

Article

## The Relationship Between Giving Yellow Pumpkin to the Timing of Colostrum Excretion by Postpartum Mothers at Home Knife Regional Hospital

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**Abstract:** Breast milk is an emulsion of fat in a solution of protein, lactose and organic salts secreted by the mother's two breast glands and is the best food for babies aged 0-6 months (Bahiyatun in Ciselia & Syafriani, 2023) The 2021 Central Kalimantan Health Service Performance Report achieved the percentage of exclusive breastfeeding in Pulang Pisau Regency of 50.1%, ranking in the 3rd lowest of the 14 districts in Central Kalimantan (Central Kalimantan Health Service, 2021). According to data on the achievement of Pulang Pisau Hospital Quality indicators in 2022, exclusive breastfeeding coverage is <50% of the target standard of 100%. Objective: To analyze the correlation between public knowledge and the use of drugs for toothache in the working area of the Asam-Asam Public Health Center. Methods: This research design method uses a post test only control group. The sample for this research was postpartum mothers at Pulang Pisau Regional Hospital. The sampling technique uses the Non Probability sampling method with Purposive Sampling technique. Statistical tests use the Chi Square test. The population in this study consisted of 56 postpartum maternal patients. The sample in this study was 30 postpartum mothers who were treated at Pulang Pisau Regional Hospital. Results: Based on the research results, it is known that the frequency distribution of respondents is based on postpartum mothers who were given pumpkin which produced colostrum <24 hours with the highest number being 9 people with a percentage (60.0%) and the least in the intervention group whose colostrum production was >24 hours with a total of 6 people. with a percentage (40.0%). Conclusion: There is a significant relationship between giving pumpkin and the time of colostrum discharge in postpartum women at Pulang Pisau Regional Hospital.

**Citation:** Firda Maya, Susanti Suhartati, Rabia Wahdah, Anisa Noor Fadhiyah. The Relationship Between Giving Yellow Pumpkin To The Timing Of Colostrum Excretion By Postpartum Mothers At Home Knife Regional Hospital. International Journal of Health Systems and Medical Sciences 2024, 3(3), 229-233.

Received: 03<sup>th</sup> July 2024

Revised: 06<sup>th</sup> July 2024

Accepted: 10<sup>th</sup> July 2024

Published: 17<sup>th</sup> July 2024



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**Keywords:** Breast Milk Production, Colostrum, Yellow Pumpkin

### 1. Introduction

Breast milk is an emulsion of fat in a solution of protein, lactose, and organic salts secreted by both glands of the mother's breast and is the best food for infants during the age of 0-6 months (Bahiyatun in Ciselia & Syafriani, 2023).. Referring to the 2021-2022 national target of 40%, the percentage of infants less than 6 months of age who were exclusively breastfed reached 66.1%. (Indonesian Ministry of Health, 2021) This achievement increased in 2022, from a target of 45%, the percentage of exclusive breastfeeding reached 69.7% (Ministry of Health, 2022). (Indonesian Ministry of Health, 2022) This figure shows improvement, however, most provinces in Indonesia still have a percentage of exclusive breastfeeding below the national average. Gorontalo was recorded as the province with the lowest percentage at only 52.75%, followed by Central Kalimantan with the second lowest at 55.98%. (Indonesian Ministry of Health, 2022)

Central Kalimantan Health Service Performance Report 2021 The achievement of exclusive breastfeeding percentage in Pulang Pisau District of 50.1% ranks 3rd lowest out of 14 districts in Central Kalimantan. (Central Kalimantan Health Office, 2021). The Pulang Pisau District Health Profile outlines that exclusive breastfeeding coverage in 2020 reached 77.9%, but in 2021 the achievement of exclusive breastfeeding decreased by 16.5% to 61.4% and further decreased in 2022 by 17.2% to 60.7% when compared to the achievement in 2020. (Pulang Pisau District Health Office, 2022).. According to data on the achievement of Pulang Pisau Hospital Quality indicators in 2022, exclusive breastfeeding coverage was < 50% of the 100% target standard. The low level of exclusive breastfeeding is caused by several problems, one of which is the production of breast milk that is not maximized in the early postpartum period (Iriani in Apriliana Arvianti, 2018).

