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The Effectiveness of Giving Banana Heart to Adequate Breast Milk in Babies Less than 6 Months in Terms of Weight Gain

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ABSTRACT

Breast milk (ASI) is a natural food that can be renewed, provides a complete source of nutrition for babies, protects mothers and children from disease, and has anti-inflammatory properties. One of the first steps towards a healthy and prosperous life is breastfeeding and to increase milk production, pregnant women can consume banana blossoms, which are a type of plant that contains laktagogums which have the potential to stimulate oxytocin and prolactin hormones such as alkaloids. The purpose of this study was to analyze the effectiveness of banana buds on the adequacy of breast milk in infants less than 6 months of age in terms of weight gain. The research method is a quasi-experimental research using a two group pre and post test design, with a total sample of 20 samples divided into 2 groups. The results showed that the average increase in baby weight in the experimental group before being given banana heart vegetables, the mean was 5.090 and after being given the banana flower, it increased to a mean of 5.590 with a mean difference of 0.50 while the average increase in baby weight in the control group was 4.98 increased to 5,130 with a difference of 0.15. From the results of the independent T test, it can be seen that the p value of 0.02 < 0.05 means that there is a significant difference in the average weight gain of infants in the treatment group given banana heart with the control group not given any treatment.

Keywords:

Breast Milk, Banana Heart, Baby Weight

1. INTRODUCTION

Breast milk (ASI) is a natural food that can be renewed, provides a complete source of nutrition for infants, protects mothers and children from disease, and has anti-inflammatory properties. One of the first steps towards a healthy and prosperous life is breastfeeding. [4]. From the first month of the baby's life until the child is two years old, breast milk can be given [17]. The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) both place a high value on the consumption of breast milk because it is free of contaminants and contains large amounts of the nutrients babies need at that age. Babies who are breastfed will grow and develop optimally and are less likely to get disease [8]. Breastfeeding is the right step to prevent morbidity and mortality in children and there are several inhibiting factors that can affect the use of breast milk, including the lack of milk production so that babies experience insufficient breast milk. [13]

Exclusive breastfeeding is the provision of breast milk to babies from birth without being given additional food (bananas, papaya, porridge, biscuits, and team rice) or other additional fluids. since birth for six months, without adding and replacing with other food or drinks (except drugs, vitamins, and minerals. [4] & [8].

Infants aged 0-6 months can be assessed as getting sufficient breast milk When they have signs such as babies drinking breast milk every 2-3 hours or within 24 hours at least getting breast milk 8 times in the first 2-3 weeks, yellow stools with frequent frequency and color becomes easier on the 5th day after birth, the baby will urinate at least 6-8 times a day, the baby's color is red and the skin feels supple, the baby's weight and height growth according to the growth chart, the baby suckles strongly, then weakened and fell asleep [16]

Banana heart has many vitamins, namely energy of 30 kl, protein of 1 g, carbohydrates of 7 g, fat of 50 mg, Vitamin A of 170 IU, Vitamin B1 of 0.05 mg and vitamin C of 10 mg. Of course all the nutrients contained in it are very useful for our bodies. Banana flower is part of the banana plant, the banana flower was chosen to increase milk production. [6]

Banana flower is a type of plant that contains lactagogum which has the potential to stimulate the hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids and other substances that are most effective in increasing and facilitating breast milk production. [5]

Based on the Health Profile of South Sulawesi 2020, breastfeeding for 0-5 months is 55.0% and up to 6 months is 38.5%. As for the Bone area itself, which provides breastfeeding for 0-6 months, 67.11% is in the 6th lowest rank out of 24 districts in South Sulawesi, which is still far from the national target of 80%. Mothers who do not breastfeed their babies on the first day after giving birth are caused by anxiety and fear of the lack of milk production. [15]

The results of initial interviews conducted by researchers in the working area of the Sibulue Health Center, Bone district, of 20 breastfeeding mothers, 70% of them complained of low milk production, they said they wanted to buy milk and breast milk-stimulating drugs but were constrained by the cost and 90% of mothers did not know that local heart materials Bananas can launch breast milk.

