Efforts to Increase the Volume of Breast Milk Through Analysis of the Nutrients of Banana Blossoms and Papaya Leaves In Order to Increase the Coverage of Exclusive Breastfeeding As An Effort to Prevent Stunting

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Abstract

Mother's milk is the main source of nutrition for babies who are not yet able to consume solid food. Formation of breast milk is influenced by protein, vitamins, fat, water, carbohydrates, fiber and other nutrients. Problem in this study was that the mother did not give breast milk to her baby because the volume of breast milk was small, the mother did not know what foods could increase the volume of breast milk at a relatively low cost. Purpose of this study was to analyze the nutritional value of local foods such as banana blossom and papaya leaves to what extent they are able to increase the volume of breast milk in breastfeeding mothers. Research method uses pre-experimental tests (non-design) and socialization. In the Panton Reu sub-district, West Aceh Regency with a population of 44 breastfeeding mothers, a total sample of 44 respondents who met the inclusion and exclusion criteria. Results after conducting research, where the high levels of nutrients contained in the heart of bananas and papaya leaves, these nutrients are related to the formation of breast milk volume. Conclusion of the results of the analysis of nutrients, the banana flower and papaya leaves can be consumed by breastfeeding mothers because of the high levels of nutrients contained therein. According to the analysis of nutrients, banana blossom and papaya leaves need to be used as a mainstay for the family, and further research needs to be done and this research can be used as a reference source.

Keywords: Breastfeeding mother, breast milk volume, nutrients, banana blossom, papaya leaf

1. Introduction

Mother's Milk is a complex liquid produced to meet the nutritional needs of infants. Breast milk is made up of proteins, lipids, carbohydrates and other biological components (Witkowska-Zimny & Kaminska-El-Hassan, 2017). Breastfeeding according to Mariska, et al. (2022) is an important foundation for the intelligence of future generations as an effort to continue the nation. Therefore breastfeeding is equally important for the survival of the environment and the welfare of the world for infants (Lyons, et al, 2020). Mother's milk has an important effect on infant mortality which is an important indicator (WHO, 2018) to reflect the state of health status. In the context of breastfeeding, breast milk can be one of the obstacles for mothers when meeting their baby's milk needs because breast milk is influenced by the nutrients consumed by the mother, and this is very closely related to the social status of parents.
According to previous research, the cause of not smooth breast milk can occur because the mother does not consume nutritious food so that the volume of breast milk is less even though the baby needs breast milk to grow and develop. Furthermore, it was also discussed in research (Okinarum et al., 2020) Banana flower is a local plant that contains galactagogue and has the potential to increase the volume of breast milk. Banana flower can be an alternative to increase the volume of breast milk because it has high nutritional value for nursing mothers. Other research also says that besides banana flower, one alternative is giving papaya leaf extract which contains high protein and calories so that it affects the volume of breast milk produced (Astutti, 2017).

Indonesia The coverage of exclusive breastfeeding is 37.3%, which is still far from the expected standard of 80% (Ministry of Health, 2018). Aceh Province The percentage of exclusive breastfeeding for the last two years, in 2019 was 55%, while in 2020 Coverage was 59% (Aceh Health Profile, 2021). Although there is an increase, it still has not reached the target set by the Indonesian Ministry of Health, which is 80%. West Aceh Regency, the coverage of exclusive breastfeeding is relatively low, where in 2019 it reached 65% and in 2020 it was 44%. Among these coverages, the lowest is in the Panton Reu sub-district with a coverage of 13%, this figure is far below the district coverage figure (West Aceh Health Office Report, 2021). Therefore, it is very important to provide an understanding of the utilization of local food such as banana buds and papaya leaves in the group of breastfeeding mothers, as evidenced by previous research (Silva, A. C. P. da, Sartori, G. V., & Oliveira, A. L. de. (2014) said that local feeding This is rich in water content, carbohydrates and protein.

Based on the results of a survey on breastfeeding mothers in Meutulang sub-district, researchers obtained information that mothers do not give breast milk to their babies because a small amount of breast milk does not make their children full, mothers do not know what foods can increase the volume of breast milk by relatively low cost. Based on interviews with 65% and 44% in 2020, their breastfeeding mothers still do not understand how to use local food such as banana blossom and papaya leaves in increasing the volume of breast milk. It is hoped that this planned research will be able to increase the volume of mother's milk so that exclusive breastfeeding coverage can be implemented through the utilization of local food banana flower and papaya leaves.

