

EFFECT OF SOY MILK CONSUMPTION ON BREAST MILK FLOW AMONG BREASTFEEDING MOTHERS

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ABSTRAK PENGARUH KONSUMSI SUSU KEDELAI TERHADAP ALUR ASI PADA IBU MENYUSUI

Latar Belakang: Menyusui merupakan proses dimana seorang ibu mengasuh dan menafkahi anaknya setelah melahirkan. Faktor yang dapat menghambat pemberian ASI eksklusif antara lain payudara membesar, lidah bayi pendek, dan suplai ASI tidak mencukupi. Berdasarkan Profil Kesehatan Kota Metro 2023, dari 11 kelurahan, cakupan ASI terendah terdapat di Karangrejo, yaitu 50,3%. Kegagalan dalam memberikan ASI dapat disebabkan oleh status gizi ibu sebelum hamil, pada saat hamil, dan pada saat menyusui. Ibu yang tidak menyusui berisiko terkena berbagai penyakit atau gangguan kesehatan, seperti diabetes, kelebihan berat badan dan obesitas, kanker payudara, kanker rahim, hipertensi, dan penyakit jantung.

Tujuan: Untuk mengetahui pengaruh pemberian susu kedelai terhadap aliran ASI pada ibu menyusui di wilayah kerja Puskesmas Karangrejo.

Metode: Jenis penelitian ini adalah penelitian kuantitatif dengan desain penelitian pre-eksperimental, khususnya one-group pretest-posttest design. Jumlah populasi dalam penelitian ini terdiri dari 92 orang ibu menyusui yang memiliki bayi usia 0-6 bulan. Besar sampel sebanyak 38 responden yang dipilih menggunakan teknik purposive sampling dan uji Wilcoxon digunakan untuk analisis.

Hasil: Sebelum dilakukan intervensi, seluruh responden (100%) melaporkan mengalami kesulitan aliran ASI. Setelah intervensi, 89,5% responden (34 orang) melaporkan peningkatan dalam pengalaman menyusui mereka, sementara 10,5% (4 orang) tidak mengalami peningkatan tersebut. Uji Wilcoxon menunjukkan nilai p sebesar 0,000.

Kesimpulan: Penelitian menemukan bahwa konsumsi susu kedelai berpengaruh positif terhadap kelancaran aliran ASI pada ibu menyusui.

Saran: Anjurkan ibu untuk mengonsumsi susu kedelai untuk meningkatkan kelancaran aliran ASI.

Kata Kunci : Kelancaran aliran ASI, susu kedelai

ABSTRACT

Background: Breastfeeding is the process by which a mother nurtures and supports her child after childbirth. Factors that may hinder exclusive breastfeeding include engorged breasts, babies with short tongues, and insufficient breast milk supply. According to the 2023 Metro City Health Profile, out of 11 urban villages, the lowest breastfeeding coverage is in Karangrejo, at 50.3%. Failure to breastfeed can be caused by the mother's nutritional status before pregnancy, during pregnancy, and while breastfeeding. Mothers who do not breastfeed are at risk of developing various diseases or health problems, such as diabetes, overweight and obesity, breast cancer, uterine cancer, hypertension, and heart disease.

Aim: The aim is to determine the effect of soy milk on the breast milk flow among breastfeeding mothers in the working area of Karangrejo Community Health Center.

Methods: This is a quantitative research study with a pre-experimental research design, specifically a one-group pretest-posttest design. The total population in this study consists of 92 breastfeeding mothers with babies aged 0-6 months. The sample size is 38 respondents who were selected using purposive sampling technique and the Wilcoxon test was used for analysis.

Results: Prior to the intervention, all respondents (100%) reported having difficulties with their breast milk flow. Following the intervention, 89.5% of respondents (34 individuals) reported an improvement in their breastfeeding experience, while 10.5% (4 individuals) did not experience this improvement. The Wilcoxon test indicated a p-value of 0.000.

Conclusion: The study found that the consumption of soy milk has a positive effect on the smoothness of breast milk flow in breastfeeding mothers. It is recommended to provide information about the benefits of consuming soy milk for the smoothness of breast milk flow.

Suggestion: Encourage mothers to consume soy milk to improve the smoothness of their breast milk flow.

