The Effectiveness of Giving Bangun-bangun Leaf (Coleus Amboinicus Lour) Extract to Smooth Breast Milk Production as an Effort to Prevent Stunting in the Sidotopo Public Health Center of Surabaya

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Abstract: The use of galactagogue compounds derived from leaf plants of Bangun-bangun (*Coleus Amboinecus Lous*) is safe for human consumption, is quite significant in the synthesis of milk, contains iron, carotene, potassium, zinc, and magnesium in breast, have properties that stimulate strong contractions of the uterine wall and can increase baby's weight. This study was conducted with the aim of knowing the effectiveness of giving bangun-bangun leaf extract to smooth breast milk production as an effort to prevent stunting. The results of the study were 30 breastfeeding mothers with non-fluent milk production (100%), after the research was carried out on mothers who experienced non-fluent breast milk before being given the extract of the leaves of Bangun-bangun (Coleus amboinicus lour) found a score > 6 Mc Nemar test results obtained a correlation coefficient of p = 0.000. These results indicate that there is a difference in the smoothness of production before and after giving Bangun-bangun leaf extract because the results are p = 0.000 and p<0.05, so there is an effectiveness of giving Bangun-bangun leaf extract in increasing breast milk production in breastfeeding mothers.

1 INTRODUCTION

Breast milk is an emulsion of fat in a solution of protein, lactose and organic salts secreted by both sides of the mother's breast glands, as the main food for the baby. Breast milk is the most perfect baby food, both in quality and quantity because breast milk is an ideal source of nutrition with a balanced composition and in accordance with the needs of the baby's growth, as an immune substance to protect babies from various infectious, bacterial, viral and fungal diseases (Nugroho, 2017)and breastfeeding given for the first 6 months of life will ensure the achievement of optimal development of children's intelligence potential (Kemenkes, 2018)

Globally, exclusive breastfeeding for infants under 6 months is less than 40% (Cai et al., 2012), in Sub-Saharan Africa 22-32% (Maonga et al., 2016) developing countries only 36% and in Indonesia as many as 52.5% who received exclusive breastfeeding for less than 6 months (Riskesdas, 2021) also many mothers who stopped breastfeeding earlier than the recommended time (Hidayati and Andyarini, 2018). Many reasons are given by mothers regarding their unsuccessful breastfeeding process, including inadequate milk production, or even breast milk does not come out at all on the first day of the delivery proces (Wendiranti et al., n.d.). Mothers who do not breastfeed their babies are caused by anxiety, stress due to workload, and lack of confidence in themselves for the success of breastfeeding and fear of lack of milk production (Rahmawati and Prayogi, 2017). However, there is also research that proves that the inhibiting factor for breastfeeding is the mother's habit of giving food/drinks to the baby some time after the baby is born such as honey, sugar solution, powdered milk, banana wak which is a hereditary tradition (Wendiranti et al., n.d.)

The incidence of death of children less than 6 months in the world is 1.5 million or less than 15% due to improper and unsafe feeding (Manurung et al., 2020). The provision of early MP-ASI for infants in Indonesia is still not appropriate for their age, especially in rural areas. Research results show that rural communities in Indonesia generally give bananas (57.3%) to their babies before the age of 6 months (Kemenkes, 2018). The proportion of infants 0-5 months who are exclusively breastfed is a common indicator used to monitor and evaluate infant and young child feeding in a country (Cai et al., 2012).

One of the problems when breastfeeding is breast milk production that is less than optimal due to inadequate nutritional intake from the mother so that the baby's nutritional needs are not met properly. Nutritional problems in toddlers are influenced by the fulfillment of exclusive breastfeeding (Rizqi et al., 2022). Stunting is a nutritional problem not only nationally but also globally. Stunting is a chronic malnutrition problem caused by inadequate nutritional intake for a long period of time and the use of nutrients that do not match nutritional needs. Stunting is a public health problem associated with the occurrence of motor or mental growth and development barriers, increased morbidity and mortality rates. Failure to fulfill growth faltering and catch up growth so that optimal growth does not occur and that is where stunting is formed. Toddlers born with normal weight can experience stunting if the fulfillment of balanced nutritional needs is not met (Kemenkes, 2018; "Kementerian Desa, Pembangunan Daerah Tertinggal, dan Transmigrasi," n.d.).

