

LITERATURE REVIEW: THE RELATIONSHIP OF ANXIETY TOWARDS THE PRODUCTION OF BREAST MILK IN POSTPARTUM MOTHERS

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Abstract. The postpartum period is a vulnerable period for postpartum mothers because there are several physiological and psychological changes after giving birth. Otherwise, the process of lactation and milk production is influenced by hormones. Postpartum mothers usually feel tired and experience psychological disorders such as anxiety about their condition and the condition of their baby. This study aims to determine the conditions that interfere with the production of breast milk in postpartum mothers. This study uses traditional literature review research methods, analyzes articles that match the inclusion criteria, and focuses on the relationship between anxiety and increased breastfeeding in postpartum mothers. Based on the results of this study, this literature review used 10 journals with inclusion criteria, eight journals showed a significant relationship between anxiety and breastfeeding in postpartum mothers. There was a decrease in oxytocin levels and duration of breastfeeding which had an impact on the rate of exclusive breastfeeding. In contrast, the other two journals did not find a significant relationship between anxiety and oxytocin levels with the breastfeeding method used. Because there are variables that are not examined.

Keywords: bleaching time; postpartum mother; carbamide peroxide.

INTRODUCTION

The postpartum period is the most vulnerable for postpartum mothers. The postpartum period lasts from after delivery is completed to 6 weeks or 42 days ([Purwoastuti & Walyani, 2017](#)). During this time, there are several changes in the mother's physical and psychological. In addition, during the puerperium, there is also a process of formation and expenditure of breast milk which is influenced by the performance of several hormones.

Breastmilk is very beneficial for mother and baby. Breastfeeding can reduce infant morbidity, optimize growth and help intelligence development. The benefits for breastfeeding mothers are helping to extend the distance between pregnancies, avoiding the risk of breast cancer, and increasing the bond between mother and baby. According to WHO, data on exclusive breastfeeding coverage worldwide is only around 36% in the 2007-2014 period. Exclusive breastfeeding coverage in Indonesia reaches 54%, this figure is the target coverage that has been achieved. Based on the 2018 National Basic Health Research Report, 76.5% of mothers in East Java breastfeed at the age of 0-23 months of baby, while 23.5% of mothers decided not to breastfeed at the age of 0-23 months of baby. It is because of two main factors breastfeeding, who did not discharge (70.2%) and were hospitalized separately (8.8%).

In fact, not all mothers with newborns can breastfeed their babies well. This can be influenced by the internal and external

factors of the mother. Internal factors that can influence are low knowledge, psychological condition, and mother's attitude towards her condition. Meanwhile, external factors include a husband or family support, socio-cultural conditions, the condition of the baby, increased promotion of formula milk, maternal food, and the use of contraceptives ([Hanifah et al., 2017](#)).

During breastfeeding, there are two important processes. The process of forming milk (the milk production reflex) is influenced by the hormone prolactin and the process of releasing milk (let down reflex) is influenced by the hormone oxytocin. However, this hormone can be inhibited by one of the factors, namely maternal psychological factors ([Sherwood, 2015](#)).

When the mother feels anxious or stressed, the body responds by releasing ACTH (adrenocorticotrophin hormone) by the pituitary, it will stimulate the adrenal glands to produce various hormones, namely the hormone cortisol. This hormone cortisol can provide negative feedback to the pituitary gland so that oxytocin levels in the body will be disturbed. On the other hand, in a happy state, the body releases endorphins which can provide a sense of comfort and calm during lactation. This makes the pituitary produce the hormone oxytocin optimally.

Anxiety disorders and the lack of social support that mothers need can act as stressors. It has an impact on the mother's lactation process, especially on the process of expressing breast milk, and impact on the duration of breastfeeding. This will certainly affect the level of coverage of

exclusive breastfeeding in postpartum mothers.

METHODS

This study used a traditional literature review research method, analyzed the articles that matched with inclusion criteria, and focused on the relationship between anxiety and increased breastfeeding in postpartum mothers. The criteria used in the literacy selection process are articles from the Science Direct, PubMed, Research Gate, and Google Scholar databases that published years 2010 until 2020. The articles used original research articles related to psychological disorders in postpartum mothers on the lactation process.

