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THE DESCRIPTION OF SELECTION OF BREAST MILK CONTAINER AND FAT CONTENT IN THE BREASTFEEDING MOTHERS AT ANDALAS COMMUNITY HEALTH CENTER WORKING AREA

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ABSTRACT

Breast milk is the most ideal nutrient for infants because it contains protein, fat, carbohydrates, and water in the right amount for digestion, growth and development of infants. The fat content in breast milk can be affected by the container of breast milk. The objective of this study is to determine the description of the selection of breast milk container and fat content in breastfeeding mothers. This is a descriptive research with cross sectional approach. This research is conducted at the Community Health Center of Andalas, Padang. The population includes breast milk from breastfeeding mothers in the Community Health Center of Andalas. Samples were taken according to inclusion criteria (n = 24) followed by selection of container for breast milk and fat content check was conducted in the Laboratory of Animal Biotechnology, Faculty of Animal Husbandry, University of Andalas, Padang from March 2019 to January 2020. The data were analyzed and shown in frequency distribution and percentage tables. The results showed that the selection of breast milk container was mostly chosen by mothers was plastic bags (66.7%), and the least was plastic bottles (8.3%); the mean of breast milk content with fat of glass bottles, plastic bottles, and breast milk plastic bags were 2.88 ± 0.75 g/dl , 1.78 ± 0.31 g/dl, and 2.69 ± 0.46 g/dl with the biggest difference in plastic bags and the smallest in glass bottles. The conclusion of this research is the description of the selection of breast milk container and fat content in breastfeeding mothers at Andalas Community Health Center working area has decreased from fresh breast milk.

Keywords**: **Breast Milk Container, Fat.

INTRODUCTION

Breast milk is the ideal nutrition for babies because breast milk contains the right amount of protein, fat, carbohydrates and water for digestion, growth and brain development of babies. The unique nutritional content of breast milk cannot be confused with formula milk. Breast milk has an important role in maintaining and maintaining the survival of the baby and has a positive impact on the baby's growth and development (Maryunani, 2015).

Fat contained in breast milk is in the form of lumps consisting of triglycerides with a mixture of phospholipids, cholesterol, vitamin A, and carotenoids. As much as 90% of breast milk fat is in the form of triglycerides, fat levels are needed to support brain growth because breast milk contains linoleic fatty acids (omega 6) and linolenic acid (omega 3). In addition, breast milk also contains long chain fatty acids, namely decosahexaenoic acid and ariodonic acid (DHA and ARA) which play a role in the development of eye tissue and eye nerves. The World Helath Organization (WHO) recommends that babies be

breastfed for at least 6 months(Coad, 2011; IDAI, 2014).

According to data from the Basic Health Research (Riskesdas) in 2018, exclusive breastfeeding for babies until the age of 6 months is only 37.3%. Based on data from the West Sumatra Health Office, the coverage of exclusive breastfeeding in West Sumatra Province in 2018 was 75%. Based on data from the Padang City Health Office 2018, at Andalas Community Health Center working area District is the lowest exclusive breastfeeding coverage with a percentage of 57.1% (Riskesdas, 2018).

According to in Indonesia, the female labor force participation rate in 2016 was 50.77%, increasing in 2017 to 50.89%. West Sumatra has a female labor force participation rate in 2017 of 55.44% and in 2018 it is 59.49% (Profile of the Padang City Health Office, 2017; Central Statistics Agency, 2018).

Based on Laws No. 33 of 2012 that every mother who gives birth must exclusively breastfeed her baby. RI Minister of Health Regulation No. 15 of 2013 that each agency must support exclusive breastfeeding programs by providing special facilities for working mothers expressing breast milk (Indonesian Ministry of Health, 2015).

One of the factors that determine the success of exclusive breastfeeding is the mother's employment status. Research shows that mothers who do not work are 3.5 times more likely to exclusively breastfeed their babies than working mothers. This is supported by research in the East Sawahan and Simpang Haru Padang villages that the exclusive breastfeeding for working mothers is less than for non-working mothers. To respond to this, mothers can store breastmilk that has been previously expressed to be given to babies when the mother is not home or working (Sari, 2016; Widdelrita, 2014; Tan, 2011).

Breastfeeding mothers need to know how to store breast milk properly and safely to maintain the nutritional content contained in breast milk. Based on the storage container recommendations which is recommended for storage of breast milk is hard, made of glass or hard plastic so that it can store breast milk for a long time (IDAI, 2014).

