effect of caesarean section in early initiation breastfeeding were included.

METHODS

Search Strategy

Several search strategies were used to identify potentially relevant studies. Articles used in this study were retrieved from electronic database. The process of determining eligible literature employed PRISMA as the instrument (*Preferred Reporting Items for Systematic Reviews & Meta-Analyses)*. Nonrelevant articles with the identification criteria, screening, eligibility were eliminated. The first step was to open the database PubMed in https://www.ncbi.nlm.nih.gov/pubmed/ and used the advanced searching.

Document selection

By using search engine with keywords "c$sarean delivery" or "c$sarean section" AND "breastfeeding initiation" or "early breastfeeding" through journals of PubMed, We got results of 278 documents. Screening based on human population resulted in 226, based publication (5 years) n=98, free full text (n = 45) and written in English (n=40). Selecting journals was based on relevance by title and abstract and 6 documents were selected.

Inclusion criteria

Inclusion criteria of documents that we considered to be appropriate (eligibility) for systematic review as follows: a journal from research; reported in English; published from 2013-2018. Inclusion criteria for the respondent are all the mother who gave birth by cesarean, had no accompanying disease or health problem as cardiac disease, cancer, herpes, HIV/AIDS, obesity, etc. The condition of baby was also considered, such as the baby was born normal and can suckle appropriately.

