

Comparison of Nutritional Status of Breast Milk and Non-Breast Milk Exclusive in Puskesmas Bandar Khalifah

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ABSTRACT

Breast milk (breast milk) is the best food for babies because it contains nutrients that are most suitable for the growth and development of the baby, to achieve optimal growth and development of infants breast milk needs to be given exclusively until the age of 6 (six) months and can be continued until the child is 2 (two) years old, the purpose of this study is to find out if there is a Comparison of Nutritional Status of Infants Who Get Exclusive Breastfeeding With Non Exclusive Breastfeeding in the working area of the Working Area of puskesmas Bandar Khalifah Bandar Khalifah.

Research using quantitative research type with design, design of this research using case control approach. The population in this study was all mothers who had babies aged 0-6 months as many as 167 people, The technique used in this study is a large Slovin Formula minimal sample for this study was 62 respondents. The number of cases using breast milk based on record data of 31 cases, the number of control groups for this study was $1 \times 31 = 31$ statistical analysis control using Chi-square test.

The results of research on the comparison of nutritional status of infants who get exclusive breastfeeding with non Exclusive Breastfeeding in the working area of the Bandar Khalifah Bandar Khalifah Health Center. Based on Mann Whitney test obtained Z calculated value = -1,985 with p-value = 0.047, because p-value (0.047) < α (0.05) concluded that There is a significant difference between exclusive breastfeeding and not exclusive breastfeeding to the nutritional status of infants aged 0-6 months in the working area of the Puskesmas Bandar Khalifah Bandar Khalifah.

Keywords: [Breast Milk and Non-Breast Milk Exclusive]

INTRODUCTION

Breast milk (breast milk) is the best food for babies because it contains nutrients that are most suitable for the growth and development of the baby, to achieve optimal growth and development of the baby breast milk needs to be given exclusively until the age of 6 (six) months and can be continued until the child is 2 (two) years old (Kepmenkes No.450, 2004). Exclusive breast milk is breast milk given to babies directly or milked first starting from birth to 6 months without feeding or beverages other than breast milk except medicines, vitamins and mineral drops (Anna, 2018)

Artificial foods for babies made using today's technology, were not able to match the advantages of breast milk. Because, breast milk has the highest nutritional value compared to baby food made by humans or milk from animals, such as cow's milk, buffalo, or goat (Khasanah, 2016). The presence of protective factors and appropriate nutrients in breast milk ensures the nutritional status of both babies and decreased pain and death. Breast milk can protect infants and children from infectious diseases, such as diarrhea, otitis media, and lower acute respiratory tract infections (Anna,2018). In addition to its very important role as food and beverage ingredients for babies, the breast milk has many advantages, namely: breast milk is

good for the golden growth of the baby's brain, the best source of nutrients for the baby, can relieve the baby's digestion, improve the baby's immunity, easily digestible, not easily contaminated, avoiding babies from allergies, breast milk is never stale, practically does not trouble the mother, as a medium to educate the baby early on, and can establish affection between mother and baby and benefit the mother economically (Khasanah, 2018). increased from 13% to 34% (Center for Disease Control, 2019). Data from The National Health and Nutrition Examination Survey (NHANES) shows that the prevalence of Weight Gain has increased, from 5.0% to 12.4% for infants aged 2-5 years, 6.5% to 17% for infants aged 6-11 years, and 5% to 17.6% for infants aged 12-19 years (Center for Disease Control, 2016).

Infant formula (non exclusive breast milk) is a liquid or powder with certain formulas given to infants and infants and serves as a substitute for breast milk. Formula milk (non exclusive breast milk) has an important role in baby food because it often acts as the only source of nutrition for babies. (Dewi, 2018).

United Nations International Children Emergency Fund states Indonesia to be one of the main markets in the marketing of formula milk products. According to the report, the world's formula milk sales figures increased by 37 percent in 2008-2013 (Anna, 2017).

Weight Gain or being overweight lately is a concern. For the last three decades. The percentage of infants under the age of three who experience weight gain increases. Not only in Indonesia but in most other Asian countries. The level of weight gain and the risk of being overweight is too high, and needs to be a concern (Nirwana, 2017).