Indonesia still occupies a fairly high number of stunting events (Riskesdas, 2021). Based on the Indonesian Nutrition Status Study (SSGI) (Riskesdas, 2021) the incidence of stunting is still 24.4%, meaning that almost a quarter of children under five in Indonesia experience stunting. In East Java Province, the highest incidence of stunting was in Bangkalan, Pamekasan and Bondowoso districts. The Surabaya City area is also classified as high with a prevalence of 28.9%. In the Sidotopo Health Center area, the incidence of stunting is still 26% (Primary Data, 2022). Stunting can be prevented since the First 1000 Days of Life (HPK), one of which is exclusive breastfeeding.

Galactagogue compounds are compounds found in the leaves of the leaf (Coleus Amboinecus Lous) which are thought to help initiate, maintain and increase breast milk production (Insani et al., 2021). Wake-up leaves are leaves that are widely consumed by nursing mothers. The content contained in the leaves of the shape is phytochemical alkaloids, sterols, triterpenoids, tannins, and flavonoids. The function of these compounds is to increase milk production, milk protein concentration, ovulation rate, stimulate the release of prolactin hormone (PRL) and growth hormone (GH) (Iwansyah et al., 2017).

Based on the results of the initial survey in the Sidotopo Health Center Working Area, exclusive breastfeeding only amounted to 20 babies out of 28 babies born. According to local midwives, mothers who do not give exclusive breastfeeding do not agree that they only give breast milk without providing additional food or formula milk on the grounds that there is little milk production and by giving additional food to their babies, mothers feel that their babies will be more fulfilled for their nutritional needs. Based on direct interviews conducted by researchers on 6 mothers, researchers still found mothers who gave their babies other than breast milk, on the grounds that the production of breast milk was low or milk was not smooth so that babies often cried because they were hungry and would stop crying if given milk formula or food additives.

From the results of the data above, researchers are interested in conducting research with the title "The Effectiveness of giving Bangun-bangun leaf (Coleus amboinicus lour) extract to smooth breast milk production in an effort to Prevent Stunting in the Sidotopo Public Health Center of Surabaya".

2 METHODS

This study uses a pre-experimental type of research, namely to identify The Effectiveness of giving Bangun-bangun leaf (Coleus amboinicus lour) extract to smooth breast milk production in an effort to Prevent Stunting in the Sidotopo Public Health Center of Surabaya. While the design of this research is the Pre and Post Test Without Control group. Researchers only intervened in one group without a comparison. The effectiveness of the value is done by comparing the post-test value

with the pre-test when given the extract of the leaves of the puerperium to the postpartum mother.

3 RESULTS

Table 1 : Respondent Characteistics Data

Variable		n	%
Age			
a.	< 25	8	26,7
b.	25-30	7	23,3
c.	> 30	15	50
	Total	30	100
Parity			
a.	Primipara	9	30
b.	Multipara	15	50
c.	Grandemultipara	6	20
	Total	30	100
Mother's Proffesion			
a.	Housewife	17	56,7
b.	Private sector worker	7	23,3
c.	Self-employed	6	20
	Total	30	100
Mother's education			
a.	Elmentary School	8	26,7
b.	Junior high school	10	33,3
c.	Senior high school	8	26,7
d.	College	4	13,3
	Total	30	100

Based on table 1. it was known that the age of the most respondents was >30 years old or 50%. The parity of the respondents was mostly multipara 50%. Mother's profession of the respondents was mostly housewife 56,7%. The mother's education of most respondents was junior high school 33,3%.

