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Infants Nutrition: Supplementary Feeding of Breastfeeding Infants Variation

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ABSTRACT

Supplementary Feeding of Breastfeeding are foods or drinks that contain nutrients, given to infants or children aged 6-24 months to meet nutritional needs other than breastfeeding. In an emergency, infants and toddlers should receive complementary foods to prevent malnutrition. Variety of food ingredients for babies is important because no single food is sufficient for the needs of babies. A variety of complementary foods to breast milk can help meet the nutritional needs of the baby. The research objective was to determine the prevalence of nutrition and variations in complementary foods as well as the relationship between variations in complementary foods and the fulfillment of infant nutrition in Tenayan Raya District, Pekanbaru. This research method uses quantitative observational analytic research with cross-sectional analytic study design. The study population was all infants aged 6-12 months in the District of Tenayan Raya with the sampling technique using consecutive sampling totaling 30 samples. Data analysis was performed univariate and bivariate using SPSS. Based on the results of the research that has been done, it can be concluded (1) the mean of infant nutrition is z score -0.203; (2) The average variation of MP ASI is 7 variations; (3) There is a correlation of variations in complementary feeding to the nutritional fulfillment of aged infants in the District of Tenayan Raya Pekanbaru.

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1. Introduction

Supplementary Feeding of Breastfeeding are foods or drinks that contain nutrients, given to infants or children aged 6-24 months to meet nutritional needs other than breast milk. Thus, variations of complementary foods are various forms of complementary foods or drinks that contain nutrients that are given to babies to meet the baby's nutritional intake.

The nutritional needs of babies are different from those of children and adults. Babies need carbohydrates with the help of analysis to digest food ingredients derived from starch. The protein needed comes from mother's breast milk with levels of 4-5% of the total calories in breast milk. Fat required 58% of total calories in mature milk. The minerals needed at this time consist of calcium, phosphorus, chlorine, potassium, and sodium which support the growth and development of the baby. After 6 months, soft, nutritious foods are often called complementary foods. [1]

In an emergency, infants and toddlers should receive complementary foods to prevent malnutrition. To get good supplementary feeding of breastfeeding made locally, it is necessary to add vitamins and minerals to the food when it is served. Variation of food ingredients for babies is important because there is no single food that is sufficient for the needs of the baby, variations in food materials given from infancy will be remembered until adulthood, overcoming babies who have difficulty eating because of variations in breastfeeding, the baby will not feel bored. [1]

The age of 0-24 months is a period of rapid growth and development, so that it is often termed the golden period as well as the critical period. The golden period can be realized if at this time infants and children receive appropriate nutritional intake for optimal growth and development. Conversely, if babies and children at this time do not get food according to their nutritional needs, then the golden period will change into a critical period that will interfere with the growth and development of babies and children, both at this time and the next.

To achieve optimal growth and development, in the Global Strategy for Infant and Young Child Feeding, WHO / UNICEF recommends four important things that must be done, namely; The first gives breastmilk to the baby immediately within 30 minutes after the baby is born, the second provides only breastfeeding or exclusively breastfeeding from birth until the baby is 6 months old, the third provides complementary foods with supplementary feeding of breastfeeding. Since the baby is 6 months to 24 months old, and the fourth continues breastfeeding until the child is 24 months or older. The recommendation emphasizes that socially and culturally, complementary

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foods should be made from food that is cheap and easily obtained in the local area (indigenous food).

The explanation of complementary foods and nutritional status of toddlers raises problems in the aspect of a cause and effect relationship where inadequate complementary feeding results in malnutrition / malnutrition status. [2] Month is a very important period as well as a critical period in the process of growth and development of babies both physically and intellectually, therefore every baby at this time must get nutritional intake according to their needs. Age 6-12 months is the initial period of supplementary feeding of breastfeeding. In the period of supplementary feeding of breastfeeding, the baby depends entirely on the care and feeding by the mother. [3]

Variations in complementary foods for breastfeeding can help meet the nutritional needs of the baby, however, variations in complementary foods for breastfeeding must be adjusted according to the age of the baby so that it is easily absorbed by the body. The types of food that can be consumed in the form of baby crushed food are given at the age of 6-7 months where this food is given in the form of fruit juice, soft or soft foods are given at the age of 7-8 months given in rice, vegetables, and eggs, age 8-9 months given in the form of unfiltered food, for 10 months the baby can be given family food.

