

## Relationship between Nutritional Status, Sleep Patterns, and Breast Care with Exclusive Breastfeeding at the Sukajadi Banyuasin Public Health Center in 2021

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### ABSTRACT

Background: Based on data from the Ministry of Health 2020, the coverage of infants receiving exclusive breastfeeding in South Sumatra Province in 2019 was 57.79%. Based on data from the Banyuasin District Health Office in 2019, the coverage of infants receiving exclusive breastfeeding was 56.3%. Based on data from the Sukajadi Banyuasin Health Center in 2020, exclusive breastfeeding for breastfeeding mothers reached 64.6%. Nutritional status, sleep patterns, and breast care are factors that influence exclusive breastfeeding. This study aims to determine the relationship between nutritional status, sleep patterns, and maintenance of sleep patterns with exclusive breastfeeding at the Sukajadi Banyuasin Public Health Center. This research is a type of cross sectional research, namely research to study the correlation between factors by approach, observation or data collection with 30 respondents using accidental sampling technique. The independent variables used were nutritional status, sleep patterns, and breast care, while the dependent variable was exclusive breastfeeding. This study uses univariate and bivariate data analysis techniques. The results of this study obtained that the results of the Chi Square statistical test of nutritional status obtained  $p$  value = 0.026 ( $\alpha < 0.05$ ), the results of the Chi Square statistical test of sleep patterns obtained 0.030 ( $\alpha < 0.05$ ), the results of the Chi Square statistical test of breast care obtained  $p$  value = 0.022 ( $\alpha < 0.05$ ). From the results of this study, it can be concluded that there is a relationship between nutritional status, sleep patterns, and breast care with exclusive breastfeeding at Puskesmas Sukajadi Banyuasin.

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### 1. Introduction

Mother's Milk (ASI) is the only best food for babies because it contains the most complete nutritional composition and is ideal for baby's growth and development. Breast milk can meet the nutritional needs of infants for the first 6 months. The growth and development of the baby is largely determined by the amount of breast milk consumed, including the energy and other nutrients contained in the breast milk. Breast milk contains all the nutrients that babies need to survive in the first 6 months, including hormones, antibodies, immune factors to antioxidants (Maria, et al, 2020).[1].

*United Nations Childrens* (UNICEF) in Octavia & Mardiana research (2020). said that as many as 30,000 infant deaths in Indonesia and 10 million deaths of children under five in the world each year are caused by various diseases such as diarrhea and acute respiratory infections as well as malnutrition. This can be prevented by exclusive breastfeeding for six months from the date of birth without providing additional food and drink. Babies who are not exclusively breastfed are 1.8 times more likely to experience developmental disorders than normal, babies who are not exclusively breastfed are 3.1 times more likely to have growth disorders than normal and babies who are not exclusively breastfed are 3.6 times more likely to have growth and development disorders from normal (Herlina, 2018).[2].

Breast milk contains a fairly high nutritional value, breast milk also contains immune substances that will protect from various types of diseases that can inhibit baby growth. Inadequate breast milk intake puts the baby at risk for malnutrition. One of the factors that affect the quantity and quality of breast milk is the nutritional status of breastfeeding mothers. Balanced nutrition is important for breastfeeding mothers because it is closely related to milk production. Fulfillment of good nutrition will affect the nutritional status of breastfeeding mothers and the growth and development of their babies (Oktarina and Fauzia, 2019).[3].

The coverage of infants receiving exclusive breastfeeding in 2019 was 67.74%, while the coverage of infants receiving exclusive breastfeeding in South Sumatra Province in 2019 was 57.79% (Ministry of Health RI 2020). [4]. Based on data from the Banyuasin District Health Office in 2019, the coverage of infants receiving exclusive breastfeeding was 56.3%. Based on data from the Sukajadi Banyuasin Health Center in 2020, exclusive breastfeeding for breastfeeding mothers reached 64.6%. [5].