According to Moehly, infants who consume formula milk (non exclusive breast milk) will experience excess fat. If the baby is given formula milk (non-breast milk Eksklusift) without heeding the instructions on how to dilution. Formula milk (non

exclusive breast milk) given often exceeds the measure. While formula milk (non exclusive breast milk) that is made too thick will cause the input of baby food protein to be high. To remove the ureum which is the result of residual protein metabolism, so that the baby often urinates. As a result the baby is easily thirsty and asks to be given more milk and the protein input is added again. If this condition continues continuously then the baby will experience excess calories. This excess calorie is what is converted by the body into fat so that the amount of fat reserves in the baby's body from day to day increases (Moehly, 2017).

According to the Minister of Health Indonesia, the impact of Weight Gain in Indonesia does not just interfere with the aesthetic value of appearance. But it becomes a predisposing factor or triggering risk factors for various non-communicable degenerative and cardiovascular diseases (Nirvana, 2017)

Weight Gain will have serious health consequences and is a major risk for chronic diseases such as cardiovascular disease, diabetes, musculoskeletal disorders and some cancers. Weight Gain is associated with a wide range of health problems in in indwelling, infancy and is an important cause of death and pain in adulthood. Very high overweight rates are found in infants aged 0-12 months who are not breast-fed or who are only fed formula milk. Formula feeding (non exclusive breast milk) indicates increased risk of Weight Gain (Nguyen, 2017)

LITERATURE REVIEW

Weight Gain is defined as abnormal or excessive accumulation of fat so that it can cause health problems. Weight Gain is determined by using The Body Mass Index (BMI), which is the ratio of weight (in kilograms) to the square of height (in meters). In 2017, at least 20 million infants under the age of 5 in the world experienced overweight due to formula feeding (non-exclusive breastfeeding) in infants aged 0-

12 months (World Health Organization, 2016).

Based on research according to Birch and Fisher (2018) in Grummer-Strawn and May (2018) there is breastfeeding with a decreased risk of weight gain, that breastfeeding decreases the risk of Weight Gain in infants aged 0-12 months this effect is more due to the composition of breast milk compared to lifestyle. Breastfeeding is a simple way and has low side effects in preventing weight gain that is most likely to be encouraged

Based on the initial survey that has been conducted by researchers in the working area of the Puskesmas Bandar Khalifah Bandar Khalifah Working Area, it is recorded that infants aged 0-12 months as many as 20 babies who have a history of consuming formula milk (non-exclusive breast milk) and 17 infants aged 0-12 months experience weight gain of the mother does not give breast milk to the baby due to several factors, factors do not come out of breast milk, working mothers and 3 babies who have a history of consuming formula milk (non-exclusive breast milk) do not experience weight gain due to weight gain. Formula feeding (non exclusive breast milk) is rare, Weight Gain in infants occurs there are infants aged 0-12 overweight so that it does not match the index of the baby's body age it is caused by formula feeding (non exclusive breast milk) to infants aged 0-12 months infants (Nguyen, 2017).

MATERIALS & METHODS

Research using quantitative research type with design, design of this research using case control approach,). The population in this study was all mothers who had babies aged 0-6 months as many as 167 people, The technique used in this study is the Formula Slovin Besar minimal sample for this study is 62 respondents. The number of cases using breast milk based on record data of 31 cases, the number of control groups for this study was $1 \times 31 = 31$

controls. Statistical analysis using chi-square test.

RESULT

Bivariate analysis in this section presents the results of a comparison analysis of the nutritional status of infants who get exclusive breast milk with Non Exclusive Breastfeeding in the working area of the Bandar Khalifah Bandar Khalifah Health Center, to find out the difference is carried out Mann Whitney test. This is because the data used is ordinal, so the test must use a non parametric statistical test in this case using the Mann Whitney test. Based on Mann Whitney test as presented in table 4.6 obtained calculated Z value = -1,985 with p-value = 0.047, because p-value (0.047) < α (0.05), it was concluded that there is a meaningful difference in exclusive breastfeeding and not exclusive breastfeeding to the nutritional status of infants aged 0-6 months in the working area of the Puskesmas Bandar Khalifah Khalifah. This difference can be seen from the results of univariate analysis, where babies with normal nutritional status, more occur in babies given exclusive breast milk of 27 babies (87.1%) compared to infants who were not breastfed exclusively a total of 15 babies (48.4%).

obtained value Z calculate = -1,985 with p-value = 0.047, because p-value (0.047) < α (0.05), it is concluded that there is a meaningful difference in exclusive breastfeeding and not given exclusive breastfeeding to the nutritional status of infants aged 0-6 months in the working area of the Puskesmas Bandar Khalifah Bandar Khalifah. This difference can be seen from the results of univariate analysis, where babies with good nutritional status, more common in babies given exclusive breast milk a number of 37 babies (67.3%) compared to infants who were not breastfed exclusively a total of 25 babies (45.5%).