Table 2 : Distribution of the Frequency of Smooth Breast Milk Production before being given the extract of Bangun-bangun leaf (coleus amboinicus lour)

Variabel	n	%
Non-smooth	30	100
Smooth	0	0
Total	**30**	**100**

Based on Table 2 the frequency distribution of smooth milk production in postpartum mothers before being given the extract of the leaves of the wake (coleus amboinicus lour) consisted of unfluently milk production as many as 30 people (100%)

Table 3 : Distribution of the Frequency of Smooth Breast Milk Production after being given the extract of the leaves of Bangun-bangun (coleus amboinicus lour)

Variabel	n	%
Non-smooth	7	23,3
Smooth	23	76,7
Total	30	100

Based on Table 3 the distribution of the frequency of breast milk after being given the extract of the leaves of Bangun-bangun (Coleus Amboinicus Lour) consisted of smooth milk production as many as 23 people (76.7%), and those that were not smooth as many as 7 people (23.3%).

Table 4 : Cross-tabulation of Effectiveness of Giving Bangun-bangun Leaf (coleus amboinicus lour) Extract and Smooth Breast Milk Production

Coleus amboinicus lour Extract	Breast milk production			
	Before		After	
	n	%	n	%
Non-smooth	30	0	7	23,3
Smooth	0	0	23	76,7
Total	30	100	30	100
MC Necmar (	Exact Sig. (2-tailed)			0,000

Based on Table 4 the frequency distribution of cross tabulation of the effectiveness of giving Bangun-bangun (Coleus amboinicus lour) leaf extract. From 30 respondents before being given the Bangun-bangun Leaf extract (Coleus Amboinicus Lour) all respondents experienced non-smooth milk production. After being given Bangun-bangun leaf extract (coleus amboinicus lour), there were 23 respondents (76.7%) who experienced smooth milk production and 7 respondents (23.3%) who experienced non-smooth milk production. It can be seen that the analysis of the effectiveness of giving Bangun-bangun leaf extract in the Sidotopo Public Health Center of Surabaya in facilitating breast milk production in postpartum mothers obtained a significance value of $p = 0.000$, these results indicate that there is a difference in breast milk production before and after administration of Bangun-bangun leaf extract in the in the Sidotopo Public Health Center of Surabaya, because the results were $p = 0.000$ and $p < 0.05$, Ho was rejected and H1 was accepted, meaning that there was an effect of giving Bangun-bangun leaf extract in facilitating breast milk production for postpartum mothers in the Sidotopo Public Health Center of Surabaya. Thus, there is an effectiveness of giving Bangun-bangun leaf extract to Smooth breast milk production in an effort to

prevent stunting in the Sidotopo Public Health Center of Surabaya.

4 DISCUSSIONS

Smooth milk production before being given the extract of the leaves of the Bangun-bangun (Coleus Amboinicus Lour) in postpartum mothers

Based on the results of research on general data, the frequency of respondents according to age, most of the respondents (50%) at the age of > 30 years experienced non-smooth milk production. In frequency according to parity, it can be seen that most of the respondents 15 (50%) are multiparous. Meanwhile, based on table 4.3, it can be seen that most of the postpartum mothers who experienced non-smooth milk production, namely the work of housewife 17 (56.7%) respondents. In terms of frequency according to education, it can be seen that most of the 10 (50%) respondents have junior high school education.

Based on the results of research on special data carried out, it is known that the non-fluency of breast milk in postpartum mothers before being given the extract of the leaves of Bangun-bangun (coleus amboinicus lour) who experienced non-smooth milk production were 30 respondents (100%) obtained by the researchers post-test before administering the extract of the Bangun-bangun leaf (coleus amboinicus lour).

Breast milk is a liquid created by God with good content to meet the nutritional needs of babies and protect them against possible disease attacks

The process of milk formation is a complex process involving the hypothalamus, pituitary, and breasts in producing milk, namely when the baby sucks a number of nerve cells in the mother's breast, it sends a message to the hypothalamus, when it receives the message the hypothalamus will release the "brake" holding back prolactin, to start producing milk. Breast milk prolactin produced by the pituitary gland stimulates the milk glands in the mother's breast.