## 2. Materials and Methods

This research design method uses post test only control group. The sample of this study were postpartum women in Pulang Pisau Regional Hospital. The sampling technique used Non Probability sampling method with Purposive Sampling technique. Statistical test using Chi Square test. The population in this study amounted to 56 patients of postpartum women. The sample in this study was 30 postpartum women who were treated at Pulang Pisau Regional Hospital, the sampling was in accordance with the inclusion and exclusion criteria determined by the researcher.

The data collection instrument used in this study was an observation sheet to determine the relationship of pumpkin administration to the time of colostrum release in postpartum women at Pulang Pisau Regional Hospital. The relationship of pumpkin feeding to the time of colostrum discharge in postpartum women at Pulang Pisau Regional General Hospital was found to have a p-value of 0.02, so it can be concluded that statistically there is a relationship between pumpkin feeding in postpartum women and the time of colostrum discharge at Pulang Pisau Regional General Hospital, Central Kalimantan. The results of this study are in line with research conducted by (Heni Nurakilah & Maria Ulfah Jamil, 2023) entitled Comparison of the Effectiveness of Pumpkin with Lembayung Leaves on the Smoothness of Breast Milk Expulsion in mothers 4-3 days postpartum. The production and release of breast milk can be influenced by two hormones, namely prolactin and oxytocin.

## 3. Results

**Table 1.** Colostrum Expulsion Time and Frequency of Pumpkin Feeding in Postpartum Women

Postpartum mothers	Colostrum Discharge Time	Frequency	Percentage (100%)
Given pumpkin	<24 hours	9	60,0%
	>24 hours	6	40.0%
Not given pumpkin	<24 hours	1	6,7%
	>24 hours	14	93,3%
<b>Total</b>		<b>30</b>	<b>100%</b>

**Table 2.** Chi-Square test analysis Colostrum Expulsion Time and Frequency of Pumpkin Feeding in Postpartum Women

Postpartum mothers	Colostrum Expulsion				Total	p-value
	<24 Hours		>24 Hours			
	F	%	F	%		
Given pumpkin	9	60,0	6	40,0	15	33,3
Not given pumpkin	1	6,7	14	93,3	15	66,7
Total	10	66,7	20	33,3	30	100,0

Based on the results of the Chi-Square test analysis, the p-value of 0.02 was obtained, so it can be concluded that statistically there is a relationship between the provision of pumpkin to postpartum women on the time of colostrum release at Pulang Pisau Regional General Hospital, Central Kalimantan. The relationship of pumpkin feeding to colostrum expulsion time in postpartum women was measured using an observation sheet by dividing into two groups, namely 15 postpartum women in the intervention group (who were given pumpkin) and 15 postpartum women in the control group (who were not given pumpkin). based on postpartum women who were given pumpkin, colostrum expenditure was <24 hours with the highest number of 9 people with a percentage (60.0%) and the least in the intervention group whose colostrum expenditure was >24 hours with a total of 6 people with a percentage (40.0%). Several factors influence colostrum production, including adequate nutrition needed for postpartum healing and to produce breast milk. In addition to nutritional factors, colostrum production can also be influenced by the peace of mind of postpartum mothers, the use of contraceptives, breast care, rest and activity patterns, child suction factors and frequency of breastfeeding, gestational age at delivery and socio-cultural factors (Fatmawati, 2017).

While in the control group whose colostrum output was >24 hours with the highest number of 14 people with a percentage (93.3%) and the least in the control group whose colostrum output was <24 hours with a total of 1 person with a percentage (6.7%). Some of the factors influencing the absence of colostrum in the first days postpartum were caused by feelings of anxiety in colostrum production and also low maternal knowledge about the breastfeeding process. Efforts to increase colostrum production require 600 calories/day, so a mother who is breastfeeding is required to consume nutritious food. Calories 550 cal/day and protein 17 grams/day with high amounts of vitamin A, thiamin and riboflavin (Djama, 2018).

