

The Effectiveness of Almond Juice on Breast Milk Volume at Clinic B Bekasi

Triana Indrayani^{1*}, Vivi Silawati¹, Risza Choirunissa¹

¹Midwife Professional Education Study Program, Faculty of Health Sciences, National University, Indonesia

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Abstract

Background: Breast milk is the ideal food for newborns because of its unique nutritional properties. Therefore, it is appropriate for every baby to get exclusive breastfeeding until the age of 6 months. To make this happen, the baby's mother must try to increase the volume and quality of her breast milk. These efforts must be supported by providing appropriate nutritional intake for breastfeeding mothers.

Purpose: To determine the effectiveness of almond juice on breast milk volume.

Methods: Quasi-experiment with pre and post treatment. The sample in this study was 30 people consisting of 15 experimental groups and 15 control groups. The sampling technique used was purposive sampling. The research instrument used direct observation and breast pump. Data were analyzed using descriptive statistics and inferential statistics, namely paired t-tests.

Result: The results showed that there was a significant difference in the volume of breast milk before and after the intervention was given.

Conclusion: giving almond juice regularly taken 2 times a day for 10 days is effective in increasing the volume of breast milk. Midwives are expected to be even better at providing counseling regarding the fulfillment of balanced nutrition by adding almond juice in increasing the volume of breast milk.

Keywords: Almond Juice, Breast Milk Volume

Introduction

The neonatal period, also called a newborn period, is the most critical period of a child survival. Implementation of early initiation of breastfeeding and exclusive breastfeeding increases the newborn body's immune system against infection. The low coverage of exclusive breastfeeding can have an impact on the quality of life of the nation's next generation and also on the national economy.⁴

Globally, the cause of high infant mortality is caused by problems that can actually be controlled. Control can be done by giving Exclusive breastfeeding. As stated by the United Nations Children Fund (UNICEF), optimal breastfeeding has the potential to prevent 1.4 million deaths of

*Correspondence: Triana Indrayani, Midwife Professional Education Study Program, Faculty of Health Sciences, National University, Jakarta, Indonesia, email: trianaindrayani@civitas.unas.ac.id

children under one year of age each year. The failure of mothers to provide exclusive breastfeeding can occur due to the influence of several factors, including low support in the form of breast milk quality nutrition. Mothers who are given support in breastfeeding are proven to be 2.5 times more successful and enthusiastic in giving breast milk. This has a positive psychological impact on milk production. Milk production is one of the general factors that also determine the success of breastfeeding.²

Breastfeeding in infants is closely related to under nutrition and over nutrition (fat) condition. Breastfeeding can reduce the risk of acute infectious diseases such as diarrhea, pneumonia, ear infections, haemophilus influenza, meningitis, and urinary tract infections. Babies who are not breastfed will be susceptible to infectious diseases. The incidence of infants and toddlers suffering from recurrent infectious diseases will further lead to malnutrition and underweight.¹¹

Various attempts were carried out by midwives to overcome the problem of lack of milk production. Non-pharmacological interventions are an alternative choice to reduce the risk of exposure to pharmacological therapy. Lactogogums such as moringa leaves, Moringa Oleifera, papaya fruit vegetables, soy milk, oxytocin massage, massage oketani, acupressure and almond juice are relatively effective and economical choices to increase breast milk production.^{5,6,9,10,13}

Almonds contain protein, fiber, fat, vitamin E, calcium, phosphorus, iron and magnesium. The composition of almonds also includes zinc, selenium, copper, niacin and tannins. The omega-3 inside almonds can help balancing hormones in the body of nursing mothers. This will improve psychological condition of the mother to be better so she can produce more abundant milk.

The results of T-test had a significance of 0.000 and this value was smaller than alpha (0.05) which indicated that the management of giving amor smoothies had an effect on increasing the volume of breast milk.⁹

Method

1. Research design

This current study uses a Quasi Experiment control Time Series design as a research method with various data measurements through quantitative analysis

2. Setting and samples

The measurement aims to understand the differences in the volume of breast milk from 15 respondents in the case group and 15 respondents in the control group. Respondents were selected through purposive sampling in which each respondent was filtered through predetermined inclusive and exclusive criteria

3. Intervention (applies to experimental studies)

In this case intervention was given to the experimental group in the form of giving almond juice which was given 2 times a day in the morning and at night for 1 week

4. *Measurement and data collection*

The instrument used in this study was the Observation Sheet Procedure to identify the breastmilk production in postpartum mothers the smooth release of breastmilk. In addition, the instrument was made by the researcher according to Standard Operation Procedures.