This difference can be seen from the results of univariate analysis, that nutritional status data in babies who are given exclusive breast milk obtained 2 babies with

a thin weight, 27 babies with normal weight and 2 babies with fat weight. While the nutritional status of babies who are not breast-fed Exclusively obtained 4 babies with skinny weight, 15 babies with normal weight and 12 babies with fat weight. This indicates that the exclusive breastfeeding given to infants can affect their growth or nutritional status of the baby better than infants who are not breast-fed exclusively. Because at the age of 0-6 months exclusive breast milk is needed, because the digestive system has not perfect, then only breast milk is the best food for her. That is, it is in accordance with the theory, that feeding other than breast milk in babies aged < 6 months, can cause allergies or babies have diseases such as diarrhea, it occurs because the baby is not ready to receive food other than breast milk.

The results of the study are in accordance with Aminah's research, et.al (2014) which showed a significant difference between the nutritional status of infants who were given exclusive breast milk and the nutritional status of infants who were given formula milk based on calculations based on BB/U, PB/U and BB/PB with p-value $(0.000) < \alpha (0.05)$. The results of the study obtained most of the exclusive breast milk babies age 6-11 months in the working area of the Puskesmas Bandar Khalifah Arjasa working area has good nutritional status, normal and has no history of infection. The same thing was revealed by Wahyuni (2009), who showed that babies who were breastfed exclusively for 6 months had normal nutritional status and had no history of infectious diseases compared to infants who were given formula milk. Breast milk Contains complete nutrients, the content of breast milk can change according to the needs of the baby.

DISCUSSION

Nutritional Status of Babies Who Get Exclusive Breast Milk

Based on the results of research on babies who get exclusive breast milk it is

known that of the 31 babies who get exclusive breast milk in the working area of the Bandar Khalifah Health Center Bandar Khalifah, most have normal nutritional status as many as 27 babies (87.1%), the remaining 2 babies (6.5%) with nutritional status of obese and 2 babies (6.5%) with skinny nutritional status.

The results showed that the nutritional status of babies given exclusive breastfeeding is partially normal. This is in accordance with the findings of Khasanah (2011) which concluded in infants aged 0-6 months the nutrients needed by the baby can be met with exclusive breastfeeding is an ideal food physiologically and biologically for the baby and can meet the nutritional needs of the baby at the age of 4-6 months. MP breast feeding before infants aged 4 months limited to lower weight gain and malnutrition compared to infants who remained given exclusive breast milk until the age of 6 months. There are still wrong habits in breastfeeding and MP breast milk. MP breast milk given too early can have an impact on nutritional status (Karuniawati, et al., 2013).

Breast milk is believed and even proven to benefit babies both in terms of nutrition. Exclusive breast milk is a way of breastfeeding babies immediately after birth and only given breast milk without until the baby is 6 months old without being given other food (Roesli, 2011)

Factors that affect most normal nutritional status in babies who are exclusively breast-fed can occur due to the consumption of breast milk and the good health of the baby. In this case the parental factor is also very important in the fulfillment of nutrition in infants which includes the schedule of breastfeeding and its sincerity in breastfeeding.

Nutritional Status of Infants Who Do Not Get Exclusive Breast Milk

Based on the results of research on infants who do not get exclusive breast milk it is known that of the 31 babies who were not given exclusive breast milk in the

working area of the Bandar Khalifah Health Center Bandar Khalifah, most had normal nutritional status as many as 15 babies (48.4%), the remaining 12 babies (38.7%) with nutritional status of obese and 4 babies (12.0%) with skinny nutritional status. Nutritional status of more or more fat is found in infants aged 4-6 months who are not given exclusive breast milk.