Based on the frequency distribution data of postpartum women who were given pumpkin intervention, the higher percentage of colostrum expenditure at <24 hours postpartum amounted to 9 people with a value of 60.0%, while in the frequency distribution of postpartum women who were not given pumpkin intervention showed the lowest value of the percentage of colostrum expenditure at <24 hours postpartum amounted to 1 person with a value of 6.7%.

#### 4. Discussion

Colostrum production in postpartum mothers can be done in a simple way such as the utilization of plants that can stimulate colostrum production is one of the non-pharmacological therapies. Based on the results of the study, there was a difference in the increase in colostrum production in postpartum women who were given pumpkin and postpartum women who were not given pumpkin. This is in accordance with the theory that pumpkin contains important components, namely protein, carbohydrates, phosphorus, calcium iron, Vitamin A, vitamin B, vitamin C. Pumpkin contains polyphenols which are essential for the production of colostrum. Pumpkin contains polyphenols that can stimulate the hormones oxytocin and prolactin, by consuming clear pumpkin vegetables twice a day as much as 200 grams can meet the adequacy of Vitamin A, which is 2100-3600 IU a day needed by postpartum women in meeting nutritional needs. The content of vitamin A in 100 grams of pumpkin is 1107 IU (Delvina & Wulandary, 2022) (Warsinah et al., 2022) Supported by the results of Mutiara's research in Delvina, S (2021) that pumpkin contains phylosterol compounds, namely campeterol, stigmasterol and beta-sitosterol which are lactagogum so that they can increase breast milk production. Plants that are efficacious in increasing milk secretion (lactagogum) may contain active ingredients that work as Prolactin Releasing Hormone (PRH) which is efficacious like oxytocin (Erwiyani et al., 2022).

The frequency distribution of respondents based on the time of colostrum release in postpartum women who had been given pumpkin for 3 days, there were still 40.0% of

postpartum women whose colostrum release was > 24 hours. This can be caused by several factors, among others, because the mother did not finish 1 portion of vegetables given in 1 feeding, which is 100gr / portion or for 1 meal, this is in line with research (Musrifah, 2018) which reveals that there is a significant relationship between diet and smooth milk production in postpartum mothers. the frequency of mothers breastfeeding their babies is less because the mother's nipples are flat or the nipples are immersed, the results of research by Astari & Djuminah (2012) say that other factors that can affect the smooth production of breast milk are problems with the mother's nipples such as flat nipples or immersed nipples. In such cases it can inhibit milk production. Meanwhile, research by Musrifah (2018) states that there is a relationship between the condition of the nipples and the smoothness of breast milk production in postpartum mothers. As well as several factors that can affect colostrum production in postpartum mothers such as formula feeding in infants and lack of support from the family to provide breast milk to babies.

## 5. Conclusion

Colostrum production in postpartum mothers can be enhanced through non-pharmacological methods, such as the use of plants. This study found that postpartum women who consumed pumpkin experienced an increase in colostrum production compared to those who did not. Pumpkin is rich in essential nutrients, including polyphenols, which stimulate oxytocin and prolactin hormones, aiding colostrum production. Despite the benefits, factors such as incomplete consumption of the recommended pumpkin portions and issues with the mother's nipples (e.g., flat or inverted nipples) can delay colostrum release. Additional factors influencing colostrum production include formula feeding and lack of family support. Overall, there is a significant relationship between pumpkin consumption and the timing of colostrum discharge in postpartum women at Pulang Pisau Regional Hospital.

