



Relationship Between Anxiety Levels and Delayed Breast Milk Let-Down in Postpartum Mothers at Prof. Dr. R.D Kandou General Hospital Manado

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Abstract, Background: Anxiety in postpartum mothers is a psychological problem that can negatively impact maternal mental health, marital relationships, and the lactation process. This psychological disorder can inhibit the production and let-down of breast milk, which, if not addressed promptly, can lead to physical complications such as breast engorgement or mastitis, as well as hinder the fulfillment of the infant's nutritional needs. **Objective:** This study aimed to determine the relationship between anxiety levels and delayed breast milk let-down in postpartum mothers at Prof. Dr. R.D. Kandou General Hospital Manado. **Methods:** This research is an analytical survey with a cross-sectional design. The sample consisted of 30 postpartum mothers selected using non-probability sampling. Research instruments included questionnaires and interviews, with data analysis using the chi-square test. **Results:** The majority of respondents experienced moderate anxiety (60.0%) and had non-smooth breast milk let-down (53.3%). Statistical test results showed a p-value = 0.030, indicating a significant relationship between anxiety levels and delayed breast milk let-down. **Conclusion:** High anxiety levels in postpartum mothers contribute to delayed breast milk let-down. Psychological support for postpartum mothers is needed to maintain the smoothness of the breastfeeding process.

Keywords: Anxiety, Breast Milk Let-Down, Marital Relationships, Postpartum Mothers, The Lactation Process.

1. INTRODUCTION

The postpartum period, also known as the puerperium, is the period from when the baby and placenta are delivered until six weeks later, accompanied by the recovery of reproductive organs that underwent changes, such as injuries and other conditions related to childbirth (Citrawati et al., 2023). The postpartum period is a very anxious time for a woman becoming a mother for the first time, as she is required to adapt to her new role. Family responsibilities increase with the arrival of a newborn. Some can adapt well by remaining calm and performing their role effectively. However, some fail to adapt and even experience psychological disturbances such as anxiety.

Anxiety in postpartum mothers can have adverse effects on the baby, the mother's mental health, and the marital relationship. Hormonal changes in significant amounts can alter the mother's mood, involving hormones such as progesterone, estrogen, thyroid hormones, cortisol, and prolactin. Anxiety in postpartum mothers is often overlooked and untreated, which raises concerns that it may progress to a more severe stage, namely postpartum depression (Lita Rahmawati, Sri Wilnani, Atik Mawarni, 2019)

According to data from the World Health Organization (WHO), anxiety in 2020 was estimated to be the leading cause of disability in individuals worldwide, and psychiatric disorders will account for about 15% of the global disease burden. Mothers experiencing mild postpartum anxiety range between 10 per 1000 live births, while those experiencing moderate to severe postpartum anxiety range between 30 to 200 per 1000 live births.

In 2018, WHO recorded the prevalence of anxiety disorders in general at 3-8%, with 50% of cases occurring in the productive age group of 20-50 years. WHO also reported that this anxiety disorder occurs in women at a rate of 20%. Meanwhile, the prevalence of postpartum anxiety in Asian countries is quite high and varies between 26-85% of postpartum women.

The results of the 2018 Basic Health Research (RISKESDAS) stated that the prevalence of mental disorders such as depression and anxiety in pregnant women is 15.6% and in postpartum women is 19.8% of approximately 14 million Indonesian population. Postpartum anxiety that remains unresolved can lead to postpartum depression and other mental disorders that affect health. The incidence of postpartum depression in Indonesia is recorded at 22.4%.

According to (Desil Rohmlana, Irma Jayatmili, 2020) factors influencing anxiety include changes in status and role, socio-cultural aspects, stressors, maturation, education, parental role, husband's role, healthcare workers' role, socio-economic status, and personality type. Sustained anxiety in postpartum mothers leads to adverse long-term effects. Mothers feel incapable of caring for their babies. They also lack enthusiasm for breastfeeding due to feelings of helplessness or incompetence.

Postpartum mothers greatly need support from those around them because they are not yet fully stable, both physically and psychologically. One form of support is adequate parental role for postpartum mothers, which can reduce morbidity, facilitate recovery from illness, and improve cognitive, physical, and emotional health functions. The parental role here takes the form of interpersonal relationships that protect the mother from the adverse effects of stress. Additionally, a woman's adaptation to becoming a mother requires the role of the husband. The presence of a husband is also an easy way to reduce anxiety in postpartum mothers.