Therefore, it is very important to provide an understanding of the utilization of local food such as banana buds and papaya leaves in the group of breastfeeding mothers, as evidenced by previous research (Silva et al. (2014) said that local feeding It is rich in water content, carbohydrates and protein. Based on the results of a survey on breastfeeding mothers in Meutulang sub-district, researchers obtained information that mothers do not give breast milk to their babies because a small volume of breast milk does not make their children full, mothers do not know what foods can increase the volume of breast milk at a relatively low cost. Based on the background above, it is necessary to carry out research on efforts to increase breast milk volume through analysis of the nutrients of banana blossoms and papaya leaves in order to increase the Coverage of Exclusive Breastfeeding as an effort to prevent stunting.

2. Methods

This study used two research designs, the first was to conduct pre-experimental research (non-design), to test the nutrients contained in local foods of banana blossom and papaya leaves, secondly to socialize local foods of banana blossom and papaya leaves after the nutritional test was carried out, it can increase the volume of breast milk. The research was conducted in the Panton Reuh sub-district, West Aceh Regency. The population of this study is all mothers who have babies aged 0-12 months in 2022, namely 44 mothers. The
research sample is the total population, namely 44 respondents who meet the inclusion and exclusion criteria. The inclusion criteria are mothers who have babies who live in the Panton Reuh sub-district, West Aceh Regency, are willing to be interviewed, the exclusion criteria include not having babies, and suffering from neurodegenerative diseases that make communication difficult.

3. Result and Discussions

From the results of research that has been done, it is known that banana blossom and papaya leaves have high nutritional content. Based on the results of the analysis of nutrients, it turns out that banana blossom and papaya leaves have high nutritional value, where the nutrients of banana blossom and papaya leaves are unsaturated and harmless nutrients sourced from local food plants which are easy to obtain at affordable prices and relatively cheaper. According to nutrient analysis, papaya leaves and banana buds contain water content, ash content, fat content, protein content, fiber content, fiber content and vitamins.

<table>
<thead>
<tr>
<th>Nutrition</th>
<th>Papaya leaves 2.5 gr and banana blossom 17.5 gr</th>
<th>Papaya leaves 17.5 gr and banana blossom 2.5 gr</th>
<th>Papaya leaves 10 gr and banana blossom 10 gr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water content</td>
<td>6.37</td>
<td>6.41</td>
<td>6.45</td>
</tr>
<tr>
<td>Ash content</td>
<td>13.20</td>
<td>9.64</td>
<td>11.66</td>
</tr>
<tr>
<td>Fat level</td>
<td>12.27</td>
<td>15.35</td>
<td>19.05</td>
</tr>
<tr>
<td>Protein content</td>
<td>4.35</td>
<td>8.70</td>
<td>6.96</td>
</tr>
<tr>
<td>Fiber content</td>
<td>10.74</td>
<td>13.25</td>
<td>14.93</td>
</tr>
<tr>
<td>carbohydrate</td>
<td>53.07</td>
<td>46.65</td>
<td>40.65</td>
</tr>
<tr>
<td>Vitamin</td>
<td>3.01</td>
<td>4.06</td>
<td>3.77</td>
</tr>
</tbody>
</table>

After socialization to mothers, mothers did not know that there were local foods that could increase the volume of breast milk. When this socialization was carried out, the mothers were very enthusiastic to hear and understand that the local food, banana blossom and papaya leaves can be used for breastfeeding mothers. Mother’s milk is prioritized for babies aged 0-12 months, several previous studies suggest that breast milk is the main menu for the intelligence of infant growth and development. According to Witkowska-Zimny & Kaminska-El-Hassan (2017), breast milk is formed from a combination of food ingredients that contain high levels of nutrients such as protein, fat, carbohydrates, fiber content, ash content, vitamins and water.

This is what is needed for baby's growth and intelligence. Selection of food ingredients (Silva et al., 2014) that contain high nutritional value needs to be considered in everyday life, do not just rely on expensive food but pay little attention to its nutritional value. In this study, an analysis of the nutritional test of banana blossom and papaya leaves has been carried out where many nutrients are found in it.

