

The Effect of Moringa Leaf Vegetables on Increasing Breast Milk For Breastfeeding Mothers 0-2 Years Old

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Abstract

Background and Aim: A mother often has problems in exclusive breastfeeding, one of the main obstacles is the milk production that is not smooth. This will be a factor causing the low coverage of exclusive breastfeeding for newborns. Moringa leaves are plants that are rich in nutrients, namely antioxidants, vitamins, minerals, amino acids, anti-inflammatory and others. The nutritional content is so extraordinary, Moringa plants have the potential to overcome various kinds of malnutrition or undernutrition problems in toddlers, pregnant women and breastfeeding mothers. This study aimed to determine the effects of giving Moringa leaf clear vegetables on breastfeeding mothers aged 0-2 years in the Legung Health Center Work Area.

Methods: Experimental research using quasi experimental design. Sampling technique in this study using purposive sampling of 60 populations. The sample in this study were mothers who breastfed infants aged 0-2 years as many as 42 samples. 21 samples of the treatment group and 21 samples of the control group.

Results: Statistical test found that the value of sig (2-tailed) $P = 0.000 < 0.05$, it can be concluded that there is an effect of giving Moringa leaf clear vegetables on breast milk production in breastfeeding mothers aged 0-2 years in the working area of the Legung Health Center.

Conclusion: that there is an effect of giving Moringa leaf clear vegetables on breast milk production in breastfeeding mothers aged 0-2 years in the working area of the Legung Health Center.

Keywords: Breast milk; Moringa leaves; Mother

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INTRODUCTION

Breastfeeding mothers have a different experience when starting breastfeeding, some babies will easily reach the nipple on their own (sucking) quickly, while others take longer and may need help, many problems occur in breastfeeding, namely breast milk does not come out, sore nipples, swollen breasts and even mastitis or breast abscess, so sometimes mothers are afraid to give breast milk to babies and babies doesn't receive breast milk perfectly, even though in infancy aged 0-2 years the baby's nutritional needs are very high. dependent on the mother's milk (Walyani, 2017). Breast milk has elements that meet all the baby's nutritional needs for a period of about 6 months, unless the mother experiences severe malnutrition, the composition of breast milk will change in line with the baby's needs (Handayani, 2016).

Moringa leaves are one of the types of food plants that thrive in many areas of Indonesia, including in Sumenep Regency. Moringa plants are commonly found in various areas in the Sumenep Regency area, because this plant from ancient times has indeed thrived in gardens, besides that the Moringa plant is also deliberately planted in front of people's homes, usually as an antidote to things. In general, these Moringa leaves are used as vegetables by the Sumenep people as a complement to food at breakfast with the family.

According to previous studies that already exist, Moringa leaves contain a lot of nutrients that are good for the health of the human body. Various kinds of benefits that exist in Moringa leaves have been tested and proven through research, besides that Moringa leaves are also well known by outsiders in Indonesia because they

contain many benefits, so there is no doubt about the benefits for the health of the body. Of course, these Moringa leaves are small with a myriad of health benefits.

Based on several existing studies, in Moringa leaves also contain iron (Fe). This iron plays an important role in the manufacture of hemoglobin in human blood. By consuming Moringa leaves, it can be an additional intake as an addition to iron in the body in addition to consuming Fe tablets, because it is easy and easy to find. Moringa leaves can be used as an intake of iron nutrients without having to pay a lot of money to buy Fe tablets at pharmacies. This can be a solution for breastfeeding mothers. With such extraordinary nutritional content, Moringa has the potential to overcome the problem of malnutrition or malnutrition in toddlers, pregnant women and breastfeeding mothers (Kurniasih, 2020).

