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Maternal Parity and Onset of Lactation on Postpartum Mothers

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ABSTRACT

Onset of lactation is one of indicators of lactogenesis stage II which is the important phase in infants breastfeeding. Breastfeeding is important as it gives many health benefits for both mother and babies. The early initiation of breastfeeding is not always going smooth as sometimes mothers or babies experience various difficulties that complicate the lactation process, especially in primipara women with less knowledge of lactation. Those obstacles and difficulties will influence the practice of breastfeeding which may lead to delay onset of lactation. Thus, this study was conducted to identify the onset of lactation and analyze parity factor on postpartum mothers in DKT hospital in Gubeng Pojok, Surabaya, East Java. It was an observational analytic study with prospective cohort design. 50 respondents were randomly selected using systematic random sampling. Regression logistic showed a correlation between parity and onset of lactation ($p = 0.024$; RR = 7.277), in which primipara mothers were 7.277 times more likely to have delay onset of laction than multipara mothers. It was concluded that maternal parity associated with onset of lactation on postpartum mothers.

Keywords: Parity, Onset of lactation, Postpartum

INTRODUCTION

Onset of lactation (OL) is defined as the initiation of a surge amount of milk production in the mammary gland. It is measured as the time at which mothers describe the breasts hardness, fullness/heaviness, or swelling and leakage of breast milk or yellowish, thick substance called colostrum. It is often perceived as a point of time when women feel that the breast milk has actually come in, which the perception of milk coming in is a valid indicator of lactogenesis stage II (LS-II)[(1)]. The onset of lactation varies in time, studies observed a significant increases of milk production between 24 and 48 hours postpartum[(2)]. The perception of onset of lactation beyond 72 hours postpartum is considered delayed[(3)].

Chapman & Peres-Escamilla (2000) conducted a spesific validation in postpartum women on maternal perception as an indicator of onset of lactation compared to breast milk transfer (BMT) volume. The study also used those two measurements to determine delayed of onset of lactation. It was found that maternal perception was a valid indicator of onset of lactation, with sensitivity and spesificity were 71.4% and 79.4%, respectively[(2)].

Lactogenesis stage II is the period when a copious milk is secreted, occured at about the time of parturition up to 72 hours postpartum which involved the role of several hormones. At birth, the delivery of placenta results in a sudden drop of progesterone and estrogen levels, but prolactin remains high. This sudden withdrawal of progesterone in the presence of prolactin leads to lactogenesis stage II where breast milk is finally secreted in a massive amount.

Breast milk is the primary and best nutrients for infants as it provides all of the nutrients infants need to support the optimal growth and development. But unfortunately, not every woman knows about the important of breastfeeding. It is unfortunate that some mothers, family, or community are still lacking in awareness with regards to breastfeeding practice. There are mothers who are still not brestfeeding their babies because of certain obstacles and reasons, such as lack of support from family or inconfident, which results to the failure of breastfeeding program[(4)].

In primiparous women especially those with less knowledge of labor and lactation, it will cause stress during and after labor. Stres experienced by primiparous women will elevate the cortisol level which cause oxytocin to decrease. Decreased oxytocin will further lead to delayed onset of lactation. Thus, this study was conducted to investigate the relationship between parity and onset of lactation on postpartum mothers.

METHODS

It was an observational, analytical prospective cohort study which researchers did not intervene but rather simply observe the respondents. The population of this study were third trimester pregnant women planned to have delivery in hospital, Surabaya, East Java, during November 2017. A total of 50 postpartum respondents were randomly selected from the population using systematic random sampling. Respondents were then equally divided into primiparous and multiparous women.

A structured interview was done to collect the information regarding maternal perception about the onset of lactation. Data was then analyzed using descriptive and inferential statistic. A logistic regression test was performed to investigate the relationship between parity and onset of lactation, and p value less than 0.05 was considered statistically significant.

RESULTS

In this study, parity was grouped into primiparous (woman having given birth for the first time) and multiparous (woman having experienced two or more previous parturitions). The distribution of onset of lactation was presented in Table 1.

