

Exclusive breastfeeding behavior based on physical endurance and economic resilience of the family

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ABSTRACT

Breast milk is the best food for babies that can be given until the child is two years old or more, it is proven that breast milk has advantages that cannot be replaced by any food and drink because it contains the most appropriate, complete, and always adjusting nutrients with the baby's needs at all times. This study aimed to analyze the relationship between physical endurance and economic resilience of the family on exclusive breastfeeding behavior. This research was analytic research using a cross-sectional design. The sample of this research was 108 postpartum mothers who were taken by simple random sampling technique. The independent variables in this study were physical endurance and economic resilience, while the dependent variable was the behavior of exclusive breastfeeding. All data were collected using a questionnaire prepared by the researcher, and data were analyzed using a logistic regression test. Adequacy of food, housing ownership, and health insurance ownership are factors that influence exclusive breastfeeding behavior with a p-value <0.05. While 8 other indicators including nutritional adequacy, family health, resting place, income, income adequacy, children's educational ability, dropping out of school, and ownership of family savings do not affect exclusive breastfeeding behavior. Physical endurance relationship between the behavior of exclusive breastfeeding on the indicator of food adequacy and the factor of economic resilience affects the behavior of exclusive breastfeeding on the indicators of housing ownership and health insurance.

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1. INTRODUCTION

Breast milk is the best food with all the nutritional needs of babies in various stages of growth up to six months after birth [1]. It can be given until the child is two years old or more, it is proven that breast milk has advantages that cannot be replaced by any food and drink because it contains the most appropriate, complete, and always adjusting nutrients with the baby's needs at all times [2]. Providing breast milk has been shown to reduce the risk of various infections (diarrhea until fivefold, respiratory infections, ear infections, pneumonia, urinary tract infections) and other diseases. Breastfeeding can protective from multiple illness (respiratory and gastrointestinal) at least up to six months of age [3]. Breast milk is beneficial for maintaining the health of the baby's body because it contains strong antibodies to prevent infection. Not only prevent infection, breastfeeding also reduces morbidity/mortality rates in young children, and their intelligence [4]. Besides being beneficial for the baby, breastfeeding helps the mother to recover from the

birth process. Breastfeeding for the first few days makes the uterus contract quickly and reduces the risk of bleeding due to the hormone oxytocin which helps uterine contractions [5].

Apart from being considered the best food for babies, breast milk also has a positive impact on strengthening the bond between mother and baby. The bond between mother and child is not innate, breastfeeding is the momentum to grow that bond [6]. Exclusive breastfeeding able to sufficient the nutritional needs of babies for six months. Fresh breast milk contains more caloric, lactoferrin, and lipid than frozen [7]. If in the first six months the baby does not receive exclusive breastfeeding, stunting and nutritional problems can hinder the growth and development of children in the future [8].

Currently, family strength is one of the influential factors in the development of the health sector. Family resilience is the family's ability to protect oneself from various problems or threats to life either come from the family itself or from outside the family. In a broader context, resilience in the family is identified with social security because the family is the smallest unit in the social system [9]. Family is a source of social support that influences a mother's self-efficacy in providing exclusive breastfeeding [10].

Within the family, a person gets various kinds of support, including physical, emotional, financial, and other support that is bigger [11]. Family support greatly influences the success of breastfeeding, and motivation is a mediator of the mother's readiness to breastfeed [12]. Therefore, this study aimed to determine the effect of physical endurance and economic resilience as part of family strength on breastfeeding behavior.

2. METHOD

This research is analytical research using a cross-sectional design. This research was carried out at the Jagir Primary Health Center Surabaya from February until November 2021. The population was all postpartum mothers who came to Jagir Primary Health Center Surabaya. Sampling in this research uses simple random sampling technique. Samples consisted of 108 postpartum mothers according to the inclusion and exclusion criteria. Inclusion criteria in this research include postpartum women who have the mother and child health book (*Buku KIA*) and complete data are recorded, have babies older than six months, willing to be a respondent by signing informed consent.

Independent variables in this study are physical endurance which is measured through four indicators including food adequacy, nutritional status, family health status, fix location for rest, and economic resilience which is measured through seven indicators including household ownership, income, income adequacy, children's educational abilities, dropout, family savings, and health insurance. The dependent variable is breastfeeding behavior. Research data collection was carried out by filling out a questionnaire that had been prepared and data collected have been analyzed using chi-square test and logistic regression test. This research has been declared ethically feasible by the Health Research Ethics Committee (KEPK) Poltekkes Kemenkes Surabaya No. EA/670/KEPK-Poltekkes_Sby/V/2021.

3. RESULTS AND DISCUSSION

3.1. Respondent characteristics

Table 1 will explain the distribution of respondent characteristics. Some of the characteristics reported include age, education, work, and income. These four characteristics will support the research variables. Based on Table 1 of characteristics of respondents, majority of respondent were 20-35 years old. For the last level of education majority respondent was senior high school. In work characteristic, the majority of respondent were working. While on income characteristics, all of respondent have an income less than 10 million rupiahs.