Discussion

Water is a liquid that functions as a solvent for nutrients and carries them to all parts of the body up to the mother's milk glands. Technically previous research (Dąbrowska et al., 2018) these nutrients will be carried by the blood, while the blood itself is almost 80% more in the form of water. Other studies also say that breast milk is formed from a collection of nutrients that carry oxygen to all body tissues, to protect the organs and tissues in the body, of which the various cells in the human body are all water. So it is
very important to maintain adequate water intake (Armstrong & Johnson, 2018). The ash content or the main mineral contained in breast milk is calcium which has a function for the growth of muscle and skeletal tissue, transmission of nerve tissue and blood clotting. Previous research (Prpić et al., 2021) said that the minerals in breast milk have better quality and are easier to absorb than the minerals found in cow's milk. Deficiencies in blood calcium levels and muscle spasms are more common in infants who receive formula milk than infants who receive breast milk (Keats et al., 2021). But the baby gets breastfed babies have a lower risk of iron deficiency than formula-fed babies. This is because iron from breast milk is more easily absorbed, which is 20-50% compared to only 4-7% in formula milk. This situation does not need to be worried because by giving solid foods that contain iron from the age of 6 months this iron deficiency problem can be overcome.

Fat is one of the groups belonging to the lipid group, fat is present in almost all food ingredients with different contents. According to previous research by Witkowska-Zimny & Kaminska-El-Hassan (2017), vegetable fats contain phytosterosols and contain more unsaturated fatty acids, so they are generally in liquid form. This vegetable fat can be found in local foods such as banana flower and papaya leaves (Okinarum, 2020), because this high fat content is needed to support rapid brain growth during infancy. There are several differences between the fat profiles found in breast milk and cow's milk or formula. Omega 3 and omega 6 fats which play a role in the development of the baby's brain are found in breast milk. The amount of total fat in colostrum is less than mature breast milk, but has a high percentage of long-chain fatty acids. Breast milk contains balanced saturated and unsaturated fatty acids compared to cow's milk which contains more saturated fatty acids.

Protein content has an important function in the formation of breast milk. Protein can be obtained from all types of food, both from vegetable and animal sources. You can get protein from vegetable sources, such as banana blossoms and papaya leaves, where these foods are rich in nutrients (de Abreu et al., 2021). Research by Marniati et al. (2022) also said that banana blossom and papaya leaves are good for breastfeeding mothers to increase fluids. Breast milk is also rich in nucleotides (a group of various types of organic compounds composed of 3 types, namely nitrogenous bases, carbohydrates, and phosphates) compared to cow's milk which has these nutrients in small amounts. (Lyons et al., 2019) Besides that, the nucleotide quality of breast milk is also better than cow's milk. These nucleotides have a role in increasing the growth and maturity of the intestine, stimulating the growth of good bacteria in the intestine and increasing iron absorption and endurance.

One of the big roles of fiber intake is its function in maintaining digestive health such as preventing constipation, improving digestion, and increasing good bacteria in the intestine so that it also affects the immune system. Previous research by Lemay-Nedjelski et al. (2021) shows that fiber is also good for controlling weight, blood sugar, cholesterol, and much more. It's no wonder that fiber fulfillment is linked to longevity and even a reduced risk of cancer. The best sources of fiber come from plant foods, such as fruits, vegetables, and nuts. One of the vegetable sources that produce fiber is the heart of a banana and papaya leaves which are rich in fiber and other nutrients. Fiber can maintain good microbes in the gut. Besides being able to help digest food, these microbes will also break down fiber into acids which can stimulate the activity of immune cells, so that the immune system will be stronger to fight various diseases (Castanys-Muñoz et al., 2016).

Carbohydrates are the main lactose in breast milk and serve as a source of energy for the brain (Berger et al., 2020). The level of lactose found in breast milk is almost 2 times that of the lactose found in cow's milk or formula milk. However, the incidence of diarrhea caused by not being able to digest lactose (lactose intolerance) is rarely found in infants who are breastfed (Tesarschü, 2019). This is because the absorption of lactose from
breast milk is better than lactose from cow's milk or formula milk. Previous research (Hapsari & Astutti, 2017) found that the level of carbohydrates in colostrum was not too high, but the amount increased, especially lactose in transitional milk (7-14 days after delivery). After passing through this period, the carbohydrate levels in breast milk were relatively stable. Vitamins are additional nutrients needed for the body to be able to support the body's performance. According to previous research, vitamins come from organic foods and fruits (Bae & Kratzsch, 2018). Activity of basking in the morning sun can also help produce vitamin in the body. Vitamins are one of the nutrients that have a fairly high role in the process of forming breast milk (Keats et al., 2021).

4. Conclusion

The results of the nutritional analysis of banana blossom and papaya leaves have been obtained. and vitamins, these nutrients are related to the formation of breast milk volume, therefore banana blossoms and papaya leaves are good for consumption by nursing mothers. There is even deeper motivation and direction for breastfeeding mothers considering that banana blossom and papaya leaves have very high nutritional value because of the high nutrients contained in it, it is recommended that banana blossoms and papaya leaves be a mainstay of the family menu, especially for breastfeeding mothers and further research can be carried out.

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