Anxiety in postpartum mothers, among other things, affects breast milk production, leading to non-smooth or absent milk let-down. The impact of non-smooth milk production includes maternal pain due to breast engorgement, mastitis, and even

breast abscess, which can cause infection. Infected breasts cannot be used for breastfeeding, resulting in unmet infant nutritional needs and reduced infant immunity. Based on research by (Sri Yunita Surailda Salat, n.d.) more than 50% of breastfeeding mothers who experience anxiety result in non-smooth breast milk let-down.

Breast milk (ASIL) is the primary source of nutrition for infants who cannot yet digest solid foods. Breast milk is the best food for infants because it contains many important substances that are beneficial for boosting immunity against diseases. Research results state that breast milk is an unparalleled food for infants. Baby food and formula milk made with current technology cannot replace this amazing food source (Rusd et al., 2022).

2. METHODS

This research is an analytical survey using a cross-sectional design, where the independent variable (anxiety level) and the dependent variable (smoothness of breast milk let-down) are observed simultaneously. This study was conducted at Prof. Dr. R.D. Kandou General Hospital Manado. The population and sample in this study were all postpartum mothers receiving care at Prof. Dr. R.D. Kandou General Hospital Manado, with a total of 30 respondents. Sampling was done using non-probability sampling with instruments in the form of structured questionnaires and direct interviews. Analysis used included univariate analysis with frequency distribution and bivariate analysis with the chi-square test.

3. RESULTS

Table 1 Frequency Distribution of Respondent Characteristics.

Variable	F	%
Age		
< 20 years	5	16.7
20-35 years	19	63.3
> 35 years	6	20.0
Total	30	100.0
Education		
Elementary School	1	3.3
Junior High School	5	16.7

Senior High School	19	63.3
Higher Education	5	16.7
Total	30	100.0
Occupation		
Homemaker	22	73.3
Private Sector	6	20.0
Civil Servant	2	6.7
Total	30	100.0
Parity		
Primipara	16	53.3
Multipara	13	43.3
Grand Multipara	1	3.3
Total	30	100.0

Based on the table above, it can be seen that the majority of respondents were aged 20-35 years, with 19 respondents (63.3%); the majority had Senior High School education, with 19 respondents (63.3%); the majority worked as homemakers, with 22 respondents (73.3%); and the majority were primiparous, with 16 respondents (53.3%).

Table 2 Frequency Distribution of Anxiety in Postpartum Mothers.

Variable	f	%
Mild	12	40.0
Moderate	18	60.0
Total	30	100.0

Based on Table 2, it was found that postpartum mothers experienced moderate anxiety, with 18 individuals (60.0%), and only 12 individuals (40.0%) experienced mild anxiety.

Table 3 Frequency Distribution of Delayed Breast Milk Let-down in Postpartum Mothers.

Variable	f	%
Smooth	14	46.7
Not Smooth	16	53.3
Total	30	100.0

Based on Table 3, it can be seen that postpartum mothers more frequently experienced non-smooth breast milk let-down, with 16 individuals (53.3%), and respondents with smooth let-down numbered 14 individuals (46.7%).

Table 4 Relationship Between Anxiety Levels and Delayed Breast Milk Let-down in Postpartum Mothers at Prof. Dr. R.D. Kandou General Hospital Manado.

Anxiety Level	Delayed Breast Milk Let-down						P-value
	Smooth		Not Smooth		Total		
	n	%	n	%	n	%	
MLild	9	69,2	4	30,8	13	100	0,030
MLoderate	5	29,4	12	70,6	17	100	
Total	14	46,7	16	53,3	30	100	

Based on Table 4 above, it shows that out of 13 respondents with mild anxiety levels, the majority had smooth breast milk let-down, with 9 respondents (69.2%). Conversely, out of 17 respondents with moderate anxiety levels, the majority had non-smooth breast milk let-down, with 12 respondents (70.6%).

The Chi-Square statistical test results obtained a p-value = 0.030. Since $p < 0.05$, H_0 is accepted, meaning there is a significant relationship between anxiety levels and delayed breast milk let-down in postpartum mothers at Prof. Dr. R.D. Kandou General Hospital Manado.

DISCUSSION

Respondent Characteristics

Based on the research results in Table 1, the majority of respondents were aged 20-35 years, with 19 respondents (63.3%). According to the researcher, individuals aged 20-35 also experience psychological disturbances because this is the first experience for primiparous mothers, especially in entering the new phase of becoming a mother. Although ages 20-35 are considered ideal for reproduction, the research observations indicate that most are in the young adult category, making mothers appear fearful, anxious, and many complain when their babies cry because they are confused about how to soothe them. Essentially, as maternal age increases, experience also grows; experience can be gained from oneself or others, allowing mothers to acquire new knowledge or experience in caring for their babies, thus reducing anxiety.