Smooth milk production after being given the extract of the leaves of the Bangun-bangun (Coleus Amboinicus Lour) in postpartum mothers

The results of the study on general data on the frequency of respondents according to age, most of the respondents (50%) were >30 years old. On the frequency according to parity, it can be seen that most of the respondents 15 (50%) were multiparous. Meanwhile, based on table 4.3, it can be seen that most of the postpartum mothers who experienced non-smooth milk production, namely the work of IRT 17 (56.7%) respondents. In terms of frequency according to education, it can be seen that most of the 10 (50%) respondents have junior high school education.

Based on the results of the questionnaire sheet after the post test was given the extract of the leaves of Bangun - Bangun (coleus amboinicus lour), it can be seen that most 23 people (76.7%) of respondents experienced smooth breast milk production and 7 people (23.3%) of whom milk production was not smooth.

According to the opinion, the researcher conducted the research by conducting a mother's KR (Home Visit) for 7 days by looking at the medical record data in the Sidotopo Public Health Center of Surabaya. At the time of KR, the researcher gave the extract of the leaves of the wake (coleus amboinicus lour) to the mother to determine whether the milk came out or not. The results of those who experienced non-smooth breastfeeding were notified to the mother and asked for the mother's consent to be a respondent for 7 days by signing the informed consent and then making home visits every afternoon to the respondent's house to make observations and provide a questionnaire on the smoothness of breastfeeding. It is known that giving the extract of the leaves of Bangun-bangun (coleus amboinicus lour) is to provide smooth milk production.

Leaves are a plant commonly used by Batak people, and are an Indonesian ethnobotanical plant that has been used by the people of North Sumatra for generations as a daily vegetable menu and especially served for mothers who give birth

Many respondents did not know the reason why breast milk production was not smooth, during home visits the researchers not only gave extracts of the leaves of the wake (coleus amboinicus lour) but also gave a little IEC to postpartum mothers about the causes of the milk production not smooth. It is hoped that the respondent can understand and be able to understand it.

According to the researcher's assumption, the problem of breast milk production in postpartum

mothers is very influential on the baby and his weight because if the mother has problems with the smooth production of breast milk, the adequacy of breast milk in the baby will also have problems so that it will affect the nutrition and growth of the baby. Breast milk is very influential on the baby so that if the mother's milk production has problems it will have a bad impact. So to avoid the above problems, it is necessary to take preventive steps to overcome the milk production that is not smooth. One of them is by using the leaves of Bangun-bangun for breast milk production, which in this study has been modified into an extract of the leaves of Bangun-bangun (Coleus amboinicus lour) with the results of the study the effectiveness of giving extract of the leaves of Bangun-bangun (Coleus amboinicus lour) on the smooth production of breast milk in the Sidotopo Public Health Center of Surabaya

The effectiveness of giving the extract of the leaves of Bangun-bangun (Colens Amboinicus Lour) to postpartum mothers on the smooth production of breast milk

Based on the results of MC Nemar, the results of = 0.000 showed that there was a difference in breast milk production before and after giving the extract of the leaves of Bangun-bangun (coleus amboinicus lour) because the results were p = 0.000 and p <0.05, which means H1 is accepted and Ho is rejected, which means there is the effectiveness of the extract of the leaves of Bangun-bangun (coleus amboinicus lour) on the smooth production of breast milk in postpartum mothers in the Sidotopo Public Health Center Surabaya Work Area.

Based on the data obtained, it can be concluded that after giving the extract of the leaves of Bangun-bangun (Coleus amboinicus lour), the production of breast milk increases and the respondents who experience increased milk production are because they have received very useful information.