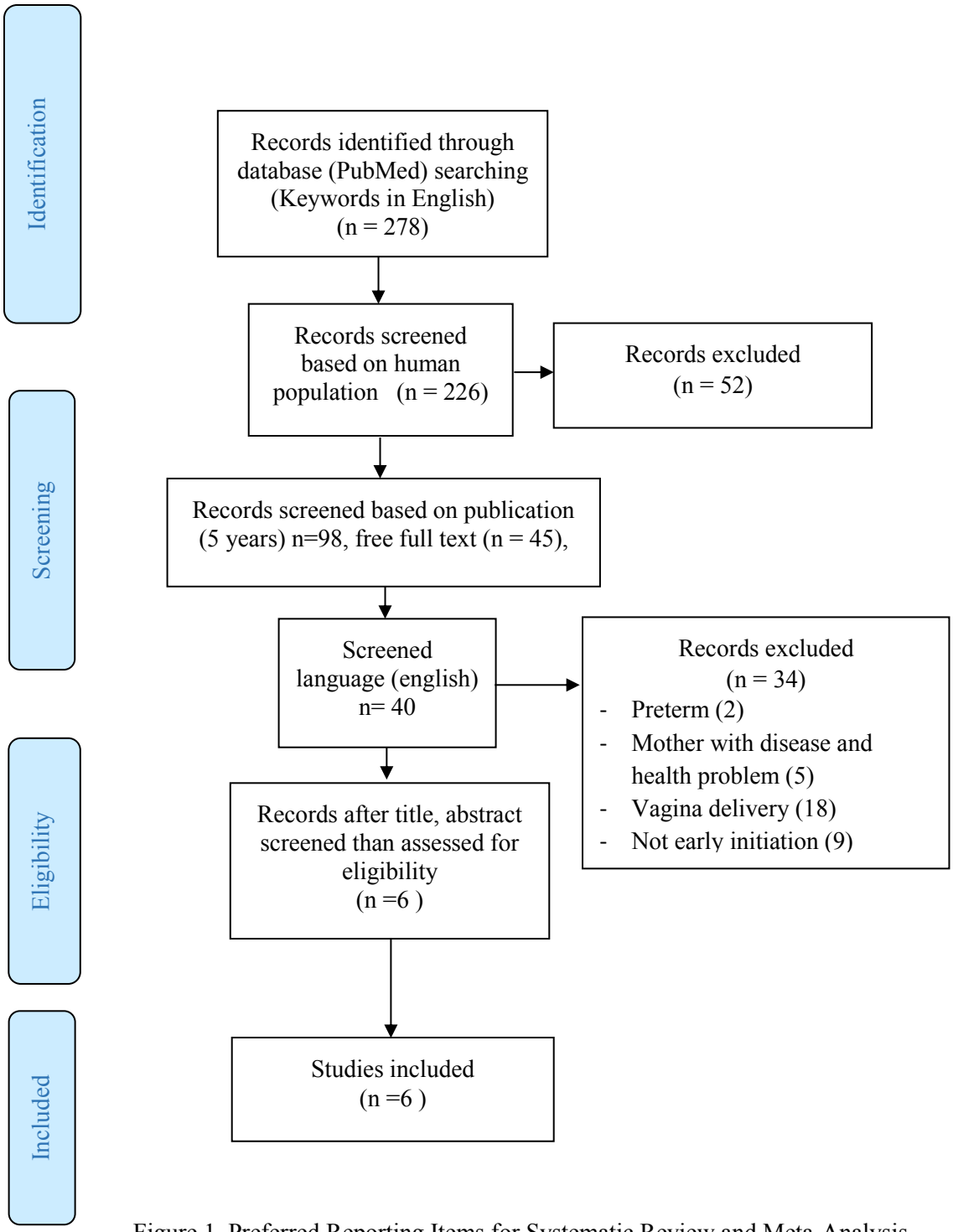

Figure 1. Preferred Reporting Items for Systematic Review and Meta-Analysis

Exclusion criteria

Exclusion criteria were including those mothers and infants after caesarean section require special therapy. Extraction and analysis the data from each article done by the author. The result was analyzed and the data were prepared in accordance with the theme analysis and arranged in the form of a narrative paper. (The selection process by means of a flow chart was presented in Figure 1.)

RESULTS

Our search identified 6 papers where studies came from some countries. The studies was held in 6 countries (Kenya, Zambia, India [2 sites], Pakistan, Argentina and Guatemala), Calgary, Alberta (Canada), Indonesia, Puerto Rican, Nigeria, and Brazil. Based on research design, 4 studies used cross-sectional and the others used prospective cohort). The studies showed that there was a negative effect on early breastfeeding initiation in infants born by caesarean delivery.

Result from a prospective cohort study in Calgary, Alberta (Canada) revealed that women who had a planned cesarean section did not initiate breastfeeding was 7.4% when compared to women with vaginal birth of 3.4%. Women who did not plan caesarean section did not initiate breastfeeding at 4.3% when compared to women with vaginal birth at 1.8%.

This research used a community-based pregnancy cohort in Calgary, Alberta. The women giving birth to a singleton infant were included in this study (n = 3021), began in 2008, the All Our Babies (AOB) study is a prospective design. Participants completed questionnaires before 25 weeks gestation, 34–36 weeks gestation (questions about the mode of birth and breastfeeding intention), and at approximately 4 months (12–16 weeks) postpartum for assessment of breastfeeding outcomes.

Study in 6 countries, prospectively collected data from women and their live-born infants enrolled in the Global Network's Maternal and Newborn Health Registry between January 1, 2010, to December 31, 2013 included women-infant dyads in 106 geographic areas (clusters) at 7 research sites in 6 countries (Kenya, Zambia, India [2 sites], Pakistan, Argentina and Guatemala). Rates and risk factors for failure to initiate early breastfeeding were investigated for the entire cohort. The sample included 255,495 women who had responded to the question about whether EIBF (Early Initiation of breastfeeding) had occurred. This study showed that delivery by caesarean section is a consistent barrier to early breastfeeding initiation, even in the absence of any neonatal condition that interferes with the early initiation of breastfeeding. The detail result can be looked in this table below (Table 1.1)

Table. 1.1 Factors associated with lack of early of breastfeeding within Global Network sites by region for the years 2010-213*

	African Sites		Indian Sites		The Pakistan site		Latin American Sites	
	%	RR (95% CI), P value	%	RR (95% CI), P value	%	RR (95% CI), P value	%	RR (95% CI), P value
Delivery mode by C-Section	1.2	2.06 (1.67, 2.54), <0.0001	17.1	3.76 (1.77, 7.99), 0.0006	9.4	1.21 (1.13, 1.29), <0.0001	26.9	2.26 (1.74, 2.93), <0.0001

*(Poisson multivariable reduced model with generalized estimating equations accounting for cluster)

A study in Indonesia, the data from the 2002/2003 and 2007 Indonesia Demographic and Health Survey. Information from 12,191 singleton live-born infants aged 0-23 months was used to examine factors associated with delayed initiation of breastfeeding. It showed caesarean section deliveries become one of the factors associated with increased odds of delayed initiation of breastfeeding (OR=1.84, 95% CI: 1.39-2.44).

The cross-sectional study in Puerto Rico examined the relationship between cesarean section delivery and the initiation of breastfeeding in a representative sample of 1,695 Puerto Rican women aged 15 to 49 years, who delivered their last healthy singleton child in Puerto Rico between 1990 and 1996. Secondary analysis of data collected in the population-based cross-sectional study Puerto Rico Reproductive Health Survey was performed. Bivariate analysis showed that a significantly lower proportion of women (61.5%) that had a cesarean section initiated breastfeeding in comparison to those (66.4%) that had a vaginal delivery ($p = 0.04$). Multivariate analysis: overall, 36% of all births were performed by cesarean section, while initiation of breastfeeding was achieved by 61.5% of the women. Cesarean section was negatively related to breastfeeding initiation in multivariable logistic regression models (OR = 0.64; 95% CI = 0.51–0.81) after controlling for confounding variables.