RESULTS AND DISCUSSION

After the literature search process from

various databases according to the inclusion criteria, 10 articles were taken for further research. Seven studies discussed the effect of anxiety on low breastfeeding duration, two studies discussed the effect of anxiety disorders and depression on oxytocin levels in the postpartum mother's body, and one study discusses the impact of maternal anxiety on the prediction of the preferred breastfeeding method.

This study was conducted in various countries with various sample sizes and criteria. Three studies were conducted in America, two studies were conducted in Iran, one study was conducted in Norway, one study was conducted in India, one study was conducted in Japan, one study in the United Arab Emirates, and one study in the UK.

Table 1. The Results of the Research from 10 Journals

Number.	Researcher	Year	Results
1.	(Ystrom , 2012)	2012	In this study, it was found that there was a decrease in the number of mixed breastfeeding and bottle breastfeeding methods to the low level of anxiety experienced by mothers during postpartum. In the results of the regression analysis, anxiety symptoms at 6 months postpartum can be predicted by the number of mixed breastfeeding (β 0.08; 95% CI 0.05-0.11) and bottle breastfeeding (β 0.24; 95% CI 0.21-0.28).
2.	(Whitley et al. , 2020)	2019	There were no significant results between mothers who did not breastfeed at 2 months postpartum with depression (16% v. 25%, $p=0.22$) or symptoms of anxiety (8% v. 11%, $p=0.53$). There was no change in the amount of oxytocin in the sample.
3.	(Riedstra & Aubuchon-Endsley , 2019)	2019	There was a correlation between the socio-economic level of stress ($p=0.002$) and anxiety ($p=0.007$). The ANCOVA test found significant results between anxiety and decreased breastfeeding duration ($p=0.009$).
4.	(Arifunhera et al. , 2016)	2015	The high HADS score was correlated with the low level of breastfeeding by the mother ($p=0.149$). It was found that anxiety has a relationship with poor breastfeeding attitudes, however, postpartum anxiety was not an independent factor in breastfeeding attitudes in the results of multivariate analysis.
5.	(Minamida et al. , 2020)	2020	The STAI score does not determine the method of breastfeeding in the first month postpartum. There were no significant results between the exclusive breastfeeding group and the non-exclusive group ($p<0.05$) in the three sampling times.
6.	(Radwan et al. , 2020)	2020	It was found that the level of anxiety was moderate to high as measured by STAI ($n=348$,

			76.2%). However, a high level of breastfeeding ability was found with a mean score of 52.2 (SD=11.92). This is because the social support that mothers receive from their husbands, family, and friends is also high (n=387, 86.9%).
7.	(Fallon et al. , 2018)	2017	A high PSAS score had a significant relationship to a decrease in the rate of exclusive breastfeeding (OR 0.98). Anxiety was also associated with negative perceptions of infant feeding behavior (p<0.001).
8.	(Jalal et al. , 2017)	2017	There were significant results between increasing anxiety and decreasing rates of exclusive breastfeeding (step p=0.004 and trait p=0.006). The increase in the mean of maternal anxiety (OR 0.462) increased the chances of not breastfeeding exclusively by 54%.
9.	(Stuebe et al. , 2013)	2013	There was a decrease in the amount of oxytocin at week 8 in postpartum mothers with symptoms of anxiety (p<0.05). There was also a decrease in prolactin levels but it could not be said to be statistically significant.
10.	(Assarian et al. , 2014)	2014	There was a significant relationship between the mental health of the mother and her breastfeeding status (p=0.001). Found OR 1.83 where mothers who do not succeed in exclusive breastfeeding have a 1.83 times higher risk of experiencing psychological disorders.

Discussion

After going through the literature search process, it was found that 8 out of 10 articles studied described a significant relationship between anxiety and the fluent of breast milk production ([Arifunhera et al., 2016](#)); ([Assarian et al., 2014](#)); ([Fallon et al., 2018](#)); ([Jalal et al., 2017](#)); ([Minamida et al., 2020](#)); ([Radwan et al., 2020](#)); ([Riedstra & Aubuchon-Endsley, 2019](#)); ([Stuebe et al., 2013](#)); ([Woolhouse et al., 2016](#)). The study of ([Stuebe et al., 2013](#)) described a decrease in oxytocin levels at the 8th week postpartum in 48 samples who had symptoms of anxiety and depression.

