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Factors that Influence the Mother's Skills in Preparing Complementary Foods for Breast Milk

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ABSTRACT

Background: Mother's skills in preparing complementary foods for breast milk play an important role for the growth and development of children aged 6-24 months.
Obyectif: This study aims to prove the factors that influence the skills of mothers in preparing complementary foods for breast milk.
Method: The type of research is quantitative research with correlation methods. The population of this study was mothers who have children aged 6-24 months in Danguran Village, South Klaten Sub-District. The sampling technique used was purposive sampling with inclusion criteria: mothers who have children aged 1-2 years (12-24 months), can read and write, and are willing to be respondents and exclusion criteria: mother has a child under 12 months (under 1 year) and has a child over 24 months (over 2 years) and physically and mentally unhealthy mother. The research sample was calculated using the Slovin formula, which obtained a number of 51 respondents. The sample in this study was 51 mothers who met the inclusion criteria. Data collection used a questionnaire. Data were analyzed using Odds Ratio Test to find out how many risk factors such as mother's age, mother's educational level, mother's occupation, mother's level of knowledge and mother's experience (parity or number of children) in influencing mother's skills in preparing complementary foods for breast milk.
Results: The average mother age of the respondents was 1.37 (SD=0.488) with the OR value was 0.301. The average education of the respondents was 1.76 (SD=0.428) with the OR value was 0.255. The average occupation of the respondents was 1.35 (SD=0.483) with the OR value was 0.333. The average knowledge of the respondents was 85.06 (SD=7.431) with the OR value was 0.471. The average parity of the respondents was 1.82 (SD=0.385) with the OR value was 0.955.
Conclusion: The parity factor related to the mother's experience is the biggest factor influencing the enhancement of the mother's skills in preparing complementary foods for breast milk with an OR value = 0.955. Mothers who have more than one child tend to have better skills in preparing complementary foods for breast milk because they are more experienced than mothers who have only had one child.

Keywords: *Factors, complementary food, breast milk, children*

INTRODUCTION

Complementary feeding should be given when the child is 6 months more than one day after the mother has completed the exclusive breastfeeding program. However, it turns out that preparing complementary foods requires more knowledge and skills. Not only choosing ingredients that are suitable for the age of the child, but also the method of processing so that the nutritional content is not reduced and the presentation is attractive so that children are willing to eat with gusto.
Children aged 6-24 months including 1-2 years (12-24 months) really need to get complementary food intake to support their growth and development. Many studies have proven that children aged 6-24 months who are malnourished will experience slow growth which results in stunting. Stunting is a chronic nutritional problem caused by a lack of nutrition in the long term, resulting in impaired growth in children. Stunting is

also one of the causes of stunted children's height, so that it is lower than children of their age[1][2][3].

Mother's skills in preparing complementary foods play a very important role. Skilled mothers will provide better complementary foods than unskilled mothers. There are many factors that affect a mother's performance in preparing complementary foods for breastfeeding, such as factors: mother's age, level of education, occupation, level of knowledge and experience (parity or number of children)[3][4].

Mother's age is one of the factors that influence mother's skills. Mature age will encourage a person to be more responsible so that it will spur her to become more skilled at something, including skilled at preparing complementary foods for her child. As stated by researchers[5] that by increasing and optimizing the intrinsic factors that exist within the mother such as age, ability and willingness, it is hoped that the mother's knowledge will increase. With increased knowledge, skills will also increase. Mothers who are at a healthy reproductive age will make mothers more skilled in caring for children, including in preparing complementary foods for breastfeeding[5].

The level of mother's education is also a factor that affects the skills of the mother. Mother's education is included in the extrinsic factors that influence mother's knowledge and skills. By increasing and optimizing the extrinsic factors within oneself, it is hoped that the mother's knowledge and skills will increase, including in preparing complementary foods for breastfeeding[5].

Whether the mother works or does not work can affect the skills of the mother. The researchers[5] stated job factors are related to the mother's activities every day to fulfill her life needs. Mother's work can be done at home, at work both near and far from home. In this case, the length of time a mother leaves her baby to work daily is the reason for giving additional food to infants aged less than 6 months. And because of the limited time mother has, when preparing complementary foods for breast milk, it can be less than optimal[5].