Storage of breast milk that is carried out by mothers during work which is then given to their babies is sometimes less than optimal. Many breastfeeding mothers do not know how to choose the correct storage place for breast milk. This is supported by research where 27.2% of breastfeeding mothers know how to store breast milk properly (Nency, 2019).

Canadian hospital studies regarding the use of plastic containers to store breast milk mostly meet the standards recommended in clinical guidelines, but there is insufficient evidence regarding the safety of chemicals and their effects on infant health. Babies are known to be more susceptible to multiple exposures, particularly because babies receive greater exposure to chemicals than adults. In this context and especially because infants are a vulnerable population, containers used in health care must pay attention to the principle of caution and consider other avenues regarding safe containers for storing breast milk (Blouin, 2014).

Research by Waricha (2013) in comparing the fat content of breast milk before and after storage in soft plastic bag containers and hard plastic bag containers found that the fat content did not differ significantly between soft plastic bag containers and hard plastic bag containers with P = 0.53. Meanwhile, according to research by Takci (2013) comparing the relationship

between the type of container and bactericidal activity Breastmilk that is stored in the refrigerator shows that Short-term storage of breast milk in glass bottles was more appropriate than plastic bags ($p < 0.05$).

Research by Nency (2019) as many as 37% of breastfeeding mothers know the right container to store expressed breast milk. Optimal storage conditions are needed because breast milk is a human food ingredient. This means that breast milk has a relatively short shelf life, so it needs the most appropriate conditions and methods in selecting breast milk storage containers from the various existing storage methods. (Iqbal, 2010).

From the initial survey conducted by researchers on breastfeeding mothers who had babies ≤ 6 months in the working area of Puskesmas Andalas, Padang City, it was found that out of 10 breastfeeding mothers, 7 breastfeeding mothers used plastic bag containers for breast milk storage and 3 used glass bottles with rubber cover.

The importance of selecting a storage container for breastfeeding in breastfeeding mothers can cause changes in the composition of breast milk, especially fat, so the researchers are interested in examining the description of the selection of storage containers and levels of breast milk in breastfeeding mothers in the Andalas Public Health Center.

MATERIAL AND METHODS

This research is a descriptive study with a cross sectional approach. in the Andalas Health Center Work Area. Samples were selected according to predetermined criteria and were taken by simple random sampling technique of 24 breastfeeding mothers. To check the levels of breast milk fat is carried out at the Animal Biotechnology Laboratory, Faculty of Animal Husbandry, Andalas University, Padang.

RESULT

a) Storage Containers for Breastmilk and Fat Content

Table 1
Selection Frequency Distribution Storage Containers for Breastmilk and Fat Content

Storage Containers	n	%	Mean ± SD (gr / dL ASI)	Min - Max
Glass Bottles	6	25.0	2.88 ± 0.75	1.65 - 3.68
Plastic bottles	2	8.3	1.78 ± 0.31	1.56 - 2.00
Plastic bags	16	66.7	2.69 ± 0.46	1.87 - 3.30
Total	24	100		

Based on table 1, shows that breast milk plastic bags are the most breastfeeding storage containers chosen by breastfeeding mothers (66.7%), while plastic bottles are the breast milk storage containers that are the least chosen by breastfeeding mothers (8.3%). The average levels of breast milk fat based on the selection of glass bottles, plastic bottles and breast milk plastic bags are2.88 ± 0.75 g / dl, 1.78 ± 0.31 g / dl, and 2.69 ± 0.46 g / dl

Table 2
Average Fat Content of Fresh Breast Milk and Stored Breast Milk by Storage Container

Storage Containers	n	Mean ± SD Fresh breast milk (g / dl)	Mean ± SD ASI Stored (g / dl)	Difference Mean ± SD (g / dl)
Glass Bottles	6	3.81 ± 0.12	2.88 ± 0.75	0.93 ± 0.50
Plastic bottles	2	3.30 ± 1.41	1.78 ± 0.31	1.52 ± 1.10
Plastic bags	16	3.87 ± 1.23	2.69 ± 0.46	1.18 ± 0.89

Based on table 2, shows the average difference between fresh breast milk and stored breast milk based on the largest storage container in plastic bottles, while the smallest difference is in glass bottles.