The quality of breast milk is strongly influenced by the nutrition consumed by the mother during pregnancy and the puerperium. 6% of the energy in breast milk is produced by protein, 48% by fat and 46% by carbohydrates. The main proteins in breast milk are casein (a protein found in the clotted part of milk) and whey (a protein in the liquid part of milk). If breastfeeding is successful, the baby's weight will increase, skin integrity is good, and muscle tone is guaranteed and ensures the formation of quality milk in sufficient quantities to meet the baby's needs (Syahda and Finarti, 2019) [6].

Nutritional status is closely related to the need for quality rest in breastfeeding mothers because nutrition is one of the factors that affect sleep quality. During the postpartum period, breastfeeding mothers need 6-8 hours of rest per day. The function of adequate rest is to maintain a balance both mentally and emotionally (Widayati and Sahara, 2019). [7].

Sleep is an element needed by humans in maintaining physiological and psychological balance with the aim of maintaining life and health. If a person has a sleep disorder, it can disrupt his physiological and psychological balance. Especially in postpartum mothers, it will result in a lack of breast milk supply (Famawati and Hidayah, 2019). [8].

Another factor that affects breast milk production is breast care, because breast care aims to improve blood circulation and prevent blockage of the ducts to facilitate the release of breast milk (Syahda and Finarti, 2019). [6].

Based on the above background, the researcher is interested in conducting research on the relationship between nutritional status, sleep patterns, and breast care with exclusive breastfeeding at the Sukajadi Banyuasin Public Health Center in 2021.

## 2. Method

This study uses analytical quantitative research using a cross sectional research design, the study was conducted in August 2021, the sample of this study is part of the breastfeeding mothers who have babies > 6 months at the Sukajadi Health Center, Banyuasin Regency, the number of samples in this study was 81 people.

## 3. Research and Discussion

### 3.1 Research result

#### a. Univariate Analysis

**Table 1**  
Distribution of Respondents Based on Exclusive Breastfeeding at the Puskesmas Happy to be Banyuasin in 2021

Exclusive Breastfeeding	F	%
Yes	16	53.3
Not	14	46.7
Total	30	100

Based on table 1 shows that of the 30 respondents studied there are 16 respondents who gave exclusive breastfeeding (53.3%) and those who did not give exclusive breastfeeding were 14 respondents (46.7%).

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**Table 2**  
Distribution of Respondents Based on Nutritional Status in Puskesmas  
Happy to be Banyuasin in 2021

Nutritional status	F	%
Normal	14	46.7
Abnormal	16	53.3
Tbrain	30	100

BerBased on table 2 shows that of the 30 respondents studied there were 14 respondents with normal nutritional status (46.7%) and 16 respondents (53.3%).

**Table 3**  
Distribution of Respondents Based on Sleep Patterns at the Health Center  
Happy to be Banyuasin in 2021

Sleep Pattern	F	%
Good	18	60
Bad	12	40
Tbrain	30	100

Berbased on table 3 shows that of the 30 respondents studied there were 18 respondents (60%) with good sleep patterns and 12 respondents (40%) with bad sleep patterns.

**Table 4**  
Distribution of Respondents Based on Breast Treatment at the Puskesmas  
Happy to be Banyuasin in 2021

Breast Treatment	F	%
Yes	16	53.3
Not	14	46.7
Tbrain	30	100

Based on table 4 shows that of the 30 respondents, 22 respondents (73.3%) did breast care and 8 (26.7%).

## b. Bivariate Analysis

**Table 5**  
The Relationship between Nutritional Status and Exclusive Breastfeeding at the Sukajadi Banyuasin Health Center in 2021.

No	Nutritional status	Exclusive Breastfeeding				p Value	OR		
		Yes		Not					
		N	%	n	%				
1.	Normal	11	78.6	3	21.4	14	100	8.067	
2.	Not	5	31.3	11	68.8	16	100	0.026	
	Tbrain	16	-	14	-	30	-		

Table 5 shows that of the 14 respondents with normal nutritional status who gave exclusive breastfeeding, there were 11 respondents (78.6%) while those who did not give exclusive breastfeeding were only 3 respondents (21.4%). Meanwhile, of the 16 respondents with abnormal nutritional status who gave exclusive breastfeeding, only 5 respondents (31.3%) while those who did not give exclusive breastfeeding were 11 respondents (68.8%).