The next study in Nigeria among 10,225 children under-24 months were obtained from the 2008 Nigeria Demographic and HealthSurvey (NDHS) shown that the mothers who delivered their babies at a health facility by caesarean section (OR = 0.48, 95%CI: 0.31, 0.75; $p = 0.001$) were significantly less likely to initiate breastfeeding compared to mothers who delivered their babies vaginally. A study in the Brazilian population used a cross-sectional design, extracted from the results of a contemporary cohort conducted in 10 maternity hospitals in the city of Feira de Santana, Bahia, Brazil. A group of 1,309 mother-child pairs were included in the study. Information about mother's and baby's characteristics, pregnancy, birth, and time of breastfeeding initiation was collected in the first 72 hours after delivery, through an interview with mothers and hospital records.

Number	Location	Sample Size	Study	Conclusions
1.	Calgary, Alberta (Canada)	3,021	Prospective cohort	Women who delivered by planned caesarean section did not initiate breastfeeding (7.4 % and 4.3 % respectively) when compared to women with vaginal births (3.4 % and 1.8 %, respectively) and emergency C-section (2.7 % and 2.5 %, respectively)[9].
2.	Kenya, Zambia, India [2 sites], Pakistan, Argentina and Guatemala	255,495	Prospective cohort	Caesarean section becomes one of the factors associated with failure to initiate early breastfeeding[10].
3.	Indonesia	12,191	Cross-sectional	Caesarean section delivery increased odds of delayed initiation of breastfeeding (OR=1.84, 95% CI: 1.39-2.44)[11]
4.	Puerto Rican	1,695	Cross-sectional	Cesarean section was negatively related to breastfeeding initiation in multivariable logistic regression models (odds ratio = .64; 95% CI = 0.51–0.81) after controlling for confounding variables[12]
5.	Nigeria	10,225	Cross-sectional	Mothers who delivered their babies at a health facility by caesarean section (OR = 0.48, 95%CI: 0.31, 0.75; p = 0.001) were significantly less likely to initiate breastfeeding compared to mothers who delivered their babies vaginally[13].
6.	Brazil	1,309	Cross-sectional	The risk factor for delaying the first breastfeeding identified in the present study was delivered by a cesarean section[14].

Tabel 1.2 Summary of included studies show the effect of caesarean section to early breastfeeding initiation

DISCUSSION

Caesarean section becomes one of the factors associated with failure to initiate early breastfeeding [10]. This result is in line with the research undertaken in Hong Kong, birth by cesarean section was also a major barrier to breastfeeding initiation in Hong Kong-born babies [15]. Mothers who had a planned cesarean section were less likely to initiate breastfeeding. Thus, women who know that they will have a scheduled cesarean section may decide to not breastfeed [9,15]. Others study showed the same result, caesarean delivery makes the delayed initiation of breastfeeding. It was because some mothers and babies needed to rest after labor, the respondents attributed it to being exhausted, sleepy and severe abdominal pain from the wound [3]. Those reasons based on a qualitative study in Uganda, mothers who delivered by caesarean one said…"I was exhausted, sleepy and had severe abdominal pain from the wound and feared to breastfeed", one mother said: …"I started to breastfeed after the abdominal pain, dizziness and weakness had reduced and l could sit to breastfeed the baby..." Another mother said "...after delivery my mother-in-law bathed it with hot water, wrapped it and put it to sleep. My mother-in-law told me not to touch him because he needed rest….".

Similar to our results, failure initiation breastfeeding was caused by types of delivery (cesarean section) [16,17]. It may be related to the anesthetic and to the surgical procedures performed in the postpartum period, maternal tiredness [17,18]. Breastfeeding after cesarean childbirth was hindered for many by maternal limitations, positioning difficulties, maternal emotional stress from the interrelated obstacles of maternal incision pain, latching difficulty, perceived lack of infant satiation, perceived lack of infant interest in breastfeeding, and infant mucus clearance. Furthermore, nighttime was specifically mentioned as being the most difficult for these breastfeeding mothers due to the lack of visitors permitted on the ward, hesitation of the women to summon midwives for assistance, and compounded maternal tiredness [19]. Generally, this finding is consistent with that study reported by other parties (studied in Vietnam), that cesarean section was less likely to initiate early breastfeeding [18,20]. In that study showed that caesarean section was a major explanatory variable in the multilevel regression model for the early initiation of breastfeeding. The odds of mothers who underwent caesarean section in their delivery, breastfeeding their babies within the first hour after delivery were 90% lower than for other mothers (OR: 0.10; $p<0.001$; CI: 0.06-0.17). It happened because the mothers are separated from their babies after surgery (no access to rooming-in after birth).

CONCLUSION

Results from this study showed that caesarean section made the early breastfeeding initiation be delayed. Because of maternal limitations, positioning difficulties, abdominal pain from the wound. In order to improve the rates of breastfeeding within the first hour of life, empowerment the mothers have to do and this empowerment should be begun as early as possible since the pregnancy period and then health care professionals have to give extra support to ensure early breastfeeding initiation and also the rule of the hospital.

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