DISCUSSION

The data of this study found that breast milk plastic bag storage containers were the most preferred storage containers for breastfeeding mothers (66.7%), while plastic bottles were the least breastfeeding storage containers chosen by breastfeeding mothers (8.3%). The mean milk fat content based on the selection of glass bottles, plastic bottles, and breast milk plastic bags was 2.88 ± 0.75 g / dl, 1.78 ± 0.31 g / dl, and 2.69 ± 0.46 g / dl. Next, an analysis of the difference in fat content between fresh breast milk and breast milk was stored according to the selected container.

The results of this study indicate that the average difference between the fat content of fresh breast milk and stored breast milk based on storage containers is the largest difference in plastic bags, while the smallest difference is in glass bottles. These results can be influenced by the temperature and storage duration of breast milk which varies in this study (attachment 6 master table). For mothers who store breast milk in plastic bags, the storage time for breast milk ranges from 4 hours to 10 days, with the most storage space in the refrigerator (n = 10), storage time is 3 days to 10 days, average difference is 0.84 g / dl, cooler bag (n = 5) storage time of 6 hours to 8 hours, the average difference is 0.53 g / dl, and the room (n = 1) storage time is 4 hours, the average difference is 0.33 g / dl. In breastfeeding mothers who store breast milk in glass bottles, the duration of breast milk storage ranges from 5 hours to 7 days,

Many mothers choose plastic bags because they are disposable, easy to use, disposable, and save space. However, in theory, plastic bags are easy to leak, tear, can damage the nutritional content of breast milk and are susceptible to contamination. Short storage period, maximum 3 months in a special freezer. Not all breast milk comes out perfectly. If you want to use a plastic bag, use one that is designed to store expressed breast milk in the freezer. Some references do not recommend using a plastic bag of expressed breast milk for long-term storage in the freezer. Glass bottles can be used repeatedly, easy to clean, not easy to leak and safe, free from chemicals. Has a storage period of up to 6 months. Other than that, The milk fat stored in this glass container is easier to escape from the walls of the container and mixes again when shaken slowly

compared to plastic containers. (Leche, 2012; Monika, 2015).

Based on the results of this study, the lower fat content in plastic containers was caused by the compliance of the fat to the plastic surface so that the fat content in breast milk would stick to the plastic walls. In this study, it can be recommended that for the selection of breast milk storage containers made from materials that are not made of plastic. Choose a bottle that is made of glass, tightly closed and airtight.

Mother's diet and food intake can affect the composition of fatty acids in breast milk. Fatty acids consumed by mothers can vary depending on the composition or variety of fat intake consumed by the mother. In addition, reduced levels of breast milk fat are due to increased lipase activity compared to before storage and caused by lipolysis (breaking down) that occurs during storage (Waricha, 2013).

According to Bachour (2012), in his research, the fat content of breast milk varies, it can be influenced by the stages of breastfeeding, the fat content decreases at night and increases in the afternoon. Likewise, the variety and quality of breast milk can affect the baby's health, growth and development.

Fat contained in breast milk is in the form of lumps consisting of triglycerides with a mixture of phospholipids, cholesterol, vitamin A, and carotenoids. As much as 90% of breast milk fat is in the form of triglycerides, fat levels are needed to support brain growth because breast milk contains linoleic fatty acids (omega 6) and linolenic acid (omega 3). In addition, breast milk also contains long chain fatty acids, namely decosahexaenoic acid and ariodonic acid (DHA and ARA) which play a role in the development of eye tissue and eye nerves. The World Helath Organization (WHO) recommends that babies be breastfed for at least 6 months.(Coad, 2011; IDAI, 2014).

According to Waricha's research (2013) in comparing the fat content of breast milk before and after storage in soft plastic bag containers and hard plastic bag containers, the fat content did not differ significantly between soft plastic bag containers and hard plastic bag containers with P = 0.53.
According to Takci's (2013) research in comparing the relationship between types of breastmilk containers stored in the refrigerator, it was found that short-term storage in glass bottles was more appropriate than plastic bags (p <0.05).

CONCLUSION

The most breastfeeding storage containers were chosen by mothers in the Andalas Puskesmas working area, namely plastic bags, while the least ones were plastic bottles.Many mothers choose plastic bags because they are space-saving, disposable, easy to use, and can be thrown away immediately. The mean levels of breast milk fat based on the selection of the container from the highest levels were glass bottles (2.88 ± 0.75 g / dl), plastic bags (2.69 ± 0.46 g / dl), and plastic bottles (1.78 ± 0.31 g / dl)..

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