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Pengaruh Pijat Oksitosin Terhadap Kelancaran ASI Pada Ibu Primipara

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ABSTRACT

Introduction Breastfeeding is an important factor in infant health. However, insufficient breast milk flow remains a common problem among primiparous mothers, especially in the early postpartum period. Inadequate milk production can hinder exclusive breastfeeding and increase health risks for infants. Safe, low-cost, and easy-to-apply non-pharmacological interventions are needed to support breastfeeding success. Oxytocin massage has been proposed as an effective method to stimulate the release of endogenous oxytocin and facilitate milk flow. This study aims to analyze the effect of oxytocin massage on breast milk flow in primiparous mothers.. **Method** This study employed a quasi-experimental design with a one-group pretest–posttest approach conducted at Cimanggis Community Health Center, Depok. A total of 25 primiparous mothers experiencing inadequate breast milk flow were selected using a simple random sampling technique. The smoothness of breast milk ejection was measured before and after the oxytocin massage intervention using a structured observation sheet and a questionnaire.. **Result** Data were analyzed using the Wilcoxon signed-rank test. Prior to the intervention, 68% of respondents experienced inadequate breast milk ejection, while 32% demonstrated moderately smooth milk flow. Following the intervention, all respondents (100%) exhibited smooth breast milk ejection. Statistical analysis revealed a significant improvement after the oxytocin massage intervention ($p < 0.05$), indicating its effectiveness in enhancing breast milk flow among primiparous mothers.**Conclusion** These findings indicate that oxytocin massage is an effective non-pharmacological intervention for improving breast milk ejection in primiparous mothers.

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INTRODUCTION

Breastfeeding is a fundamental biological process that plays a crucial role in supporting infant growth, immunity, and early development. Physiologically, women possess the reproductive and mammary systems that enable pregnancy, childbirth, and lactation, indicating that, in principle, all women have the biological capacity to breastfeed their infants (Ventrella et al., 2019). In practice, many mothers—particularly primiparous mothers—experience significant challenges during the early postpartum period. Commonly reported problems include delayed or insufficient milk flow, nipple pain or injury, infant refusal to breastfeed, and persistent infant crying. These conditions are frequently interpreted by mothers as signs of inadequate or poor-quality breast milk, which often leads to early discontinuation of breastfeeding (Nan et al., 2020)

At the population level, breastfeeding practices in Indonesia remain suboptimal. The Indonesian Demographic and Health Survey (IDHS) reported that only 42% of infants aged 0–6 months received exclusive breastfeeding, well below the national target of 80% (Ministry of Health of Indonesia, 2013). Regional data reveal similar challenges, with exclusive breastfeeding coverage in East Java reaching 68.3%, while several districts, including Sidoarjo Regency, reported coverage below 60%. These figures indicate persistent disparities between national policy goals and breastfeeding practices at the community level. Preliminary observations in community health settings further suggest that a substantial proportion of primiparous mothers experience difficulties related to breast milk flow during the early postpartum period.

Despite the well-documented benefits of breast milk, these advantages are not consistently reflected in breastfeeding behavior. Several studies have identified maternal knowledge as a key determinant of breastfeeding success. Pain during breastfeeding, physical fatigue, concerns about body image, sociocultural beliefs, and insufficient family or environmental support can reduce maternal motivation and confidence to breastfeed. Inadequate access to health education regarding factors that enhance milk production and release further exacerbates these challenges, particularly among first-time mothers (Miranda et al., 2025; North et al., 2022).

From a physiological perspective, lactation involves a complex neuroendocrine mechanism. Milk production is primarily regulated by prolactin, while milk ejection is controlled by oxytocin (Crowley, 2014; Marks & Coddington Brown, 2025). The release of oxytocin is stimulated not only by infant suckling but also by tactile stimulation and maternal emotional state. Oxytocin secretion depends on neural pathways involving mechanoreceptors, the medulla oblongata, hypothalamus, and posterior

pituitary gland, which collectively facilitate milk ejection from the alveoli through the mammary ducts. Stress, anxiety, and discomfort can inhibit this reflex, thereby impairing milk flow (Quintana & Guastella, 2020; Walter et al., 2021).

Non-pharmacological interventions aimed at enhancing oxytocin release have therefore attracted increasing attention. One such intervention is oxytocin massage, which involves gentle stimulation along the spinal area. This technique is believed to promote maternal relaxation, reduce stress, increase pain tolerance, and stimulate oxytocin secretion, thereby facilitating milk ejection (Gina Inayati et al., 2025; Khaeriyah & Sari, 2025). Although oxytocin massage is simple, low-cost, and potentially effective, empirical evidence regarding its impact on breast milk flow, particularly among primiparous mothers in primary healthcare settings, remains limited.