The results of the Chi Square statistical test obtained P Value = 0.026 ( $\alpha < 0.05$ ), which means that there is a relationship between nutritional status and exclusive breastfeeding at the Sukajadi Banyuasin Community Health Center. From the results of the analysis obtained Odds Ratio = 8.067, which means that respondents with normal nutritional status have the opportunity to provide exclusive breastfeeding by 8.067 times compared to respondents with abnormal nutritional status.

**Table 6**

Relationship between sleep patterns and exclusive breastfeeding for breastfeeding mothers at the Sukajadi Banyuasin Health Center in 2021.

		electionihan IUD Contraception				Tbrain	p-Value	OR			
		Yes		Not							
		N	%	N	%						
1.	Good	13	72.2	5	27.8	18	100	0.030	7,800		
2.	Bad	3	25	9	75	12	100				
	Tbrain	16	-	14	-	30	-				

Table 6 shows that of the 18 respondents with good sleep patterns who provided exclusive breastfeeding, 13 (72.2%) respondents, while those who did not give exclusive breastfeeding were 5 (27.8%) respondents. Of the 12 respondents with poor sleep patterns who gave exclusive breastfeeding, 3 (25%) respondents, while those who did not give exclusive breastfeeding were 9 (75%) respondents. Of the 30 respondents with good sleep patterns who gave exclusive breastfeeding, 13 (72.2%) respondents, while bad sleep patterns gave exclusive breastfeeding, 3 (25%) respondents. The results of the Chi Square statistical test obtained p value = 0.030 ( $\alpha < 0.05$ ), which means that there is a relationship between sleep patterns and exclusive breastfeeding for breastfeeding mothers at the Sukajadi Banyuasin Community Health Center. Odds Ratio = 7.80 which means that a good sleep pattern has the opportunity to provide exclusive breastfeeding 7.80 times compared to a bad sleep pattern.

**Table 7**

The relationship between breast care and exclusive breastfeeding for breastfeeding mothers at the Sukajadi Banyuasin Health Center in 2021.

No	Breast Care	Exclusive Breastfeeding				Tbrain	p- Value	OR			
		Yes		Not							
		N	%	N	%						
1.	Yes	15	68.2	7	31.8	22	100	0.022	15,000		
2.	Not	1	12.5	7	87.5	8	100				
	Tbrain	16	-	14	-	30	-				

Table 7 shows that of the 22 breast care respondents who gave exclusive breastfeeding, 15 (68.2%) respondents while those who did not give exclusive breastfeeding were 7 (31.8%) respondents. Of the 8 respondents who did not provide breast care who gave exclusive breastfeeding, 1 (12.5%) respondents, while those who did not give exclusive breastfeeding were 7 (87.5%) respondents. Of the 30 respondents with breast care who provided exclusive breastfeeding, 15 (68.2%) respondents, while not doing breast care that provided exclusive breastfeeding, 1 (12.5%) respondents. The results of the Chi Square statistical test obtained p value = 0.022 ( $\alpha < 0.05$ ), which means that there is a relationship between nutritional status and exclusive breastfeeding of breastfeeding mothers at the Sukajadi Banyuasin Community Health Center. Odds Ratio = 15,000 which means doing breast care has the opportunity to provide exclusive breastfeeding 15,

### 3.2 Discussion

#### a. Relationship between Nutritional Status and Exclusive Breastfeeding

From the results of research conducted at Puskesmas Sukajadi Banyuasin, univariate analysis showed that of the 30 respondents studied there were 14 respondents with normal nutritional status (46.7%) and 16 respondents (53.3%).

Meanwhile, the bivariate analysis showed that of the 14 respondents with normal nutritional status who gave exclusive breastfeeding, there were 11 respondents (78.6%) while those who did not give exclusive breastfeeding were only 3 respondents (21.4%). Of the 16 respondents with abnormal nutritional status who gave exclusive breastfeeding only 5 respondents (31.3%) while those who did not give exclusive breastfeeding were 11 respondents (68.8%).

The results of the Chi Square statistical test obtained p value = 0.026 ( $\alpha < 0.05$ ), which means that there is a relationship between nutritional status and exclusive breastfeeding at the Sukajadi Banyuasin Health Center. Thus, the hypothesis that there is a relationship between nutritional status and exclusive breastfeeding is statistically proven.