Mother's knowledge is a factor that influences the mother's skills. In theory, knowledge will determine a person's behavior. Rationally, a mother who has high knowledge will certainly think more about acting, she will pay attention to the consequences that will be received if she acts carelessly. In maintaining the health of her baby, especially in providing appropriate complementary feeding, a mother is required to have high knowledge so that complementary feeding can be given at the right time with the correct food preparation[5].

Experience will also be a factor that influences the skills of the mother. Mothers who have previous experience in preparing complementary foods will have better skills in preparing complementary foods. Mothers who have more than one child usually have more experience than mothers who are having children for the first time because they have previous experience in child care, including preparing complementary foods for breastfeeding. In addition, mothers who have more than one child usually have more information about preparing complementary foods which makes mothers more experienced so they have better skills in preparing complementary foods. As stated by researchers[6] that sources of information play an important role for a person in determining attitudes or decisions to act. Information sources are able to change the mother's behavior according to the information obtained. Sources of information can determine whether the implementation of complementary foods for breast milk is good or bad, including in preparing complementary foods for breast milk[6].

Based on a preliminary survey conducted in Danguran Village, South Klaten Sub-District, on several mothers with children aged 1-2 years, they stated that they did not understand how to properly prepare complementary foods for breast milk. They prepare complementary foods for breast milk by themselves and based on the hereditary culture of their parents. There are many obstacles faced by mothers in providing complementary food to their children because some children do not want to eat. One of the reasons may be because the mother in preparing complementary foods for breast milk is less attractive, less varied, and the choice of food ingredients is not liked by the child.

The purpose of this study was to prove the factors that influence the skills of mothers in preparing complementary foods for breast milk.

METHOD

This research was conducted in Danguran Village, South Klaten Sub-District. This type of research is quantitative research with correlation methods. The population of this study was all mothers who have children aged 6-24 months in Danguran Village, South Klaten Sub-District. The sampling technique used was purposive sampling with inclusion criteria: mothers who have children aged 1-2 years (12-24 months), can read and write, and are willing to be respondents and exclusion criteria: mother has a child under 12 months (under 1 year) and has a child over 24 months (over than 2 years) and physically and mentally unhealthy mother. The research sample was calculated using the Slovin formula, which obtained a number of 51 respondents. The sample in this study was 51 mothers who met the inclusion criteria. The independent variables in this study were the mother's age, mother's educational level, mother's occupation, mother's level of knowledge and mother's experience (parity or number of children). The dependent variable is the mother's skills in preparing complementary foods for breast milk. Data collection used a questionnaire containing questions about the characteristics (age, education, occupation and parity or number of children) of mothers and about knowledge in preparing complementary foods for breast milk. After collecting data, these were analyzed using Odds Ratio Test to find out how many risk factors such as mother's age, mother's educational level, mother's occupation, mother's level of knowledge and mother's experience (parity or number of children) in influencing mother's skills in preparing complementary foods for breast milk.

Ethical Clearence

This study received ethical approval from KEPK Poltekkes Kemenkes Surakarta with No. LB.02.02/1.1/8929/2022.

RESULTS

According to table 1, the average mother age of the respondents was 1.37 (SD=0.488) with the OR value was 0.301. The average education of the respondents was 1.76 (SD=0.428) with the OR value was 0.255. The average occupation of the respondents was 1.35 (SD=0.483) with the OR value was 0.333. The average knowledge of the respondents was 85.06 (SD=7.431) with the OR value was 0.471. The average parity of the respondents was 1.82 (SD=0.385) with the OR value was 0.955.

Table 1: Profile of Responden

Profile	Mean	SD	n	%	OR
Age category:	1.37	0.488			0.301
20-35 years			32	62.7	
Less than 21 years and more than 35 years			19	37.3	
Education category:	1.76	0.428			0.255
Elementary education			12	23.5	
Middle and higher education			39	76.5	
Occupation category:	1.35	0.483			0.333
Jobless			33	64.7	
Having Job			18	35.3	
Kowledge category:	85.06	7.431			0.471
Good knowledge (50 -100 %)			43	84.3	
Bad knowledge (< 50 %)			8	15.7	
Parity category:	1.82	0.385			0.955
Primipara (one child)			9	17.6	
Multipara (more than one child)			42	82.4	

DISCUSSION

This study measured the factors that influence the mother's skills in preparing complementary foods for breast milk which include the mother's age, educational level of the mother, mother's occupation, the number of children (parity) who have a relationship with the mother's experience and the level of knowledge of the mother about the preparation of complementary foods for breast milk.