This is in accordance with the theory that the process of milk formation is a complex process involving the hypothalamus, pituitary, and breasts in producing milk, namely when the baby sucks a number of nerve cells in the mother's breast, it sends a message to the hypothalamus, when receiving the message the hypothalamus will release the "brake". prolactin, to start producing breast milk prolactin produced by the pituitary gland stimulates the milk glands in the mother's breast (Asih, 2016)

The effectiveness of giving the extract of the leaves of Bangun-bangun (coleus amboinicus lour) to postpartum mothers who experienced smooth milk production as many as 23 respondents while 7 respondents did not experience smooth breastfeeding. This is in line with (Nasution and Eliana, 2022) which states that Bangun-bangun leaves are effective in increasing breast milk production in postpartum mothers. 7 respondents who did not experience smooth breastfeeding were due to anxiety about the time before delivery so that their milk did not come out because the mother had thoughts of her breast milk not coming out and anxiety because she would face the delivery process. In addition, the sinking nipple also causes anxiety in the mother because the sinking of the nipple causes the mother's milk to not come out.

While 23 respondents who succeeded in smooth breastfeeding were because they had a desire to breastfeed their babies and did not follow the applicable restrictions related to breastfeeding so that mothers felt no burden and felt happy in breastfeeding. This causes the production of breast milk more smoothly. As well as the care carried out on her breasts to stimulate the hormone prolactin to facilitate breastfeeding, besides that the cooperative attitude of the mother made researchers feel helped to make mothers facilitate milk production.

Smooth milk production will be able to meet the nutritional intake of toddlers. Toddlers who do not consume exclusive breastfeeding will have a 3,82 times (Apriluana and Fikawati, 2018) and 61 times risk of experiencing stunting. In his research, he stated that there was a relationship between exclusive breastfeeding and the incidence of stunting with an OR value of 61 (Anita Sampe, 2020). In line with research Mother's knowledge and exclusive breastfeeding had a significant effect on the incidence of stunting in Saronggi District, Sumenep Regency (Wardita et al., 2021).

5 CONCLUSIONS

The conclusion of this study is the effectiveness of giving the extract of the leaves of Bangun-bangun (coleus amboinicus lour) to smooth production of breast milk in an effort to prevent stunting in the

Sidotopo Public Health Center of Surabaya. Based on the results of MC Nemar, the results of = 0.000 showed that there was a difference in breast milk production before and after giving the extract of the leaves of Bangun - Bangun (coleus amboinicus lour) because the results were p = 0.000 and p <0.05, which means H1 is accepted and Ho is rejected, which means there is the effectiveness of the extract of the leaves of Bangun-bangun (coleus amboinicus lour) on the smooth production of breast milk in an effort to prevent stunting in the Sidotopo Public Health Center of Surabaya.

6 REFERENCES

Anita Sampe, 2020. Hubungan Pemberian ASI Eksklusif Dengan Kejadian Stunting Pada Balita | Jurnal Ilmiah Kesehatan Sandi Husada [WWW Document]. URL https://akper-sandikarsa.e-journal.id/JIKSH/article/view/314 (accessed 10.31.22).

Apriluana, G., Fikawati, S., 2018. Analisis Faktor-Faktor Risiko terhadap Kejadian Stunting pada Balita (0-59 Bulan) di Negara Berkembang dan Asia Tenggara. Media Penelitian dan Pengembangan Kesehatan 28, 247–256. https://doi.org/10.22435/mpk.v28i4.472

Asih, Y., 2016. Buku Ajar Asuhan Kebidanan Nifas Dan Menyusui.