## REFERENCES

1. Adelina, R., Noorhamdani and Mustafa. A. (2016) 'Boiling and Sautéing Lower Beta Carotene Content in Wortel' Indonesian Journal of Nutrition and Dietetics, 1(3), p.
2. Aisyah, Y., Rasdiansyah and Muhaimin (2014) 'The Influence of Heating Toward Antioxidant Activity in Some Types of Vegetables', Indonesian Journal of Agricultural Technology and Industry, 6(2), pp. 1-6.
3. Aisyah, Y., Rasdiansyah and Muhaimin (2015) 'Heating Relationship to Antioxidant Activity in Several Types of Vegetables', Journal of Agricultural Technology and Industry Indonesia Open Access Journal, 7(2), pp. 70-73. doi: 10.17969/jtipi.v6i2.2063.
4. Amin, U. (2017) 'All about Breastfeeding for Mothers', Nursing & Healthcare International Journal, 1(3), pp. 1-3.
5. Apriza (2017) 'The Relationship between Banana Heart Decoction Consumption and Breast Milk Excretion in Breastfeeding Mothers in Kuapan Village, Tambang Health Center Working Area in 2016', Journal of Ners Pahlawan Tuanku Tambusai University, 1(1), pp. 81-88.
6. Arikunto. S. (2013) Research Procedures. 15th ed. Jakarta: Rineka Cipta.
7. Arisman, M. (2010) Handbook of Nutritional Science Nutrition Dalam life cycle. Second edition.
8. Aritonang, E., Rajagukguk, T. and Näsution, E. (2015) 'Analysis of Body Weight in Low Birth Weight Infants Based on Breastfeeding and Formula Milk for Two Weeks Nursing in Santa Elisabeth Hospital Medan', International Journal of Sciences: Basic and Applied Research, 23(1), pp. 308-17. Available at: <http://gssrr.org/index.php?journal=JournalOfBasicAndApplied>.
9. Banudi, L. (2013) Reproductive Health Nutrition Pocket Guide for Midwives. First edition. Edited by M. Ester and W. P. Riskiyah. Jakarta: EGC Medical Books.
10. BKPP DIY (2016) Regional Data and Potential of Food and Processed Materials

11. Budiati, T. (2009) Effectiveness of "Successful Breastfeeding" Package on Milk Production of Breastfeeding Mothers with Cesarean Section in the Wilayah of Depok, West Java. Thesis. Depok.
12. Cadwell, K. and Turner, C. (2015) Pocket Guide For Lactation Management. Second edition. Edited by D. Widiarti and A. O. Tampubolon. Jakarta: EGC Medical Books.
13. Central Kalimantan Health Office (2021) Health Profile of Central Kalimantan Province.
14. Delima, M Arni, G. Z. and Rosya. E. (2016) 'The Relationship of Oxytocin Massage to Increased Breast Milk Production of Breastfeeding Mothers at Puskesmas Plus Mandiangan', Journal of Applied Science and Education Research of Applied Science and Education.
15. Dini, R.W.N.A. (2017) Effectiveness of Mozart Classical Music and Instrumental Music on Breast Milk Volume in Primiparous Post Partum Mothers. Thesis. Semarang.
16. Duniaji, A.S., Nurhasanah, D. and Yusa, N. M. (2017) 'Substitution of Pumpkin (Cucurbita Moschata) and Rice Flour to Increase Nutritional Value,  $\beta$ -Carotene and Sensory Properties of Ombus-Ombus Cake The Subtitution effect of Pumpkin (Cucurbita Moschata) and Rice Flour to Nutrition', Scientific Journal of Food Technology. 3(2), pp. 113- 124.
17. Elvi, (2021). Literature Study on the Relationship of Banana heart to Increased Breast Milk Production in Postpartum Mothers. Scientific Paper, University of Muhammadiyah Mataram.
18. Enggaryati, N. (2023). The Effectiveness of Peppermint Lemon Aromatherapy on the Smoothness of Colostrum Expulsion in Post Partum Mothers at RST Wijaya Kusuma Purwokerto in 2023. Thesis, Poltekkes Kemenkes Semarang.
19. Fatmawati, L. (2017) The Relationship of Sweet Potato Leaf Decoction Water in Postpartum Mothers to Breast Milk Production in the working area of Puskesmas Lerep, West Ungaran District, Semarang Regency. Thesis. Poltekkes Kermenkes Semarang.
20. Jakarta: EGC Medical Book Publisher.
21. Pulang Pisau District Health Office (2022) Pulang Pisau District Health Profile