5. *Data analysis*

Data were analyzed through paired T test and Independent T test.

Result

Table 1.

Respondent Characteristics Data

Characteristics of Mother	Frequency (f)	Percentage (%)
Age		
20-35 year old	23	77%
>35 year old	7	23%
Parity		
Primipara	6	20%
Multipara	24	80%

Of the 30 respondents, most respondents were in the age range of 20-35 years as much as 77% with 80% of respondents have multiparous status.

Table 2.

Total volume of breast milk before being given almond juice in the experimental group and the control group

Group	Mean	Median	Std.Deviation	Minimum	Maximum
Experiment	5.47	5.70	2.282	0	10
Control	5.89	5.70	1.768	3	10

The total volume of breast milk in postpartum mothers was 5.47 ± 2.282 mL for the case group; while 5.89 ± 1.768 mL for the control group.

Table 3.

Differences in the volume of breast milk before and after being given almond juice in the experimental group

Case Group	Volume of Breast Milk			P value
	Mean	SD	N	
Before	5.473	2.281	15	0.000
After	327.927	26.595		

There was a significant difference observed in the volume of breast milk before drinking Almond juice in the case group with a P value of 0.000. Breast milk volume increases as much as 322,454.

Table 4.
Differences in the volume of breast milk before and after being given almond juice in the control group

Control Group	Volume of Breast Milk			P value
	Mean	SD	N	
Before	5.893	1.768		0.000
After	198.570	24.860	15	

There was a significant difference observed in the volume of breast milk before drinking Almond juice in the case group with a P value of 0.000. Breast milk volume increases as much as 192,677.

Discussion

From the observation period, it was noted that the majority of respondents in the age group of 20-35 years were 23 respondents (77%), while a small number of respondents (7 respondents) were in the age group more than 35 years (23%). According to Hidayati (2012), the ages of 20-35 years are considered as a healthy reproductive period for pregnancy, childbirth, and breastfeeding because it allows exclusive breastfeeding support. On the other hand, the ages less than 20 years is considered to be physically, mentally, and psychologically immature in dealing with childbirth, pregnancy, and breastfeeding. The majority of respondents belong to the multipara parity group with 24 people (80%), while a small proportion is primiparas, namely 6 respondents (20%). A study conducted by Ida Ayu (2015) strengthens this idea with the fact that both primiparas and multiparas have a fast onset of lactation so that parity does not affect the onset of lactation ($p > 0.05$).

There was a significant difference in the volume of breast milk before Almond juice was given in the case and control groups based on measurements (P value 0.000). The Academy of Pediatrics reported that there is an increase in breast milk volume from day to day. The average milk volume on day 1 is 7 mL, day 2 is 14 mL, and day 3 is 38 mL.

Based on table 3, it can be concluded that the volume of breast milk given almond juice is the same as the experimental group or the control group. The results describe 5.47 ± 2.282 mL with a range of 0-10 for the case group; while 5.89 ± 1.768 mL with a range of 3-10 for the control group.

Various other studies have also found the same results. The volume of milk at the beginning of breastfeeding in postpartum mothers tends to be low. That is strongly influenced by pain, comfortable position in doing breastfeeding, nutrition, and delays in hospitalization. Respondents from the case group were shown to secrete more volume of breast milk than the control group

(327,927 ± 26,595 mL vs 189,570 ± 24,860 mL) after being given almond juice. The increased volume of breast milk was higher in the respondent group given almond juice. This was due to the lactogogum contained in it which increased the level of secretion and milk production. Besides that, the fat composition found in almonds has low level of cholesterol.¹

The results of a study at the Institute of Obstetrics and Gynecology, Government Hospital for Women and Children, Chennai, showed the effectiveness of almond powder composition in increasing milk production.⁷ In addition, massage using almond oil, according to research findings, is an effective alternative therapy for increasing the adequacy of breast milk.⁸

Breast milk volume also increased in respondents who did not consume almond juice because the volume of breast milk would increase in nursing mothers physiologically from the first week to the end of the first year and would decrease again. This was conveyed by the pediatrician association. According to the Indonesia pediatrician association, milk production on the first and second days indeed very little but production will increase rapidly on the fifth day and remain stagnant from the sixth week onwards.³ According to Elisabeth (2015) in the first week of birth, the volume of breast milk is around 50-100 mL and increases in the second week to reach 400-500 mL.¹²

Limitation

There are some mothers who add milk so that the almond juice tastes better.

Conclusion

Most of the respondents were in the range of 20-35 year old and multipara parity with a prevalence of 77% and 80%. The volume of breast milk in mothers who were given almond juice increased significantly compared to those who did not receive almond juice.

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