Cai, X., Wardlaw, T., Brown, D.W., 2012. Global trends in exclusive breastfeeding. International Breastfeeding Journal 7, 12. https://doi.org/10.1186/1746-4358-7-12

Hidayati, I., Andyarini, E.N., 2018. The Relationship Between The Number of Parities and Pregnancy Age with Maternal Anemia. jhsp 2, 42–47. https://doi.org/10.29080/jhsp.v2i1.113

Insani, S.D., Manullang, D.N., Wahyuni, E.S., Sari, H., Marlina, S., Tumanggor, L.S., 2021. Penyuluhan Tentang Pemanfaatan Daun Bangun-Bangun (Coleus Amboinicus Lour.) Terhadap Peningkatan Produksi ASI. Jurnal Pengabdian Masyarakat Putri Hijau 1, 6–10. https://doi.org/10.36656/jpmph.v1i3.703

Iwansyah, A.C., Damanik, M.R.M., Kustiyah, L., Hanafi, M., 2017. Potensi Fraksi Etil Asetat Daun Torbangun (Coleus amboinicus L.) Dalam Meningkatkan Produksi Susu, Bobot Badan Induk, Dan Anak Tikus. 1 12, 61–68. https://doi.org/10.25182/jgp.2017.12.1.61-68

Kemenkes, R.I., 2018. Profil Kesehatan Indonesia tahun 2018, Kementerian Kesehatan RI, Tersedia Online, in: http://www.depkes.go.id PT Pustaka Baru. Marmi.2017 ASI Saja Mama Berikan Aku ASI Karena Aku Bukan Anak Sapi.Cetakan Pertama.Pustaka Pelajar. Yoyakarta.

Kementerian Desa, Pembangunan Daerah Tertinggal, dan Transmigrasi [WWW Document], n.d. URL https://kemendesa.go.id/berita/search/?key=stunting (accessed 10.31.22).

Manurung, T.S., Bangun, P., Sinaga, R., 2020. Hubungan Pengetahuan Ibu Tentang ASI Eksklusif Terhadap Pemberian MP-ASI Terlalu Dini. Jurnal Ilmiah PANNMED (Pharmacist, Analyst, Nurse, Nutrition, Midwivery, Environment, Dentist) 15, 134–139. https://doi.org/10.36911/pannmed.v15i1.665

Maonga, A.R., Mahande, M.J., Damian, D.J., Msuya, S.E., 2016. Factors Affecting Exclusive Breastfeeding among Women in Muheza District Tanga Northeastern Tanzania: A Mixed Method Community Based Study. Matern Child Health J 20, 77–87. https://doi.org/10.1007/s10995-015-1805-z

Nasution, S.S., Eliana, R., 2022. Effectiveness of Coleus Amboinicus Consumption Interventions in Increasing Breast Milk Production and Improving Maternal Health Status During COVID 19 Pandemic | Open Access Macedonian Journal of Medical Sciences.

Nugroho, T., 2017. Asi dan Tumor Payudara. Numed, Yogyakarta.

Rahmawati, A., Prayogi, B., 2017. Hypnobreastfeeding Untuk Meningkatkan Produksi ASI pada Ibu Menyusui yang Bekerja. Blitar. SenasPro 2.

Riskesdas, 2021. Laporan Hasil Riset Kesehatan Dasar (Riskesdas) | Badan Penelitian dan Pengembangan Kesehatan. URL https://www.litbang.kemkes.go.id/laporan-riset-kesehatan-dasar-riskesdas/ (accessed 9.25.22).

Rizqi, L., Surtisminah, E., Adyani, K., 2022. Efektifitas Tanaman Lokal sebagai Galactagogue untuk Meningkatkan Produksi Air Susu Ibu. Jurnal Penelitian Kesehatan "SUARA FORIKES" (Journal of Health Research "Forikes Voice") 13, 14–17. https://doi.org/10.33846/sf13103

Wardita, Y., Suprayitno, E., Kurniyati, E.M., 2021. Determinan Kejadian Stunting pada Balita. Journal Of Health Science (Jurnal Ilmu Kesehatan) 6, 7–12. https://doi.org/10.24929/jik.v6i1.1347

Wendiranti, C.I., Subagio, H.W., Wijayanti.2017, H.S., n.d. Faktor Resiko Kegagalan ASI Eksklusif. Semarang. Journal Of Nutrition College 6, 241–248.