Table 1. Respondent characteristics

	Categories	Frequency	Percentage (%)
Ages	<20 years	3	2.8
	20–35 years	93	86.1
	>35 years	12	11.1
Education	Elementary school	14	13
	Junior high school	15	13.9
	Senior high school	59	54.6
	College	20	18.5
Work	Yes	96	88.9
	No	12	11.1
Income	<5 million	37	34.3
	5–10 million	71	65.7
	>10 million	0	0

In this research, more than half of the respondents give exclusive breastfeeding for their babies. This could be due to the fact that most of the respondents were in the reproductive age range of 20-35 years. Mother's age [13], parity, religion [14], unemployment, socioeconomic status [15] influence breastfeeding success. Not only the mother's age, but education also influence breastfeeding success. The display revealed that higher educational levels were associated with increased postpartum breastfeeding rates. Mothers with high levels of education easier to receive information. The results of this particular research are in contrast with those of a prior study, which indicated that education had an adverse connection with the likelihood of breastfeeding. Specifically, the previous research suggested that women with a college degree or higher education level were less likely to breastfeed [16]. According to their findings, it is evident that women who have attained higher levels of education tend to secure full-time employment in mid-level management positions or other challenging occupations that require their expertise and skills.

3.2. Specific data of research variables

The Table 2 shows describe the distribution of respondents on the physical endurance, economic resilience and exclusive breastfeeding behavior variables. In the physical endurance variable there are four indicators, namely food adequacy, nutritional status, family health status, and fix location for rest. In the economic resilience variable there are seven indicators, namely household ownership, income, income adequacy, children's educational abilities, drop out, family savings and health insurance.

Based on Table 2, in physical endurance variable, it is known that the majority of respondent are able to meet adequate food requirements and have adequate nutrition. Almost all respondents have healthy family members and have a place to rest. In economic resilience variable, showed that more than half of respondent had their own residence or house, had a family income between 5-10 million per month, and the majority of respondent stated that their family income was able to sufficient their familiy's needs. Most respondents were able to meet their children's educational needs. And almost all of them stated that no family member had dropped out of school. Most of them have family savings, and almost all have family health insurance.

Table 2. Physical endurance, economic resilience, exclusive breastfeeding behavior

	Categories	Frequency	Percentage (%)
Physical endurance	Food adequacy		
	Adequate	85	78.7
	Not adequate	23	21.3
	Nutritional status		
	Good	95	88
	Poor	13	12
	Family health status		
	Healthy	103	95.4
	Unhealthy	5	4.6
	Fix location for rest		
Economic resilience	Have	106	98.1
	Not have	2	1.9
	Household ownership		
	Have	67	62
	Not have	41	38
	Income		
	<5 million	37	34.3
	5-10 million	71	65.7
	>10 million	0	0
	Income adequacy		
	Adequate	79	73.1
	Not adequate	29	26.9
	Children's educational abilities		
	Capable	91	84.3
	Not capable	17	15.7
	Dropout		
	Yes	2	1.9
	None	106	98.1
Family savings	Yes	71	65.7
	None	37	34.3
Health insurance	Yes	91	84.3
	None	17	15.7
Exclusive breastfeeding behavior	Exclusive breastfeeding		
	Yes	72	66.7
	No	36	33.3

3.3. Results of logistic regression test analysis

The following Table 3 describes the results of the analysis using logistic regression test. This test was carried out on all research variable indicators. Data below shows the indicators that significantly influence exclusive breastfeeding behavior. Based on Table 3, the results of the logistic regression test analysis showed that in the physical endurance dimension there was 1 indicator that influenced exclusive breastfeeding. It namely food adequacy with a significant level of 0.004 (p-value <0.05). The direction of the influence is positive, which means that the higher the food adequacy, the better the provision of exclusive breastfeeding.

Table 3. The result of analysis factors that affect exclusive breastfeeding behavior

Factors	Sig.	Exp (B)
Food adequacy	.004	.000
Nutritional status	.497	.181
Family health status	.278	.077
Fix location for rest	.922	1.688
Household ownership	.012	.115
Income	.465	1.674
Income adequacy	.362	2.220
Children's educational abilities	.232	3.035
Dropout	.999	1349481423055.131
Family savings	.433	1.833
Health insurance	.011	49.473

In the economic resilience dimension, there are two influential indicators, namely household ownership and health insurance. Household ownership influences exclusive breastfeeding with a significant level 0.012 (p-value <0.05). The direction of the influence is positive, which means that families who have a place to live will get better exclusive breastfeeding. The magnitude of the influence of household ownership on exclusive breastfeeding is 0.115. Having health insurance influences exclusive breastfeeding with a significant level of 0.011 (p-value <0.05). The direction of the influence is positive, which means that if you have family health insurance, exclusive breastfeeding will be better. The magnitude of the influence of having health insurance on exclusive breastfeeding is 49,473, meaning that the possibility of having health insurance influencing exclusive breastfeeding is 49,473 times greater than families who do not have health insurance.