Complementary food for breast milk is additional food given to babies after the baby is 6 months old until the baby is 24 months old. Complementary Food for breast milk is a process of changing from milk intake to semi-solid food. This is done because babies need more nutrition. Babies also want to develop from a sucking reflex to swallow food in the form of semi-solid liquids by moving food from the front of the tongue to the back[7].

Complementary food for breast milk is the second baby food that accompanies breastfeeding. Complementary food for breast milk is given to babies aged 6 months or more because breast milk no longer fulfills the baby's nutrition. The provision of complementary foods for breast milk must be gradual and varied, starting from the form of fruit juice, fresh fruit, thick porridge, mashed food, soft food, and finally solid food. The reason for giving complementary food to breast milk at the age of 6 months is because generally babies are ready for solid food at this time[7][8][9].

The introduction and administration of complementary foods for breast milk must be carried out in stages, both in form and in quantity, according to the baby's/child's digestive ability. Mother's milk only meets the nutritional needs of infants as much as 60% in infants aged 6-12 months. The rest must be filled with other foods that are sufficient in number and good nutrition. Therefore, at the age of six months and older, babies need additional nutrients from complementary foods for breast milk[7][9].

The principles of complementary feeding for breast milk are: 1) Continue giving breast milk according to the baby's wishes (on demand) until the baby is 2 years old or more; 2) Maintain cleanliness in every food served. Also apply proper food handling; 3) Start giving complementary foods after the baby is 6 months old in small amounts. Gradually, the mother can increase the amount according to the age of the baby; 4) gradual variations of food so that the baby can taste all kinds of flavors; 5) The frequency of food is added gradually according to age, namely 2-3 times a day at the age of 6-8 months and 3-4 times a day at the age of 9-24 months with additional snacks 1-2 times if needed; 6) choose a variety of foods that are rich in nutrients; 7) Try to make your own food to be given to babies and avoid instant food. If you are forced to give instant food, you should be wise in looking at the nutritional composition contained in it; 8) When the child looks sick, increase fluid intake (especially give milk more often) and encourage the child to eat soft foods that the child likes[10].

Types of complementary foods for breast milk include; 1) Complementary food for local mother's milk is additional food that is processed at the household or at the integrated service, made from locally available food ingredients, easily obtained at affordable prices by the community, and requires processing before being consumed by the baby; 2) Complementary food for manufactured mother's milk is food that is provided processed and is instant in nature and circulates in the market to increase energy and essential nutrients for infants[4][8][11][12].

Proper provision of complementary foods for breast milk is to meet the nutritional needs of children. Complementary food for breast milk must be adjusted to the age of the baby where the accuracy of giving complementary food for breast milk includes the type, texture, frequency and portion of food must be adjusted to the stage of development and growth of the baby. For complementary foods for breast milk in children aged 1-2 years, namely: 1) giving soft rice 3 times a day; 2) give breast milk first, then complementary foods for breast milk. In complementary foods for breast milk, add eggs / chicken / fish / tofu / tempeh / beef / carrots / spinach / green beans / coconut milk / oil to rice porridge or soft rice. If using complementary foods from the factory, read how to prepare them, the age limit, and the expiration date; 3) provide snacks 2 times a day between meals, such as mung bean porridge, biscuits, bananas, and so on; 4) Give fruit or fruit juice, such as sweet orange juice and strained tomato water; 5) Babies are starting to be taught to eat and drink by themselves using cups and spoons[12][13].

The impact that occurs if the preparation of complementary food for mother's milk for children aged 6-24 months is not appropriate, namely; 1) The child's energy needs are not met. If the child's needs are not met, the child will stop growing or not grow optimally, even if left unchecked the child may suffer growth failure. Therefore it is necessary to increase the quantity of complementary foods for breast milk as the baby gets older; 2) Children are at risk of iron deficiency and suffer from iron deficiency anemia; 3) The needs for macronutrients and other micronutrients are not met, causing babies/children to be at risk of suffering from malnutrition and micronutrient deficiencies; 4) The development of infant/children's oral motor function can be delayed; 5) Infants/children have the potential to reject various types of food and find it difficult to accept the taste of new foods at a later date[14].