Coverage Babies get exclusive breastfeeding nationally, in 2019 which is 67.74%. This figure has exceeded the 2019 strategic plan target of 50% (Ministry of Health, 2020). The results of research by Septanida, et al (2018) Moringa leaf flour contains quite high mineral compounds, namely Fe 177.74 ppm, Ca content 16350.58 ppm, Na content 1.206.54 and phosphorus content of 290.65 mg/100 gr. The high Fe content serves as a functional food ingredient to treat anemia. So based on these data, researchers are interested in knowing what if iron intake is added to supplements containing Moringa leaf flour to support iron intake in pregnant women who have a history of anemia. Pregnant women besides consuming Fe also take Moringa leaf flour supplements to increase hemoglobin levels in their blood. With this

research, it is expected to find out the benefits of Moringa leaves to increase hemoglobin levels in pregnant women who have a history of anemia.

METHODS

Experimental research using quasi experimental design. In this design, the experimental group was given treatment while the control group was not given any treatment. In both treatment groups, it begins with a pre-test, and after the treatment is given a re-measurement (post-test) (Nursalam, 2017); (Hidayat, 2017). The variables in this study consisted of the independent variables is provision of Moringa leaf clear vegetables, and dependent variable is milk production.

The population in this study were all breastfeeding mothers aged 0-2 years in the Legung Health Center Work Area. The sample in this study is 42 samples. 21 samples of the treatment group and 21 samples of the control group. One of the sampling techniques, where the researcher determines the sampling by determining special characteristics that are in accordance with the research objectives so that it is expected to be able to answer research problems, with the Inclusion criteria in this study: 1) Mother lives in the working area of the legung health center; 2) Mothers who breastfeed with babies aged 0-2 years; 3) Mother is willing to be a respondent. While the exclusion criteria: 1) Mother is sick (emergency); 2) Mothers who have babies aged 0-2 years with special treatment; 3) Mothers who refuse to be respondents.

The first step of the data collection procedures was to approach the respondent, then ask for approval from the prospective respondent. Respondents were given an explanation of the aims and objectives

of the study. The sample data was taken by purposive sampling based on the inclusion and exclusion criteria, after being willing to fill out the informed consent.

Respondents were divided into 2 groups, namely the control group (not given Moringa leaf clear vegetable) and the treatment group (given Moringa leaf clear vegetable). Moringa leaf clear vegetables were given once a day as much as 250cc. Observations were made before giving Moringa leaf clear vegetables and after giving Moringa leaf clear vegetables for 21 days. Furthermore, the researchers analyzed whether there was an effect of giving Moringa leaf vegetables to breast milk production in breastfeeding mothers aged 0-2 years in the working area of the Legung Health Center. Next, thank the respondents for their willingness to become research respondents.

The research instrument used in this study was observation in the form of a checklist sheet for the consumption of Moringa leaf vegetables consumed by breastfeeding mothers aged 0-2 years. The checklist consists of: 1) The first part consists of the respondent's identity, namely: name, age, address, last education, occupation and number of children; 2) The second part measures milk production by pumping breast milk using a milk storage bottle in a milliliter. before the intervention and after the intervention by giving Moringa leaf vegetables.

The tool in this study used an observation sheet in the form of a checklist for the consumption of Moringa leaf vegetables consumed by breastfeeding mothers aged 0-2 years. First, we make a complete identity of the respondent, then measure the milk production by pumping breast milk

using a milk storage bottle in a milliliter.

RESULTS

The results of Pamping ASI show how much milk production of breastfeeding mothers in the treatment group before and after consuming Moringa leaf clear vegetables and milk production in breastfeeding mothers in the control group before and after not consuming Moringa leaf clear vegetables in the Legung Health Center Work Area.

Based on Table 1, it can be explained that the results of the independent sample T Test of the pretest breast milk production in the treatment group with an average value of 47.14 and the Pretest in the Control group with an average value of 41.43 obtained a sig (2-tailed) value $P = 0.095 > 0.05$.

While on Table 2, it can be explained that the results of the paired sample T Test for breast milk production pretest with an average value of 47.14 and posttest with an average value of 84.76 in the Treatment group obtained a value of sig (2-tailed) $P = 0.000 < 0,05$.

And then on Table 3, it can be explained that the results of the paired sample T Test for breast milk production pretest with an average value of 41.43 and posttest with an average value of 49.05 in the control group obtained a sig (2-tailed) $P = 0.003 < 0,05$.