Keywords: Breast milk flow smoothness, soy milk

INTRODUCTION

Exclusive breastfeeding has a major impact on improving infant health and reducing the risk of disease in early life. Breast milk contains all the essential nutrients a baby needs for growth and development, including proteins, fats, carbohydrates, vitamins, minerals, and valuable immune substances. Among these immune substances, there are immunoglobulins such as IgA, IgM, IgG, IgE, along with lactoferrin, lysozyme, and other immune factors, all of which play an important role in protecting babies from infections and diseases. The immune substances in breast milk not only help the baby fight off pathogens, but also play a role in forming and strengthening the baby's immune system, which is still in its developmental stage. The uniqueness of breast milk as the first natural food lies in its ability to adapt to the baby's changing needs over time, for example by changing the composition of nutrients according to the baby's growth stages (Harismayanti & Retni, 2023). The exclusive breastfeeding coverage in Metro City from 2020 to 2022 is as follows: in 2020, it was 76.5% of 2358 babies, in 2021 it rose to 80.9% of 1184 babies, and in 2022 it was 78.2% of 1227 babies (Metro City Health Profile, 2023). According to the Metro City Health Profile in 2023, of the 11 urban villages, the lowest breastfeeding coverage is in Karangrejo, which is 50.3%. This figure is still below the national and Lampung Province exclusive breastfeeding coverage targets.

According to Puspitasari (2018), there are several factors that can hinder exclusive breastfeeding in new mothers. Low milk production is a major concern, and it may be influenced by poor breastfeeding techniques, issues such as short-tongued babies and sunken or flat nipples, engorged breasts, and inadequate knowledge about proper breastfeeding techniques. Soy milk is recognized for its beneficial nutritional content and its potential to support breast milk production. It contains active components such as alkaloids, polyphenols, steroids, and flavonoids that can stimulate hormone production, including increasing prolactin and oxytocin levels. These hormones are crucial for milk production and release. When a baby suckles on the mother's nipple, the hormonal stimulation triggers a

response in the nipple and areola, which then stimulates neurons through the vagus nerve. This stimulation reaches the pituitary gland in the brain, prompting the release of prolactin into the bloodstream. Prolactin stimulates the mammary glands to produce and release breast milk, and it also helps maintain milk production during breastfeeding (Puspitasari, 2018).

According to Umah et al. (2022), prior to receiving soy milk intervention, both the treatment and control groups showed a high level of breast milk production in the "not smooth" category, with a total of 16 respondents (100%). After the soy milk intervention, the treatment group predominantly exhibited smooth breast milk production, with 7 respondents (87.5%) falling into this category, while 1 respondent (12.5%) in the control group did not receive the intervention and showed substandard production. Nababan et al. (2021) found a significant difference in postpartum breast milk production before and after soy milk consumption, indicating a positive relationship between soy milk and improved breast milk flow.

RESEARCH METHODS

The study design used in this research was a one-group pretest-posttest design. The study population consisted of 92 breastfeeding mothers in the work area of the Karangrejo Metro Utara Health Center, and the sample size was 38 respondents. Purposive sampling technique was used. The inclusion criteria for participating in the study were as follows: mothers experiencing breastfeeding difficulties, willing breastfeeding mothers with babies aged 0-6 months, mothers without complaints during breastfeeding (normal), residents of Karangrejo, mothers who had a normal childbirth, and mothers not using breast milk supplements. The exclusion criteria included unwilling breastfeeding mothers, mothers with babies older than 6 months, and mothers with a history of infectious diseases and breastfeeding disorders. The study was conducted within the Karangrejo Health Center's working area. Data collection instruments included various questionnaire forms and an observation checklist. Data analysis was performed through a step-by-step

procedure, including univariate and bivariate analysis.

RESEARCH RESULTS

Respondent Characteristics

Based on table 1, it is known that 36 respondents (94.7%) were between 20-35 years old and 2 respondents (5.3%) were over 35 years old. In terms of early breastfeeding initiation (EBI), 22 respondents (57.9%) did not practice EBI, while 16 respondents (42.1%) did practice EBI.

Table 1
Distribution of Respondent Characteristics

Variable	n	%
Age		
20-35 Years	36	94.7
>35 Years	2	5.3
EBI (Early Breastfeeding Initiation)		
No	22	57.9
Yes	16	42.1

Univariate Analysis

Table 2
Proportion of breast milk flow smoothness in breastfeeding mothers before soy milk consumption

Breast Milk Flow	n	%
Not smooth	38	100
Smooth	0	0

Based on Table 2, out of 38 respondents, it is known that 100% of breastfeeding mothers at Karangrejo Health Center experienced difficulty in breast milk flow before the intervention.