Table 1. Distribution of OL according to parity on postpartum mothers

Parity	Onset of Lactation (OL)		n (%)
	Early	Delay	
	n (%)	n (%)	
Primiparous	8 (32.0)	17 (68.0)	25 (100.0)
Multipous	19 (76.0)	6 (24.0)	25 (100.0)
Total	27 (54.0)	23 (46.0)	50 (100.0)

A total of 50 postpartum mothers were observed for three days. It was found that majority of multiparous respondents (76%) experienced early onset of lactation and only 24% said to have delay onset of lactation. While delayed onset of lactation was found more in primiparous (68%) than multiparous women. This finding was similar to several prospective studies that stated primiparous women were more likely to have delay onset of lactation than multiparous women[(2)]. In this study, primiparous women tend to experience the delayed onset of lactation 7.277 times higher than multiparous women. It could be explained that multiparous mothers already had experienced previous parturitions which made them more prepared for subsequent pregnancy, so they had milder level of anxiety and stress. In addition, multiparous mothers had previous breastfeeding experience that made early onset of lactation easier to happen.

Table 2. Logistic regression between parity and onset of lactation

Dependent Variable	Regression Coefficient (β)	p	RR
Parity			
Primiparous	1.978	0.024	7.227
Multiparous (reference group)		-	

Logistic regression found that parity correlated with onset of lactation ($p < 0.05$; RR = 7.227). This finding was consistent with Dewey et al (2003) and Jane et al (2007) which investigated the association between parity and onset of lactation in Australian postpartum mothers[(3),(5)]. It might be caused by early initiation of breastfeeding was not always successful as sometimes either mothers or babies experienced various obstacles and difficulties that could complicate the lactation process, especially on primiparous women who had been giving birth for the first time. The effects could have been worse if primiparous women were lacking of knowledge about lactation, which might cause delay onset of lactation. Cortisol level in primiparous women also played a role in delayed onset of lactation.

Over 90% mothers experienced pain during labor which was normal a physiologic process, but with different intensity in each individuals[6]. Labor pain might cause a long term stress to postpartum women, especially in primiparous women who experienced partutition for the first time. Stress and anxiety during pregnancy will increase cortisol level and inhibit the release of oxytocin, interrupting the let-down reflex and delay the milk ejection[3],[7]. It could explain why delayed onset of lactation was found more in primiparous than multiparous women.

Riordan (2010) reported that the breast milk volume in multiparous women was higher than primiparous in the first four days of postpartum. Multiparous women haf more prolactin receptors which stimulated milk production after delivery. Thus, it could initiate lactogenesis stage II (LS-II) and prevented delay onset of lactation[8].

DISCUSSION

We found that primiparous women were 7.227 times more likely to experience delay onset of lactation than multiparous women. This finding was consistent with prospective study conducted by Jane et al (2007) which found higher incidence of delay onset of lactation among primiparous women compared with multiparous women[5]. Grajeda (2002) reported that higher level of stress and anxiety were more common in primiparous women. Higher level of stress could elevate the level of cortisol, almost twice as high as those in multiparous women. The elevated of cortisol level in primparous women related to labor pain that caused stress and anxiety. Cortisol affected lactation as it could inhibit the releasing of oxytocin, a hormone that stimulated the contraction of myoepithelial cells surroundin alveoli, causing milk to be secreted to the nipple. It could be inferred that women experienced stress or anxiety during labor and delivery tend to have delayed onset of lactation[7].

CONCLUSION

The majority of multiparous women experienced early onset of lactation and parity showed a positive correlation with onset of lactation on postpartum mothers in hospital, Surabaya. This study can be used as a reference to subsequent studies related to factors affecting onset of lactation with different variables such as body mass indec, mothers' ages and anxiety level. Further study with larger population is recommended. Postpartum mothers are strongly recommend give exclusive breastfeeding because the stimulations from baby during breastfeeding help mother to produce more milks.

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