Based on Table 4, it can be explained that the results of the independent sample T Test of posttest milk production with an average value of 84.76 in the treatment group and posttest with an average value of 49.05 in the control group obtained a sig (2-tailed) value $P = 0.000 < 0.05$.

Table 1. Test Results of Independent Sample T Test of Pretest Breast Milk Production in Breastfeeding Mothers in the Treatment Group and the Control Group

Group Respondent	Pamping Results	Production Breast Milk	Mean	P Value Sig. (2 Tailed)
Treatment	Pre Test	Medium	47,14	0,095
Control	Pre Test	Lot	41,43	

Table 4 Test Results Paired Sample T Test for Pretest and Posttest Breastfeeding Mothers in the Treatment group

Group Respondent	Pamping Results	Production Breast Milk	Mean	P Value Sig. (2 Tailed)
Treatment	Pre Test	Medium	47,14	0,000
	Post Test	Slightly	84,76	

Table 5 Test Results of Paired Sample T Test of Pretest and Posttest Breastfeeding Mothers in the Control Group

Group Respondent	Pamping Results	Production Breast Milk	Mean	P Value Sig. (2 Tailed)
Control	Pre Test	Lot	41,43	0,003
	Post Test	Medium	49,05	

Table 6 Independent Sample T Test Results of Posttest Breast Milk Production in Breastfeeding Mothers in the Treatment Group and the Control Group.

Group Respondent	Pumping Results	Production Breast Milk	Mean	P Value Sig. (2 Tailed)
Treatment	Post Test	Slightly	84,76	0,000
Control	Post Test	Medium	49,05	

DISCUSSION

In the condition of the research location, most mothers exclusively breastfed their babies for the first 6 months, but there are still breastfeeding mothers who do not exclusively breastfeed who have reasons because breast milk is not enough for babies and switch to formula milk. In addition to a balanced diet, breastfeeding mothers must also be careful in choosing food ingredients that can increase milk production.

Based on the results of the research on the distribution of the frequency of pretest breast milk production in breastfeeding mothers in the working area of the Leung Health Center, it can be seen that in the treatment group, most of the results of breastfeeding mothers were breastfeeding before consuming Moringa leaf clear vegetables, namely 50 ml - 80 ml, there were 12 people (57%). While in the control group, it can be seen that the results of the pretest showed that most of the results of breastfeeding mothers with breast milk were slightly 0 ml - 50 ml, there were 13 people (62%).

According to Chukwuebuka (2015) several efforts to produce more breast milk and improve the quality of breast milk include increasing the consumption of nutritious foods. Maternal food intake is one of the factors that affect the composition and production of breast milk. According to Sari and Marlian (2018), Based on the results of the study, it showed that all respondents (100%) of breast milk

production before giving Moringa vegetables were not smooth, as many as 7 respondents.

According to researchers, the occurrence of a small amount of breast milk production is caused by factors of food or balanced nutrition so that it can cause less milk production. The quality and production of breast milk is influenced by the food consumed by the mother every day. During breastfeeding, the mother must consume a balanced and varied diet. The increase in breast milk production will be guaranteed if the food consumed by the mother every day is sufficient in nutrients and a regular diet.

The distribution of the frequency of posttest breast milk production in breastfeeding mothers in the working area of the Leung Health Center, it can be seen that in the treatment group the results of breast milk production after consuming Moringa leaf vegetables, namely almost all of the mother's milk production was 80 ml - 150 ml as many as 16 people (76%). Meanwhile, in the control group, the posttest results did not consume Moringa leaf clear vegetables, namely the majority of breast milk production for breastfeeding mothers, 50 ml - 80 ml, there were 13 people (62%).

According to Juraida (2013) Moringa leaves contain phytosterols which can increase breast milk production for women who are breastfeeding. Moringa leaves contain Fe 5.49 mg/100 g and phytosterols namely sitosterol 1.15%/100 g and

stigmasterol 1.52%/100 g which stimulates milk production.

Research results show the smooth production of breast milk after giving Moringa vegetables, almost all of the respondents became smooth as many as 6 respondents (85.7%) and a small part of the respondents with non-current criteria as many as 1 respondent (14.3 %) (Sari & Marlian, 2018).