2. METHOD

This study is a quasi-experimental study using a two group pre and post test design, namely the design before and after the intervention using two groups. The design of this study was the first test (pre-test) given to the experimental group, after that the researchers intervened on the respondents who were then re-tested (post-test) to evaluate the effectiveness of the banana heart to increase the adequacy of breast milk in infants who would be reviewed from body weight. , The time of the study was 29 June – 29 August 2022, the research location was in the work area of the Sibulue Health Center, Bone Regency with a total sample of 20 people who were divided into 2 groups, namely an experimental group of 10 samples and a control group of 10 samples. [10]

3. RESULTS AND DISCUSSIONS

1.1. Result

Based on the results of research conducted in the Work Area of the Sibulue Health Center, the subjects who met the inclusion criteria were 20 people, 10 people in the experimental group and 10 people in the control group. The experimental group was treated to consume banana flower vegetables per day (2x200 g) in the morning and evening and the control group was not given any treatment. One day before giving the banana flower, the baby's weight was measured. And after 7 days of giving banana heart. The complete research results are presented as follows:

Univariate Analysis

Table 1
The average weight gain of infants in the experimental group before and after giving banana heart vegetables

description	N	Mean BB	BB Min (Kg)	Max BB (Kg)	SD
Before	10	5.090	3.2	7.2	1.4459
After	10	5.590	3.7	7.5	1.3478

Based on table 1, it is known that there is an increase in the baby's weight gain where before being given banana heart vegetables, the average was 5,090 (minimum score of 3.2 and maximum 7.2). After being given banana heart vegetables, the average was found to be 5.590 (minimum score 3.7 and maximum 7.5).

Table 2
Average weight gain of infants in the control group

description	N	Mean BB	BB Min (Kg)	Max BB (Kg)	SD
Before	10	4.98	3.5	6.5	1.143
After	10	5.130	3.7	6.8	1.045

Based on table 2, it is known that the initial body length of infants in the group of mothers who were not given a banana heart had an average of 4.98 (minimum score of 3.5 and maximum of 6.5). After the 7th day, the baby's weight had an average of 5,130 (minimum score 3.7 and maximum 6.8).

Table 3
Analysis of infant weight gain in the experimental group and the control group

Group	N	Mean BB	SD	P value
Experiment	10	0.50	1.3478	0.02
Control	10	0.15	3.315	

p=0.02 <0.05, which means that there is a difference in the mean weight gain of infants in the treatment group and the control group. In the experimental group that was given banana heart vegetables, the mean was greater than the control group that was not treated with a mean value of 0.50 > 0.15. In other words, giving banana heart vegetables to breastfeeding mothers affects the baby's weight in the Sibulue Health Center Work Area.

3.2. Discussion

1. Knowing the weight gain in the experimental group before and after treatment

In this study, the results showed that the baby's weight gain before and after giving banana heart vegetables from the results of table 1 univariate analysis in the study showed the value of the results before being given banana heart vegetables, body weight had a mean value of 5.090 Kg and after being given banana heart vegetables the mean weight was 5.590 . The mean difference for weight gain was 0.50. there was a significant increase in the baby's weight

Weight gain is influenced by breast milk. Where in the experimental group that received banana buds affected breast milk production because banana buds are a type of plant that contains laktagogums which have the potential to stimulate the hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids and other substances that are most effective in increasing and facilitating breast milk production.

In the first 1000 days of a baby's life it is also a determinant for the next life so that it becomes important in carrying out nutritional interventions in infants in the form of exclusive breastfeeding [2]

Nutritional status is an important factor in improving human resources. Exclusive breastfeeding makes babies grow well. Because breast milk can meet all the baby's needs for the nutrients needed for baby's growth and development. So that the ideal body weight can be achieved. [5]

With the use of banana buds that can increase milk production, it can help the success of government programs (Ministry of Health) in an effort to provide exclusive breastfeeding, namely breastfeeding only until the baby is 6 months old and still being given breast milk until the child is 2 years old plus complementary foods. [5]

The results showed that the increase in the oxytocin hormone was influenced by the polyphenols present in the banana flower which would make breast milk flow more profusely than before consuming the banana flower. [11] & [14]

According to research [1] it is known that consuming banana blossoms can affect the quality and quantity of breast milk, seen from the significant increase in breastfeeding frequency. [1]

2. Knowing the baby's weight gain in the control group

Weight gain in the control group was not too significant compared to the experimental group. From the results of the first measurement of body weight the mean value was 4.98 and for 7 days it rose to a mean of 5.130 with a difference of 0.15, this indicates that there was no significant increase in body weight. The main factor that affects the baby's weight gain is the nutritional status of the mother which is influenced by the amount of input consumed by the mother.