Given the persistent low rates of exclusive breastfeeding, the high prevalence of breastfeeding difficulties among first-time mothers, and the limited evidence on practical interventions to improve milk flow, further investigation is warranted (Al-Aqqad et al., 2025). Therefore, this study aims to examine the effect of oxytocin massage on breast milk flow among primiparous mothers at Cimanggis Primary Health Center, Depok.

METHOD, DATA, AND ANALYSIS

This study employed a pre-experimental design using a one-group pretest–posttest approach. A single group of participants was assessed before and after the intervention to evaluate its effect. The sample consisted of 25 primiparous breastfeeding mothers within the first month postpartum, recruited in April–May 2024 at Cimanggis Public Health Center, Depok. The intervention applied was oxytocin massage, and breast milk flow was measured before and after the treatment to determine its effectiveness.

RESULT AND DISCUSSION

Table. 1 Demographic

Variable	N	%
Age		
<20	5	20
20-25	18	72
>25	2	8
Education		
Elementaty	0	0
Junior High School	0	0
Senior High School	17	68
Collage	8	32
Occupation		
Housewife	11	44
Enterpreuner	0	0
Private Employee	12	48
Farmer	0	0

Civil Servant	2	8
Breast Care Practice		
Yes	2	8
No	23	92
Breast Milk Enhancing Medication		
Yes	18	72
No	7	8

A total of 25 primiparous mothers were included in this study. The majority of respondents were aged 20–25 years (n = 18; 72%), while 5 mothers (20%) were younger than 20 years, and 2 mothers (8%) were older than 25 years. This distribution indicates that most participants were within the optimal reproductive age range.

Regarding educational attainment, most respondents had completed senior high school (n = 17; 68%), followed by college-level education (n = 8; 32%). No respondents had only elementary or junior high school education, suggesting a relatively adequate educational background among participants. In terms of occupation, nearly half of the respondents were private-sector employees (n = 12; 48%), followed by housewives (n = 11; 44%), and a small proportion were civil servants (n = 2; 8%). No respondents reported being entrepreneurs or farmers. With respect to breast care practices, the vast majority of mothers (n = 23; 92%) reported not performing routine breast care, whereas only 2 respondents (8%) practiced breast care. Similarly, most respondents reported using lactation-enhancing medication (n = 18; 72%), while 7 mothers (28%) did not use such medication.

Overall, these findings demonstrate that the study population was predominantly composed of young mothers with secondary-level education, primarily employed in the private sector, and largely not engaged in breast care practices despite a high proportion reporting the use of lactation-enhancing medication.

Table 2. The Effect of Oxytocin Massage on Breast Milk Flow Among Primiparous Mothers at Cimanggis Primary Health Center, Depok

	Breast Milk Flow							
	Smooth		Moderate		Poor		Total	
	n	%	N	%	n	%	n	%
Before	0	0	8	32	17	68	25	100
After	25	100	0	0	0	0	25	100

Wilcoxon p = 0.000

The findings demonstrated a substantial shift in the distribution of respondents before and after the administration of oxytocin massage. Prior to the intervention, the majority of mothers experienced poor breast milk flow, accounting for 17 respondents (68%). Following the intervention, all respondents (25 mothers; 100%) exhibited smooth breast milk flow.

These findings were further supported by the results of the Wilcoxon signed-rank test, which yielded a p-value of 0.000. The obtained p-value was lower than the predetermined significance level ($\alpha = 0.05$), indicating a highly statistically significant difference between pre- and post-intervention measurements.

A comparison of breast milk flow before and after oxytocin massage clearly demonstrates that prior to the intervention, most primiparous mothers experienced inadequate milk flow, whereas after receiving oxytocin massage, the majority achieved smooth milk flow. Therefore, it can be concluded that oxytocin massage has a statistically significant effect on improving breast milk flow among primiparous mothers at the Cimanggis Primary Health Center, Depok

CONCLUSION AND SUGGESTION

The findings of this study demonstrate a statistically significant improvement in breast milk flow following the administration of oxytocin massage among primiparous mothers at the Cimanggis Primary Health Center, Depok. Prior to the intervention, the majority of respondents experienced poor breast milk flow (68%), while none exhibited smooth milk flow. After the intervention, all respondents (100%) demonstrated smooth breast milk flow. The Wilcoxon signed-rank test yielded a p-value of 0.000, which is lower than the significance level ($\alpha = 0.05$), indicating a highly significant difference between pre- and post-intervention measurements. Therefore, it can be concluded that oxytocin massage has a significant positive effect on improving breast milk flow among primiparous mothers.

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