Research results from 30 postpartum mothers at Prof. Dr. R.D. Kandou General Hospital Manado show that the majority of respondents had Senior High School education, with 19 respondents (63.3%). According to (Aryanil et al., 2023), maternal education is an important factor in breastfeeding infants. The higher the education level, the easier it is for someone to accept new things and adapt. Mothers with lower education levels sometimes find it difficult to accept explanations about breastfeeding, while mothers with higher education levels more easily receive information about meeting their child's nutritional needs, ensuring adequate child nutrition.

Based on occupational characteristics, the majority of respondents did not work or were solely homemakers, with 22 individuals (73.3%). According to the researcher's assumption, the tasks of a homemaker in managing domestic needs are numerous. This leads to fatigue or exhaustion, which can trigger decreased milk production, causing anxiety and consequently affecting breast milk let-down.

Out of 30 respondents, the majority were primiparous, with 16 individuals (53.3%). The researcher assumes that mothers with one child are more susceptible to stress due to significant role changes, compounded by a lack of experience in breastfeeding and caring for a baby, often leading to issues like sore nipples due to improper latch, causing mothers to be reluctant to breastfeed. If a mother does not breastfeed, there will be no increase in prolactin and oxytocin hormones, resulting in non-smooth milk let-down. Additionally, field observations found that primiparous mothers are easily anxious due to environmental influences affecting their psyche, such as negative comments and numerous prohibitions or taboos directed at the postpartum mother.

Anxiety Levels in Postpartum Mothers at Prof. Dr. R.D. Kandou General Hospital Manado

Based on the table above, it can be seen that out of 30 respondents, postpartum mothers experienced moderate anxiety, with 18 individuals (60.0%), and only 12 individuals (40.0%) experienced mild anxiety.

Anxiety is a disturbance in emotional state characterized by deep feelings of fear or worry with unclear causes. Symptoms complained of are dominated by psychological factors but can also include physical factors. A person will experience anxiety when they are unable to cope with psychosocial stressors. Anxiety in postpartum mothers is accompanied by increased secretion of adrenocorticotrophic hormone (ACTH) by the anterior pituitary gland, followed by increased secretion of adrenocortical hormones, namely cortisol, within minutes. Cortisol has a direct negative feedback effect on the

hypothalamus to reduce CRF and on the anterior pituitary to reduce ACTH formation (Studil et al., 2016).

Postpartum mothers must prepare themselves to breastfeed their babies, but some mothers experience anxiety, affecting the smoothness of breast milk let-down. Breastfeeding mothers must think positively and relax to avoid anxiety, and good psychological conditions can trigger the hormones that produce breast milk. Good maternal psychological conditions motivate breastfeeding, increasing the hormones involved in milk production because milk production begins with the breastfeeding process and stimulates milk production (Angin & Utara, 2025).

Anxiety levels in primiparous mothers are higher than in multiparous mothers. This is because most primiparous mothers lack experience in caring for their babies. Primiparous mothers still require adaptation to their physical and psychological conditions after childbirth. In contrast, multiparous mothers have been through this process before, making them more accustomed to new additions to their family (Fauzilah Fajril, Esri Rusmilingsih, n.d.).

Delayed Breast Milk Let-down in Postpartum Mothers at Prof. Dr. R.D. Kandou General Hospital Manado

Research results show that postpartum mothers more frequently experienced non-smooth breast milk let-down, with 16 individuals (53.3%), and respondents with smooth let-down numbered 14 individuals (46.7%).

Production, secretion, and let-down of breast milk during lactation require psychological and physical readiness of the mother, a sufficiently healthy baby to breastfeed, and milk production that matches the baby's needs, namely a volume of 500-800 ml/day. During breastfeeding, the baby suckles the mother's nipple; this mechanical stimulation is transmitted by sensory nerves to the spinal cord, then to the brain, hypothalamus, and posterior pituitary, releasing oxytocin. Oxytocin hormone circulating in the blood and abundant in the mammary glands causes milk to flow from the alveoli through the lactiferous ducts to the milk reservoir located behind the areola, then into the baby's mouth. This suckling reflex is called the let-down reflex (Saraswati et al., 2023).

Mothers with non-smooth milk let-down are caused by several factors, including fatigue after childbirth; many mothers fear mobilization, leading to reluctance to breastfeed and ultimately choosing to give formula milk. Milk formation begins early

in pregnancy; breast milk is produced due to hormonal influences. The process starts with lactogen formation and hormones affecting milk production (Sari, 2021).