Anxiety, stress, and feeling of fear experienced by postpartum mothers is the factor that will form a blockade in the letdown reflex process. This is caused by the release of adrenaline which causes vasoconstriction of the alveolar blood vessels, so the oxytocin hormone cannot work optimally ([Purwoastuti & Walyani, 2017](#)). The release of the hormone oxytocin can be inhibited by catecholamines. The release of catecholamines is stimulated by stress and pain factors in postpartum mothers ([Cunningham et al., 2014](#)).

The research of ([Woolhouse et al., 2016](#)) explained the increase in anxiety that occurs in postpartum mothers can be caused by several factors, one is maternal age <30 years. The researcher explained that at this age, the majority of mothers were primiparas who had no experience in the lactation process. In addition to the age factor, ([Riedstra & Aubuchon-Endsley, 2019](#)) in their research mentions that low socioeconomic factors can also increase postpartum mothers' anxiety.

The research of ([Arifunhera et al., 2016](#)) investigated the factors related to a baby's condition also have an impact on the psychological state of the mother. Mothers with babies whose birth in weight <2500 grams tend to have high HADS (Hospital Anxiety & Depression Scale) scores. This is related to the baby's sucking reflex being less than perfect so that the resulting stimulus is not optimal. These results are supported by research by ([Jalal et al., 2017](#)) that mothers with low birth weight (LBW) had a 54% chance of not breastfeeding their baby exclusively.

The opposite is explained by ([Assarian et al., 2014](#)) in their research that mothers who do not succeed in breastfeeding have a 1.83 times higher risk of experiencing stress and anxiety disorders compared to mothers who successfully breastfeed. This factor is in line with ([Fallon et al., 2018](#)) in their research, where the mother's negative perception of eating behavior in an infant will increase anxiety and stress levels. So that the rate of breastfeeding babies exclusively for 6 months is low.

In the study of ([Radwan et al., 2020](#)) it was found that the majority of postpartum mothers' anxiety levels were at moderate to high levels. This is certainly an obstacle to improving the quality of breastfeeding in the UEA. However, the results obtained on the level of breastfeeding ability in postpartum mothers are high with an average score of 52.2. The results of the relationship analysis regarding the high social support provided by husbands, family, and friends to postpartum mothers it can affect the ability to breastfeed.

A study by ([Ystrom, 2012](#)) found a significant relationship between the level of

anxiety in postpartum mothers with breastfeeding methods. It was explained that the anxiety experienced by mothers at 6 months postpartum could be predicted by the number of mixed breastfeeding and bottle breastfeeding studies. Researchers also think that mothers with postpartum anxiety need support during lactation and mothers need to learn about efficient coping strategies when experiencing anxiety in the early postpartum period. This is in line with the research of (Qiftiyah, 2018), the benefit of family support is the management of stress by providing services, care, and sources of information needed to deal with stress and pressure during the postpartum period.

In contrast with the research before, (Whitley et al., 2020) did not find any significant differences in oxytocin levels in mothers with anxiety and depression disorders with mothers without symptoms in the 2nd and 6th months postpartum. This can occur for several reasons, it is because they use measuring instruments that are less specific and also the presence of other factors that affect oxytocin levels that were not examined in this study. (Minamida et al., 2020) explained in their research that the anxiety in mothers cannot predict the breastfeeding method that mothers use in the first month of postpartum. There was no significant relationship between direct breastfeeding and the addition of formula milk.

CONCLUSIONS

This study is a literature review study, where the ten journals were obtained in inclusion criteria. Based on the literature

review that has been carried out in the ten journals, it can be concluded that there is a significant relationship between anxiety and the fluency of breast milk production in postpartum mothers. A total of 8 journals support the researcher's hypothesis. This is related to the psychological state of the mother with the duration of breastfeeding and the success of the mother to breastfeed exclusively. Meanwhile, there were no significant results in the relationship between both anxiety in postpartum mothers and the levels of oxytocin with the breastfeeding method that the mother used in the other two journals. This is because there are variables that are not examined so the results are less than optimal.

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