Normal weight gain according to in 14 days the baby's weight will increase according to his ability to breastfeed and get breast milk. Babies generally gain weight 170-220 grams per week or 450-900 grams per month during the first month. Estimates of normal baby weight occur after birth, namely at the age of a few days, the baby's weight will decrease by 5-10% and will increase after 2-3 weeks. At the age of 4-6 months, the baby's weight doubles from the baby's weight at birth and triples when the baby is 12 months old. Along with the increase in the baby's weight, the length of the baby also increases by 1.5 times the length when it reaches 12 months. [7] & [9]

3. The effectiveness of giving banana buds to the adequacy of breast milk in infants under 6 months is seen from the baby's weight gain

The results of the measurement of baby weight obtained in the experimental group mean before 5.090 and after 5.590 in the control group before 4.98 and after 5.130 with a p value of 0.02 <0.05, it can be concluded that giving banana heart is effective for increasing body weight. babies in the Sibulue Health Center Work Area. Maximum weight gain in the experimental group was 0.9 ounces per week and the minimum was 0.3 ounces per week, while the control group only experienced a maximum increase in infant weight of 0.15 ounces per week and body length only increased by 1 ,10 cm per week This figure shows that the milk production in the group given the banana heart is more than the milk production in the control group.

according to the African Journal of Biotechnology. In 100 grams (gr) of banana heart, there are: Calories as much as 51 kcal, Protein as much as 1.6 grams, Fat as much as 0.6 grams, Carbohydrates as much as 9.9 grams, Fiber as much as 5.7 grams, Calcium 56 mg, Phosphorus as much as 73.3 mg, iron as much as 56.4 mg, copper as

much as 13 mg, magnesium as much as 48.7 mg, potassium as much as 553.3 mg, Vitamin E as much as 1.07 mg, in addition, amino acids, fatty acids, vitamin C, vitamin A, and antioxidants and most importantly in the banana heart content, which contains flavonoids that function as lagtogogums, which are also contained in banana flowers.

This research is strengthened by [3] entitled Laboratory Tests on Stone Banana Heart Jerky (Musa Paradisiacal L) as an Increase in Breast Milk Production with the results of the study that the content of stone banana heart contains laktagongum consisting of flavonoids 1.360 mg/g, fephenol 0.482 mg/g which acts on the content of oxytocin and prolactin to increase milk production in nursing mothers. [3]

In this case, the researcher's assumptions from the results of the data obtained and comparisons with journals, other people's research and supported by book reference theories, the Banana Heart is effective in increasing the adequacy of breast milk in infants 0-6 so as to increase the baby's weight. This is because banana blossoms contain laktagongum which consists of flavonoids which act on the content of oxytocin and prolactin to increase milk production in nursing mothers.

4. CONCLUSION

1. The average weight gain of infants in the experimental group before being given banana heart vegetables, the mean is 5.090 and after being given the banana heart, it increased to a mean of 5.590 with a mean difference of 0.50 kg
2. The mean weight gain of infants in the control group was 4.98, increased to 5,130 with a difference of 0.15 kg
3. From the results of the independent T test, it can be seen that the p value of 0.02 < 0.05 means that there is a significant difference in the average weight gain of infants in the treatment group given banana heart with the control group not given treatment.

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REFERENCES

[1] Andayani Boang Manalu1, Tetty Junita Purba2, Nurul Aini Siagian3, MDY (2020). The Effect of Banana Blossom Consumption On Improvement Of Breast Milk Production In Breastfeeding Mother In Candirejo Village, District. *Community, Blue Health Journal, Blue Deli, District* , *6* (November), 298–302.

[2] Efendi, S., Sriyanah, N., Cahyani, AS, Hikma, S., & K, K. (2021). The Importance of Exclusive Breastfeeding to Prevent Stunting in Children. *Community Service Idea* , *1* (02), 107–111. https://doi.org/10.53690/ipm.v1i01.71

[3] Fitri, N., Sari, VK, & Roza, N. (2022). Laboratory Test on Banana Stone Heart Jerky (Musa Paradisiacal L) as an Increase in Breast Milk in Breastfeeding Mothers. *Voices of Midwifery* , *11* (2), 59–60. https://doi.org/10.35906/vom.v11i2.171

[4] Handayani, S., Yopi Suryatim Pratiwi, Dian Soekmawaty Riezqy Ariendha, and Hardaniyati. (2019). The Relationship Between Mother's Knowledge About Lactation Management With The Success Of Exclusive Breastfeeding. *Journal of Forilkesuit* , *1* (Vol 1 no 2).

[5] Harismayanti, H, RF (2019). The Effect of Banana Heart Consumption on Increased Breast Milk Production in Postpartum Mothers. *Proceedings of the 2018 National Seminar "The Role and Responsibilities of Health Workers in Supporting the National Health Program,"* 225–234.

[6] Haryati Astuti. (2020). The Effectiveness of Banana Heart and Katuk Leaf on Breast Milk Production in Breastfeeding Mothers in Teluk Kiambang Village Working Area of Tempuling Public Health Center, Tempuling District, Indragiri Hilir District, Tempuling Public Health Center, Tempuling District. *Selodang Mayang Journal* , 15–22.