In terms of theory, Moringa leaves do contain phytosterol compounds that function to increase and expedite breast milk production (laktogogum effect) (Kurniasih, 2020). According to researchers, vegetable bening from Moringa leaves can increase breast milk production. The more often you eat nutritious foods, the more smoothly the mother's milk production will be and the baby's needs for nutrients from breast milk will also be met. Breast milk production refers to the volume of milk released by the breast and the amount of milk is assumed to be the same as milk production.

The results of the study on the effect of giving Moringa leaf vegetables to the production of breast milk in breastfeeding mothers aged 0-2 years in the working area of the Leung Health Center with 42 nursing mothers as respondents. In this study, there were two groups, namely the treatment group, the number of respondents was 21 breastfeeding mothers and the control group was 21 respondents. Based on the results of research on the results of the T Test of breast milk production in breastfeeding mothers aged 0-2 years in the working area of the Leung Health Center, it is known that the results of the Independent Sample T Test of Pretest breast milk production in the Treatment group with an average value of 47.14 and the

Pretest in the Pretest group. Control with an average value of 41.43 obtained a value of sig (2-tailed) $P = 0.095 > 0.05$. The results of the Paired Sample T Test for breast milk production Pretest with an average value of 47.14 and Posttest with an average value of 84.76 in the Treatment group obtained a sig (2-tailed) $P = 0.000 < 0.05$. Test results Paired Sample T Test for breast milk production Pretest with an average value of 41.43 and Posttest with an average value of 49.05 in the control group obtained a sig (2-tailed) $P = 0.003 < 0.05$. The results of the Independent Sample T Test for posttest milk production in the treatment group with an average value of 84.76 and the posttest in the control group with an average value of 49.05 obtained a sig value (2-tailed) $P = 0.000 < 0.05$.

Based on the results of the T Test above, it can be seen that in the treatment group, breast milk production after consuming Moringa leaf vegetables for 16 days experienced a significant increase, namely 16 breastfeeding mothers with an average value of 84.76 in the control group for breast milk production who did not consume Moringa leaf vegetables. medium, namely 13 breastfeeding mothers with an average value of 49.05. The results of statistical tests found that the value of sig (2-tailed) $P = 0.000 < 0.05$, it can be concluded that there is an effect of giving Moringa leaf vegetables to breast milk production in breastfeeding mothers aged 0-2 years in the working area of the Legong Health Center.

According to Purnanto, et al. (2020), Research results show that breast milk production at the post-test stage has a mean value greater than the pre-test stage, which is 6.50. This can be interpreted that an increase in the

amount of breast milk production has been shown to be closely related to the consumption of Moringa leaves. This increase is also supported by the p-value of 0.002 with a significance level of closeness of 0.934, which means it has a very strong influence. That is, the consumption of Moringa leaves regularly for 3 weeks (according to the intervention) is proven to be able to increase breast milk production in breastfeeding mothers.

According to Roslin and Nuhan (2018), research results show that there is a significant correlation between the two variables ($p = 0.002$). There was a significant correlation between exclusive breastfeeding for breastfeeding mothers and the ease of obtaining Moringa leaves with ($p = 0.024$).

According to Sari and Marlian (2018), research results show the smooth production of breast milk before giving Moringa vegetables from 7 respondents, all respondents found the criteria were not smooth and after giving Moringa vegetables almost all of the respondents became smooth as many as 6 respondents (85.7%) and a small part of respondents with non-current criteria as much as 1 respondent (14,3%).

According to researchers, administration of Moringa leaf extract (*Moringa oleifera*) is thought to increase lactation hormone levels in increasing the quantity and quality of breast milk. Moringa leaf is a local food ingredient that has the potential to be developed in the culinary arts of nursing mothers, because it contains phytosterol compounds that function to increase and facilitate breast milk production (laktagogum effect).

CONCLUSION

There is an effect of giving Moringa leaf clear vegetables on breast milk production in breastfeeding mothers aged 0-2 years in the working area of the Leung Health Center.

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