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From the results of the analysis obtained Odds Ratio = 8.067, which means that respondents with normal nutritional status have the opportunity to provide exclusive breastfeeding by 8.067 times compared to respondents with abnormal nutritional status.

This study is in line with research conducted by Dignaviana, et al (2020) [9].entitled the nutritional status of mothers with exclusive breastfeeding at the Dau Malang Health Center with 40 respondents using the Fisher exact test ( $P < 0.05$ ), so that it can prove more than the mother's status at Dau Malang Health Center in the normal category and more than the award for breastfeeding mothers at the Dau Malang Health Center is given exclusively. The results of the cross tabulation obtained 20 respondents (55.6%) with the nutritional status of the mother in the normal category overall giving exclusive breastfeeding.

This research is also in line with research conducted by Manggaran, et al (2018) [10]. which entitled the relationship of knowledge, nutritional status, diet, dietary restrictions with the smooth production of breast milk in breastfeeding mothers at the Maradekaya Health Center Makassar City. The type of research used is observational observation with a cross sectional study approach. The sample of this research is nursing mothers with purposive sampling with a total of 97 breastfeeding mothers. The results obtained that the nutritional status of the mother was related to the smoothness of breast milk in breastfeeding mothers with a p value (0.024), diet was related to the smooth production of breast milk in breastfeeding mothers with a p value (0.001).

This research is in line with research conducted by Doloksaribu (2016) [11]. The title is the relationship between the level of knowledge about the diet of breastfeeding mothers and the nutritional status of mothers who breastfeed babies 0-6 months in the village of Sekip Lubuk Pakam. The research sample is mothers who breastfeed babies 0-6 months with a total of 67 respondents. The results of the nutritional status of breastfeeding mothers based on BMI with normal categories 36 (53.7%) abnormal as many as 31 (34.4%) one of the factors that influence The quality and quantity of breast milk is the nutrition of nursing mothers. The status of breastfeeding mothers reflects the nutritional condition and health of mothers during breastfeeding.

The results of this study are also in line with the theory proposed by Asih (2016) [12]. Smooth milk production is influenced by many factors such as the frequency of breastfeeding, baby's weight at birth, gestational age at birth, maternal age and parity, stress and disease. acute illness, BMI, presence of smokers, alcohol consumption, breast care, use of contraceptives, and nutritional status. Availability of breast milk smoothly in breastfeeding mothers will help the success of exclusive breastfeeding for 6 months, thus helping babies grow and develop properly according to recommendations from WHO.

This is in line with the theory according to Oktarina and Fauzia (2019) [3].who said that breast milk contains a fairly high nutritional value, breast milk also contains immune substances that will protect against various types of diseases that can inhibit the growth of babies. Inadequate breast milk intake puts the baby at risk for malnutrition. One of the factors that affect the quantity and quality of breast milk is the nutritional status of breastfeeding mothers. Balanced nutrition is important for breastfeeding mothers because it is closely related to milk production. Fulfillment of good nutrition will affect the nutritional status of breastfeeding mothers and the growth and development of their babies.

From the results of this study, researchers assumed that exclusive breastfeeding was closely related to the components in breast milk taken from the mother's body so that it had to be replaced by eating enough food for the nursing mother. Therefore, breastfeeding mothers need more nutrients than non-breastfeeding and pregnancy, but their food consumption must be varied and the amount of population appropriate.

## b. Relationship between sleep patterns and exclusive breastfeeding

From the results of research conducted at Puskesmas Sukajadi Banyuasin, univariate analysis showed that of the 30 respondents, 18 (60%) of respondents had good sleep patterns, while 12 (40%) poor sleep patterns were found.

Meanwhile, the results of bivariate analysis showed that of the 18 respondents with good sleep patterns, 13 (72.2%) respondents gave exclusive breastfeeding, while 5 (27.8%) respondents did not give exclusive breastfeeding. Of the 12 respondents with poor sleep patterns who gave exclusive breastfeeding, 3 (25%) respondents, while those who did not give exclusive breastfeeding were 9 (75%) respondents. Of the 30 respondents with good sleep patterns who gave exclusive breastfeeding, 13 (72.2%) respondents, while poor sleep patterns gave exclusive breastfeeding, 3 (25%) respondents.