Insufficient milk production is caused by postpartum anxiety, which can inhibit the release of oxytocin hormone (let-down reflex), hinder oxytocin and causing imperfect milk flow, and inhibiting prolactin hormone from producing milk, thereby disrupting exclusive breastfeeding for the infant. Insufficient milk production leads to inadequate nutrient intake for the baby, affecting behavior, immunity, growth, and development. Additionally, the impact of insufficient milk production can cause early cessation of breastfeeding and the use of formula milk to meet the baby's nutritional needs (Wafa Wafilah Purnamalawati, Arilani Fatmalawati, 2022).

Relationship Between Anxiety Levels and Delayed Breast Milk Let-down in Postpartum Mothers at Prof. Dr. R.D. Kandou General Hospital Manado

Based on the research results on the relationship between anxiety levels and the smoothness of breast milk let-down in postpartum mothers at Prof. Dr. R.D. Kandou General Hospital Manado, it is known that out of 30 respondents, mothers with mild anxiety levels numbered 13, of whom 9 (69.2%) had smooth let-down and 4 (30.8%) had non-smooth let-down. Meanwhile, mothers with moderate anxiety levels numbered 17, of whom 5 (29.4%) had smooth let-down and 12 (70.6%) had non-smooth let-down. The Chi-Square statistical test results showed a relationship between anxiety levels and delayed breast milk let-down at Prof. Dr. R.D. Kandou General Hospital Manado, with an *Asymp. Sig. (2-sided)* value of 0.030.

This research aligns with a study conducted by (Kusumalawati et al., 2020) which showed a relationship between anxiety levels and the acceleration of milk let-down in postpartum mothers at PMLB Kils Rilta A.Md.Keb Amladanoml Dampit, Malang Regency (Spearman $Rho p = 0.003 < 0.05$, thus H_0 is rejected).

Anxiety in mothers during and after childbirth is one factor inhibiting milk production and let-down. Anxiety is common in postpartum mothers, with symptoms dominated by psychological and physical factors. Feelings of anxiety are expressed directly through physiological changes and behavior, and indirectly through the emergence of symptoms and coping mechanisms as an effort to combat anxiety. This relates to postpartum maternal adaptation, divided into three groups: taking in, taking hold, and letting go (Malik et al., 2022).

Good maternal psychological conditions positively impact the smoothness of milk production. Good psychological conditions motivate mothers to breastfeed, increasing the hormones involved in milk production; the more frequent the breastfeeding, the more milk is produced because the breastfeeding process stimulates hormones involved in milk production.

Breastfeeding mothers experiencing anxiety will cause decreased function of the endocrine hormones, prolactin, and oxytocin. Oxytocin and prolactin act on the posterior pituitary, stimulating alveolar cells and myoepithelial cells to secrete or flow milk through the lactiferous ducts into the baby's mouth (let-down reflex). Similarly, the endocrine hormone system works by commanding several glands, particularly the pituitary gland located at the base of the skull, in the pituitary fossa of the sphenoid bone, consisting of two lobes: anterior and posterior. The posterior lobe secretes hormones crucial for producing Antidiuretic Hormone (ADH), regulating water volume through the kidneys, and Oxytocin, which stimulates contractions during childbirth and milk let-down during breastfeeding (Aryanil et al., 2023).

According to the researcher, milk production will be disturbed if breastfeeding mothers experience psychological restlessness and discomfort. Mothers with disturbed psychology significantly affect the smoothness of their milk production. Mothers still experience difficulty breastfeeding in the early postpartum period.

4. CONCLUSION

Based on the research results on the relationship between anxiety levels and the smoothness of breast milk let-down in postpartum mothers at Prof. Dr. R.D. Kandou General Hospital Manado, the following conclusions can be drawn:

1. **Anxiety Level:** The majority of respondents were in the moderate anxiety category, with 17 individuals (56.7%), while the remainder experienced mild anxiety, with 13 individuals (43.3%).
2. **Breast Milk Let-down Condition:** The majority of respondents had non-smooth breast milk let-down, with 16 individuals (53.3%), while 14 others (46.7%) had smooth let-down.
3. **Relationship Between Variables:** There is a significant relationship between anxiety levels and delayed breast milk let-down. This is evidenced by the Chi-Square statistical test results, which obtained a p-value of 0.030 (less than $\alpha = 0.05$).

4. **Psychological Impact:** Disturbed psychological conditions can inhibit the function of oxytocin and prolactin hormones, which play important roles in milk production and flow through the let-down reflex.

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