Physical endurance is assessed from four indicators, namely food adequacy, nutritional status, family health status, and the availability of a fixed location for resting. From four indicators, food adequacy is an influencing factor for exclusive breastfeeding behavior. The family is the smallest social unit of society whose members are bound by marriage and blood relations or adoption (adopted child). In improving the health status of the community, the family has an important role. Each family member has their respective roles that are interrelated so that resilience the family becomes strong and the hope is to achieve family welfare [9]. Not only that, husband's support is really needed by breastfeeding mothers [17].

Food adequacy can be indicated by sufficient energy and protein needs [18]. Adequate energy and protein need to ensure the continuity of milk production [19], [20]. The food needs of breastfeeding mothers increase compared to those who do not breastfeed. Each mother needs an additional calories of energy per day to produce normal amounts of breast milk. Nutritional status of breastfeeding mothers determine nutrient concentrations on their breast milk [21]. The total energy requirement during breastfeeding increases to 2,400 kal per day which is used for milk production and mother's activity.

For lactation to be successful, it is important to ensure that the breastfed individual maintains an appropriate weight. This means that the individual's weight should be neither too high nor too low, as both scenarios can negatively impact the lactation process. When the breastfed individual is at an ideal weight, lactation can be a fruitful and nourishing experience for both mother and child, promoting bonding and good health. The day-by-day proposals stipend for protein amid lactation is an extra 25 g/day. During pregnancy, the requirement for numerous micronutrients increases while vitamins D and K, calcium, fluoride, magnesium, and phosphorus remain exempted. It is crucial to ensure that the maternal diet is sufficient in these nutrients, as they play a vital role in the healthy growth and development of the fetus. As such, expectant mothers should be advised to consume a balanced diet containing essential nutrients to meet the increased demands of pregnancy. Healthcare professionals should be aware of the nutrient intake required during pregnancy and provide appropriate guidance to ensure optimal maternal and fetal outcomes [1], [22]. It is generally considered safe for lactating mothers to lose weight, as it does not have a significant impact on the amount or quality of breast milk produced. However, it is important to ensure that the mother is receiving adequate amounts of essential nutrients such as magnesium, vitamin B6, folate, calcium, and zinc. These nutrients are crucial for both the mother's health and the baby's growth and development. Inadequate intake

of these nutrients can potentially affect the mother's ability to produce enough milk and can also lead to deficiencies in the baby. Therefore, it is recommended that lactating mothers who are trying to lose weight do so under the guidance of a healthcare professional to ensure that their nutritional needs are being met [23].

Another variable in this research is economic resilience. It is measured by seven indicators including household ownership, income, income adequacy, children's educational abilities, dropout, family savings, and health insurance. Analysis result reported that household ownership and health insurance is influencing factor for exclusive breastfeeding behavior. Education level, income, and place of residence are considered to be the basics of social structure [24]. To assign household as an indicator of socioeconomic status, we considered the lower if the family did not have private property or the higher if the family-owned private property [25], [26].

Household ownership indirectly shows the economic ability of the family. Differences in social, psychological, emotional, and environmental factors contribute to the decision of whether a baby is breastfed or bottle-fed [27]. In line with this research, a study in Ethiopia also reported that ownership of the house was found to be an independent significant predicting factor for early initiation of breastfeeding. Household size and district area also determine the success of exclusive breastfeeding [28].

Besides household ownership, this study also reported that health insurance as an indicator of economic resilience significantly influenced exclusive breastfeeding behavior. Patients with private health insurance have the possibility of better exclusive breastfeeding than who do not carry private health insurance [29]. Having health insurance has a positive impact on exclusive breastfeeding behavior.

Our finding that from 72 respondents who have exclusive breastfeeding, 66 of them have health insurance. It is consistent with other research that documented an increase in both the total number of months spent breastfeeding and months exclusive breastfeeding for children with private health insurance [30]. Another meta-analysis also reported that breastfeeding-support services increased breastfeeding duration [31].

4. CONCLUSION

There is an influence of physical endurance and economic resilience on exclusive breastfeeding behavior. Physical endurance influences the behavior of exclusive breastfeeding on the indicator of food adequacy and the factor of economic resilience affects the behavior of exclusive breastfeeding on the indicators of household ownership and health insurance. By identifying the factors, we can to reduce socioeconomic problems and improve the maternal and child health outcome. One of the limitations of this research is limited research location. The research location was only carried out at a local health center. However, it is quite representative of the diverse conditions of respondents. Future research must be designed to measure other dimensions of health so exclusive breastfeeding behavior in community can be achieved.




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