According to table 3, out of 38 respondents, it is evident that 89.5% (34 respondents) of breastfeeding mothers at Karangrejo Health Center experienced a smooth breast milk flow after the intervention, while 10.5% (4 respondents) did not.

Table 3
Proportion of breast milk flow smoothness in breastfeeding mothers after soy milk consumption

Breast Milk Flow	n	%
Not smooth	34	89.5
Smooth	4	10.5

Table 4
Distribution of the Effect of Consuming Soy Milk on the Smoothness of Breast Milk Flow in Breastfeeding Mothers at the Karang Rejo North Metro Health Center Working Area

Breast Milk Flow	n	Z	P value
Breast milk flow before and after soymilk consumption	38	-5.831	0,000

Based on table 4, it is known that out of 38 breastfeeding mothers who were given soy milk, the results of the statistical test analysis with a significant level of $\alpha = 0.05$ obtained a p value of 0.000. This shows that the p value is less than α ($0.000 < 0.05$), so H_0 is rejected, and H_a is accepted. There is an effect of soy milk consumption on breast milk flow in

breastfeeding mothers, with a Z value of -5.831. This means that mothers who do not consume soy milk are 5.831 times more at risk to experience breast milk flow difficulty.

DISCUSSION

Effect of Soy Milk Consumption on Breast Milk Flow Smoothness in Breastfeeding Mothers

Based on the research conducted in the Karangrejo Health Center Working Area, it was found that soy milk consumption has a significant effect on the smoothness of breast milk flow in breastfeeding mothers. The Wilcoxon signed-rank test resulted in a p-value of 0.000, which is less than the significance level (α) of 0.05, indicating a strong correlation. This suggests that mothers who do not consume soy milk are 5.831 times more likely to experience difficulties with breast milk flow.

This finding is consistent with a study by Maries and Afriani (2023) at RB Sri Amizar Jambi City, which demonstrated the effect of soy milk on increasing breast milk production. The statistical tests using the Wilcoxon signed-rank test also yielded a p-value of $0.000 < \alpha$ (0.05), supporting the positive impact of soy milk consumption on breast milk production in breastfeeding mothers.

Furthermore, the results align with the research of Rauda and Harahap (2023) in the Working Area of PMB Diana Tamdem Hilir, which investigated the effects of providing soybean milk to postpartum mothers. The statistical tests using the Wilcoxon signed-rank test revealed a p-value of $0.001 < \alpha$ (0.05), indicating a significant effect of soy milk consumption on the smoothness of breast milk flow in breastfeeding mothers.

The study's weakness lies in the lack of daily observations to measure breast milk flow smoothness and observe the baby's suction during suckling.

Soy milk, a processed beverage from soybean starch juice, contains numerous nutritional benefits. It has the potential to stimulate oxytocin and prolactin hormones through alkaloids, polyphenols, steroids, flavonoids, and other substances, effectively increasing and facilitating breast milk production.

The study's results align with Puspitasari's theory (2018), concluding that the consumption of soy milk has a positive effect on increasing breast milk production in postpartum women. Postpartum mothers who consume soy milk experience smoother breast milk flow due to the nuts' content, which aids fetal growth in pregnant women and optimizes the release and density of breast milk color in breastfeeding mothers.

Based on the study results and supporting theories, it was found that many breastfeeding mothers experienced poor milk production due to low milk supply and reduced baby suction. However, after consuming soybean milk for 7 days, breast milk production increased. The health workers at

Karangrejo Health Center should consider providing Information, Education, and Communication (IEC) about the benefits and content of soy milk. They should also encourage mothers to consume soy milk regularly during breastfeeding in order to increase breast milk production.

The researcher assumes that several factors influence breast milk production, including age and Early Breastfeeding Initiation (EBI). The data shows that the most dominant respondents were aged between 20-35 years (94.7% or 36 respondents) and did not practice EBI (57.9% or 22 respondents). Early breastfeeding can stimulate the nipples and the formation of prolactin by the pituitary, leading to smoother milk secretion. Encouraging babies to suckle within the first minutes after birth helps to build a sucking reflex, stimulating nerve endings around the breast and prompting the production of prolactin, a hormone that stimulates breast milk production. Based on this study, it is recommended that health workers assist mothers in performing EBI to facilitate breast milk production.

CONCLUSION

Soy milk consumption affects the smoothness of breast milk flow in breastfeeding mothers in the Karangrejo Health Center working area.

SUGGESTION

Encourage mothers to consume soy milk to improve the smoothness of their breast milk flow.

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