Maternal age is one of the factors associated with mother's skills in preparing complementary foods for breast milk. Based on the result of this study, the average mother age of the respondents was 1.37 (SD=0.488) with the OR value was 0.301. The OR value of mother age factor was 0.301, which means that the age of the mother may cause a 0.301 times for increasing the skills of mothers in preparing complementary foods for breast milk. Based on the theory, when a person's age increases, there will be changes in a person's physique and psychology. The older a person is, the more mature and mature she is in thinking and working. Mothers who are at a healthy reproductive age will tend to be able to prepare complementary foods for breast milk more skillfully[3][15].

Based on the result of this study, the average education of the respondents was 1.76 (SD=0.428) with the OR value was 0.255. The education's OR value was 0.255, it means that the education may cause a 0.255 times for increasing the skills of mothers in preparing complementary foods for breast milk. According to researchers[16], factors related to the provision of complementary foods for breast milk, one of the sources of information related to complementary foods for breast milk, is the educational level of the mother. Mother's education has a positive relationship to the nutritional status of children who are given complementary foods for breast milk and their introduction and preparation at the age of children over 6 months[16].

The average occupation of the respondents was 1.35 (SD=0.483) with the OR value was 0.333. The occupation's OR value was 0.333, that means that the occupation may cause a 0.333 times for increasing the skills of mothers in preparing complementary foods for breast milk. In theory, the work factor associated with each mother's activity day to meet needs her life. Mother's work can be done at home, at work either nearby or far from home. In terms of this is how long a mother left her baby to work every day become the reason for feeding supplement in infants under 6 years of age month including in its preparation whether done skillfully or not. However, the results of this study are not in line with the results of previous studies which state that 52% of mothers who did not work gave complementary foods too early and 48% of mothers who did not work gave appropriate complementary foods. After carrying out a multiple logistic regression statistical test based on a defined significance level ($\alpha \leq 0.025$) it was found that p = 0.992, which means that work factors do not affect the mother's behavior in giving complementary food to breast milk included in the preparation[5].

Knowledge of the mother about how to prepare the complementary foods for breast milk also became one of factors influencing the mothers' skill in preparing the complementary foods for breast milk. The average knowledge of the respondents was 85.06 (SD=7.431) with the OR value was 0.471. The knowledge's OR value was 0.471, it means that the knowledge may cause a 0.471 times for increasing the skills of mothers in preparing complementary foods for breast milk. Based on the results of the research states that 90% of mothers who are knowledgeable do not provide complementary foods too early (< 6 months), while 77% of mothers who are knowledgeable provide complementary foods when their children are 6 months old. After carrying out a multiple logistic regression statistical test based on a defined significance level ($\alpha \leq 0.025$) it was found that p = 0.020, which means that knowledge factors influence mother's behavior in giving complementary food to breast milk too early[5]. In theory knowledge will determine a person's behavior. Rationally, a mother who has high knowledge will certainly think more about acting, she will pay attention to the consequences that will be received if she acts carelessly. In maintaining the health of her baby, especially in providing appropriate complementary feeding, a mother is required to have high knowledge so that complementary feeding is carried out at the right time and the preparation is also carried out appropriately[5][16].

Based on the result of this study, the average parity of the respondents was 1.82 (SD=0.385) with the OR value was 0.955. The parity's OR value was 0.955, it means that the parity may cause a 0.955 times for increasing the skills of mothers in preparing complementary foods for breast milk. Parity in this study is intended as a component of experience. Mothers who have more than one child are expected to have better experience in preparing complementary foods for breast milk because mothers have previous experience preparing food for their previous children. As stated by expert[15] that experience is something that will strengthen a person's ability to perform an action (skill). Experience builds a person to be able to take further actions for the better because she has done actions in the past[15].

CONCLUSION

The parity factor related to the mother's experience is the biggest factor influencing the enhancement of the mother's skills in preparing complementary foods for breast milk with an OR value = 0.955. Mothers who have more than one child tend to have better skills in preparing complementary foods for breast milk because they are more experienced than mothers who have only had one child.

CONFLICT OF INTEREST

There is no conflict of interest.

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