This result is in accordance with the findings of Khasanah (2011) which concluded that in general, infants aged 4-6 months who get formula milk experience faster weight gain compared to babies who are given exclusive breast milk. Overweight in infants who get formula milk due to excess water content and fat composition. In some formula milk is a source of protein and its fat comes from cow's milk.

Not exclusive breast milk is breast-feeding coupled with supplemental feeding (Roesli, 2011). Factors that affect most of the normal nutritional status in infants who are not breast-fed exclusively can occur due to the consumption of food and the good health of the baby. In this case the parent factor is also very important in the fulfillment of nutrition in infants which includes additional feeding schedules or food schedules arranged by parents, and appropriate health care in infants. So that the nutritional status of the baby can be said to be good or not very dependent by the parents

Atika's research (2014) also showed a difference with the nutritional status of infants 0-6 months who were given exclusive breast milk with those given formula milk in The Village of Reksosari District Of Semarang District got a value of Z count = - 2,694 with p-value = 0.020. This difference can be seen from the results of univariate analysis, in which infants with good nutritional status, more occur in babies given exclusive breast milk of 15 babies than infants given formula milk of 6 babies. This shows that the exclusive breastfeeding in infants can affect their growth or nutritional status of the baby better than infants given formula milk.

There are antibody properties in the form of lactoferin in breast milk which is a protein that binds iron so as not to be used by harmful gut bacteria as a breeding medium. Because the administration of iron or additional food to the baby should be avoided immediately, because it can affect the protective power provided by lactoferin contained in breast milk. So babies aged 0-6 months should only be given breast milk only, if the baby is given additional food or drinks other than breast milk, the baby's risk of getting allergies or diarrhea because the baby's intestines have not been able to process food that enters other than breast milk. Babies who are not breast-fed exclusively are easily infected with the disease. This is where many incidents of babies lose weight (Judistuty, 2012).

The content of breast milk that plays a role in the growth of babies is seen from proteins, fats, electrolytes, enzymes and hormones in breast milk. The breast milk protein is formed in ribosomes in the endoplasmic reticulum consisting of casein, alpha lactalbumin and beta lactoglobulin. Alpha lactalbumin is 25-30% of the total breast milk protein which is a provider of amino acids for infant growth. Fat is an important constituent for the nervous system. Fatty acids in breast milk allow babies to gain enough energy and can form myelin in the nervous makeup. Breast milk contains electrolytes (sodium, potassium, chloride) is very low compared to cow's milk so it does not burden the kidneys. Enzymes in breast milk play an indirect role to growth where if the function of enzymes in various processes of metabolism of the body is disrupted then the growth will also be disrupted. Breast milk contains several hormones and growth factors. Hormones in breast milk consist of cortisol, somatostatin, lactogenic, oxytocin, prolactin. Growth factors consist of epidermal growth factors, insulin, lactoferin and factors that specifically come from epithelial white cells. (Arifin, 2012)

According to Arifin (2014), factors that influence exclusive breastfeeding

include the number of working mothers. So that the baby is given formula milk because the mother does not have time to give breast milk while working. On the land there are many working mothers who do not give their breast milk exclusively to their babies. Modern culture and society behavior that imitates western countries, urges mothers to immediately wean their babies and give artificial milk to their babies at the age of 0-6 months. In the land, there are many mothers who have weaned their babies before the age of 6 months. They consider the baby given breast milk alone is less full, so it needs to be weaned so that the baby looks full.

CONCLUSION

Nutritional status of 31 babies given exclusive breast milk in the working area of the Bandar Khalifah Bandar Khalifah Health Center obtained as many as 27 babies have normal nutritional status, 2 babies with skinny nutritional status and 2 babies with obese nutritional status. Nutritional status of 31 babies who were not given exclusive breast milk in the working area of the Bandar Khalifah Bandar Khalifah Health Center obtained as many as 15 babies have normal nutritional status, 4 babies with skinny nutritional status and 12 babies with obese nutritional status. Based on Mann Whitney test obtained Z calculated value = -1,985 with p-value = 0.047, because p-value (0.047) < α (0.05) concluded that There is a significant difference between exclusive breastfeeding and not exclusive breastfeeding to the nutritional status of infants aged 0-6 months in the working area of the Puskesmas Bandar Khalifah Bandar Khalifah.

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