The results of the Chi Square statistical test obtained p value = 0.030 ( $\alpha < 0.05$ ), which means that there is a relationship between sleep patterns and exclusive breastfeeding for breastfeeding mothers at the Sukajadi Banyuasin Community Health Center.

This is in line with the theory put forward by Fatmawati and Hidayat (2019) [7].Sleep is an element needed by humans in maintaining physiological and psychological balance with the aim of maintaining life

and health. If a person has a sleep disorder, it can disrupt his physiological and psychological balance. Especially in post partum mothers will result in a lack of milk supply.

From the results of this study, researchers assume that good sleep patterns are a human need in maintaining physiological and psychological balance. The element of a good sleep pattern is preceded by the fulfillment of good nutritional status. Nutritional status is closely related to the need for quality rest in breastfeeding mothers because nutrition is one of the factors that affect sleep quality.

#### **c. Relationship between breast care and exclusive breastfeeding for breastfeeding mothers**

From the results of research conducted at the Sukajadi Banyuasin Public Health Center, univariate analysis showed that from 30 respondents, 22 respondents (73.3%) received breast care and 8 respondents (26.7%) did not breast care.

Meanwhile, the bivariate analysis showed that of the 22 breast care respondents who gave exclusive breastfeeding, 15 (68.2%) respondents, while those who did not give exclusive breastfeeding were 7 (31.8%) respondents. Of the 8 respondents who did not do breast care who gave exclusive breastfeeding, 1 (12.5%) respondents, while those who did not give exclusive breastfeeding were 7 (87.5%) respondents. Of the 30 respondents with breast care who gave exclusive breastfeeding, 15 (68.2%) respondents, while not doing breast care who gave exclusive breastfeeding, 1 (12.5%) respondents. The results of the Chi Square statistical test obtained  $p$  value = 0.022 ( $\alpha < 0.05$ ), which means that there is a relationship between nutritional status and exclusive breastfeeding for breastfeeding mothers at the Sukajadi Banyuasin Public Health Center.

This is in line with the researchers conducted by Safitri DKK (2018) [13], entitled the relationship between breast care and the smooth production of breast milk. The number of samples involved 50 people, with the sampling technique using total sampling. Bivariate analysis using chi-square, the conclusion is in breast care with smooth production with  $p$  value = 0.001 breast milk, so it can be interpreted that someone who does breast care has 3 times the effect on smooth milk production.

This is in line with the research conducted by Tyfani DKK (2017) [14], entitled the relationship between breast care and breastfeeding in post partum mothers in the Tlighomas sub-district, Lowokwaru sub-district, Malang city. The sample was taken from all respondents as many as 30 people. breasts in the good category 22 (73%) with smooth breastfeeding classified as 28 (93%). Statistical test results with Spearman rank obtained correlation coefficient  $p$  value (0.001)  $< \alpha(0.05)$  which means that there is a relationship between the implementation of breast care and the smoothness of breastfeeding for post partum mothers, that the more mothers do breast care properly, the breast milk will run smoothly.

This is in line with the theory put forward by Aulya and Supriaten (2021) [15]. Breast care is an action that is very important to care for the breasts, especially to facilitate breastfeeding. Breast care is very important, one of which is maintaining breast hygiene, especially nipple hygiene to avoid infection, softening and improving the shape of the nipple so that the baby can suckle properly, stimulating the glands and the hormones prolactin and oxytocin to increase milk production smoothly.

From this research, the researcher assumes that breast care is an effort carried out to maintain breasts while breastfeeding. Breast milk contains all the supplements needed by babies in their growing period. There are several aspects that need to be considered in breastfeeding, including breast care to avoid problems that arise during breastfeeding, including the absence of nipples, nipple pain / blisters, blockages, swelling or abscesses.

#### **4. Conclusion**

There is a relationship between nutritional status, sleep patterns and breast care simultaneously with exclusive breastfeeding at the Sukajadi Banyuasin Health Center in 2021.

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