The period of children under two years of age is related to the opportunity period to get an intelligent brain so that it produces optimal Intelligence Quotient (IQ), up to 80 percent. If a child under two years of age has a poor nutritional health status, it can be at risk of permanent or irreversible brain damage so that it has an impact on the child's future. [4]

According to Basic Health Research, the problem of malnutrition and malnutrition in Indonesia has increased from 2010-2013, cases of malnutrition amounted to 4.9 percent to 5.7 percent, while cases of malnutrition amounted to 13 percent to 13.9 percent. [5] According to the profile of the Riau Provincial Health Office, based on the weight index according to age, cases of malnutrition were found to be 1.03% and undernourished 7.7%. Meanwhile in Pekanbaru, there were 0.7% malnutrition and 8.2% malnutrition. Meanwhile, according to the health profile of Pekanbaru city based on the number of cases of malnutrition found, Tenayan Raya sub-district experienced 8.3% of malnutrition cases. [6]

Based on the problems described above, the researchers wanted to raise the title Variations of Complementary Foods to Breastfeeding in Relation to Fulfillment of Infant Nutrition in Tenayan Raya District, Pekanbaru.

2. Methods

This research is a quantitative analytic observational study with a type of analytic cross-sectional study design, with the intention of asking the independent variables and dependent variables at the same time to respondents in Tenayan Raya District.

The quantitative approach emphasizes its analysis on numerical data (numbers) processed by statistical methods. [7] The research design to be used is correlational, which aims to investigate the extent to which variations in a variable are related to variations in one or more other variables, based on the correlational coefficient. Correlational research can obtain information about the level of relationship that occurs, namely the relationship between variations in complementary foods (X) and infant nutrition (Y). The population in this study were all babies aged 6-12 months in Tenayan Raya Pekanbaru District. The sampling technique used in this study was consecutive sampling, in which all subjects who met the criteria were taken to meet the desired sample size. The sample criteria used were inclusion criteria, namely infants who consumed breast milk and complementary foods other than formula milk as nutritional intake. Data collection techniques in this study were as follows: 1) infant nutrition variable, namely weighing the baby and then recording the measurement results on the observation sheet; 2) Variety of complementary foods, namely making observations / observations of feeding to babies recorded on the observation sheet within 7 days.

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3. Results and Analysis

Table 1
Distribution of Infant Nutrition and Supplementary Feeding of Breastfeeding Variation

Variables	Mean	Standard Deviation	Minimum-Maximum	95% CI
Infant Nutrition	-0,203	1,919	-3,625-3,455	-0,919 – 0,514
Supplementary Feeding of Breastfeeding Variation	7	2,901	3-14	5,92 – 8,08

The results of the analysis showed that the average nutritional value of infants was the z-score -0.203, with a standard deviation of 1.919. The lowest infant nutrition was with a z-score of -3.625 and the highest with a z-score of 3.455. From the results of the interval estimation, it can be concluded that 95% is believed that the mean nutrition of infants is z score -0.919 to 0.514. While the analysis results of the variation of complementary breastfeeding in infants, the average is 7 variations of supplementary feeding of breastfeeding, with a standard deviation of 2.901 variations. The lowest variation is 3 variations and the highest is 14 variations. From the results of the interval estimation, it can be concluded that 95% is believed that the average variation of complementary feeding in infants is 5.92 variations up to 8.08 variations.

Table 2
Correlation Analysis of Supplementary Feeding of Breastfeeding Variation with Infant Nutrition

Variable	R	R^2	Line Equations	P Value
Infant Nutrition	0,633	0,401	Infant Nutrition = -3,135 + 0,419*variation	0,0002

The correlation between complementary breastfeeding and infant nutrition showed a strong relationship (r = 0.633) and a positive pattern, meaning that the more varied the supplementary feeding of breastfeeding, the greater the z score of baby nutrition. The coefficient value with a determination of 0.401 means that the regression line equation that we get can explain 40.1% of the variation in infant nutrition or the line equation obtained is good enough to explain infant nutrition variables. The statistical results found that there was a significant relationship between the variation of complementary feeding and infant nutrition (p = 0.0002).

Based on the results of statistical tests, there is a correlation between variations in complementary feeding and infant nutrition with a p value of 0.0002. This research is supported by research conducted by Ningrum which concludes that the lower the variation of complementary foods for breast milk, the higher the percentage of malnutrition and malnutrition. [8] Variations in complementary foods can affect food intake which in turn will affect nutritional status. Nutritional status and intake are interrelated, so that in order to get a good nutritional status, the food intake must be in accordance with the needs and the food ingredients used are balanced so that nutrients can be met from a variety of food ingredients. The provision of complementary foods, both in quantity and quality will have consequences for the nutritional status of the baby. Good solid foods contain not only enough energy and protein, but also contain iron, vitamin A, folic acid, vitamin B and other vitamins and minerals.

4. Conclusion

Based on the results of the research that has been done, it can be concluded (a) the average nutrition of infants in the District of Tenayan Raya Pekanbaru is z score -0.203; (b) the average variation of supplementary feeding of breastfeeding in the District of Tenayan Raya Pekanbaru is 7 variations; and (c) there is a correlation of variations in complementary foods with breastfeeding to the nutritional fulfillment of aged infants in the District of Tenayan Raya Pekanbaru.

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