[7] Haryono, R. (2014). *Benefits of Exclusive Breastfeeding for Your Baby* . New Library.

[8] Lestari, M. (2019). Factors Related to Early Initiation of Breastfeeding among Postpartum Mothers in Regional Public Hospital in Cilegon City. *Journal of Health Service Research and Development* , *3* (1), 17–24.

[9] Nordin ZM, Bakar IA, OM (2020). Effect Consuming Lactogenic Formulated With Banana (Musa x Paradisiaca) Flower Flour on Expressed Breast Milk (EBM) Among Lactating Working Women. *International* .

[10] Notoatmodjo S. (2012). *Health Research Methodology* . Rineka Cipta.

[11] Noviawanti Rice, Lidia Fitri, IIS (2019). Banana Hearts on Increasing Breast Milk Production in Sungai Putih Village in 2018. *Journal Of Midwifery Sciences* , *2* , 83–88.

[12] *South Sulawesi Health Profile* . (2020).

[13] Rachmatiah, Kadir, I., Syarifuddin, U., Ramadhani, F., Misnawati, Kembauw, E., & Sangadji, M. (2021). Knowledge and skills in handling high-risk pregnant women through work motivation of midwives at

lalabata health center (Puskesmas), soppeng regency. *Proceedings of the International Conference on Industrial Engineering and Operations Management* , 7347–7354.
[14] Ramadani, Kf., Nurlinda, A., & Haeruddin. (2018). The Phenomenon of Sexual Relations in Premenopausal Women in Makassar City. *Window of Health: Journal of Health* , *1* (3), 217–225.
[15] WHO. (2020). *Exclusive Breastfeeding Coverage* .
[16] Widuri, H. (2013). *How to Manage Exclusive Breastfeeding for Working Mothers* . Goshen Publication.
[17] Woja, HH, Mudayati, S., & Susmini. (2018). The Relationship of Mother's Knowledge About Lactation Management With Breastfeeding Behavior In Posyandu Seruni Tlogomas, Lowokwarukota District, Malang. *Journal of Nursing* , *3* (1), 411–420.
[18] Siregar, Rahmah. (2022). Factors Which Influence Incident Hypertension on Pre-Elderly. International Journal of Public Health Excellence (IJPHE). 1. 117-121. 10.55299/ijphe.v1i2.66.
[19] Suryani, Elvi & Harahap, Maryam & Siregar, Rahmah. (2022). The Relationship of Learning of ASKEB II Course Practicum Laboratory With the Achievement of Level II Students' Competence. International Journal of Public Health Excellence (IJPHE). 1. 105-109. 10.55299/ijphe.v1i2.41.
[20] Siregar, Rahmah & Yusuf, Susi & Fernaldy, Devrich. (2022). The Relationship between Physical Conditions of the House and the Incidence of Tuberculosis. International Journal of Public Health Excellence (IJPHE). 1. 01-05. 10.55299/ijphe.v1i1.2.
[21] Siregar, Rahmah. (2021). Factors Related to Low Motivation of Motivation to Carry Baby / Baby to Posyandu. International Journal of Multidisciplinary Research and Analysis. 04. 10.47191/ijmra/v4-i6-11.
[22] Wulandari, Ratna & Nainggolan, Ramadhani & Harahap, Ica. (2022). The Effectiveness of Oxytoxin Massage Towards Increasing Breast Milk Production in Aek Haruaya Village, Portibi District. International Journal of Public Health Excellence (IJPHE). 1. 174-178. 10.55299/ijphe.v1i2.99.
[23] Harahap, Ica & Wulandari, Ratna & Zahara, Yeni & Pohan, Melia. (2022). Counseling About Menopause Complaints in Simbolon Village, Padang Bolak District, Padang Lawas Utara Regency Year 2022. International Journal of Community Service (IJCS). 1. 62-65. 10.55299/ijcs.v1i1.103.
[24] Aswan, Yulinda & Utaminingtyas, Farida & Apreliasari, Helmy & Maysaroh, Yusnina & Kurniasih, Teti. (2022). The Relationship of Mom's Knowledge about the Importance of Measles Rubella (MR) Immunization with Compliance with Immunization. International Journal of Public Health Excellence (IJPHE). 1. 110-116. 10.55299/ijphe.v1i2.65.
[25] Harahap, Ica & Wulandari, Ratna & Zahara, Yeni & Pohan, Melia. (2022). Counseling About Menopause Complaints in Simbolon Village, Padang Bolak District, Padang Lawas Utara Regency Year 2022. International Journal of Community Service (IJCS). 1. 62-65. 10.55299/ijcs.v1i1.103.