



# Nutritional Status and Breast Milk Production of Post Sectio Caesarea Mothers at PKU Muhammadiyah Hospital Gombong

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## ABSTRACT

The World Health Organization (WHO) reports that the coverage of breast milk exclusively in the world is only 36%. This percentage is still below the breast milk exclusive of coverage target that has been set by WHO of 50%. One of the factors that affect breast milk production is nutritional status. Determining the relationship between nutritional status and breast milk production in post-sectio Caesarea mothers at PKU Muhammadiyah Gombong Hospital. This study used an analytical survey design with a cross-sectional approach. The research sample was mothers post-sectio Caesarea primi and multipara consisted of 124. The data analysis used Spearman rank. The results showed that most of the respondents were of healthy reproductive age (87.9%), the last education was senior high sectio caesareahool (58.1%), and multipara (63.7%). There is a significant relationship between nutritional status and milk production in mothers post-sectio Caesarea, indicated by the value of  $p = 0.035 (<0.05)$ . It is recommended to do more in-depth research involving many factors that affect the production and expenditure of breast milk in post-SECTIO CAESAREA mothers.

**Keywords:** Nutritional Status; Breast Milk Production; Post-Sectio Caesarea

## 1. INTRODUCTION

The Infant Mortality Rate (IMR) in Indonesia is quite high, in 2017 as many as 24 per 1000 live births [1]. To reduce infant mortality obese following his Sustainable Development Goals (SDGs) have one of the goals to be achieved, namely the Infant Mortality Rate (IMR) target to be 12 per 1000 live births in 2030 [7]. The way that can be done to reduce infant mortality is by giving exclusive breastfeeding [5]. UNICEF and WHO recommend giving only breast milk to babies for at least 6 months, and continuing to breastfeed until the baby is two years old.

Insufficient milk production is one of the problems experienced by some postpartum mothers. Lack of breast milk production affects nutritional status and low coverage of exclusive breastfeeding because mothers will choose formula milk (sufor) for babies as a substitute for breast milk to meet the obese nutritional needs of babies which will affect breast milk production [3].

Exclusive breastfeeding that is not achieved can also affect the baby's growth and development process. Conditions, when the baby lacks breast milk, can also become dehydrated which can lead to death. In addition, a lack of breast milk can also affect the baby's immune system. Because according to APP, babies who are exclusively breastfed can reduce the risk of getting upper respiratory tract infections (ARI), pneumonia, otitis media, infections of the digestive tract, leukaemia, and acute myeloid leukaemia [12].

Exclusive breastfeeding can be hampered because of problems with milk production, including for mothers with cesarean delivery. Anaesthesia during the sectio Caesarea process in the lumbar region will inhibit the production of the hormone oxytocin. Furthermore, the hormone oxytocin affects the production of the prolactin hormone which stimulates the production of breast milk for nursing mothers [17]. The production of the prolactin hormone is inhibited, so the production of breast milk will also be inhibited in breastfeeding mothers with post-Sectio Caesarea. Meanwhile, the data on deliveries by

cesarean section in Indonesia is quite high, namely 20-25% in government hospitals and 30-80% in private hospitals of the total number of deliveries [21].

Exclusive breastfeeding can also be influenced by the nutritional status of breastfeeding mothers. Several factors affect the smooth production of breast milk, such as the frequency of breastfeeding, baby's weight at birth, gestational age, parity, and maternal age, maternal physical and psychological health conditions, early initiation of breastfeeding (IMD), exposure to cigarette smoke, breast care, family planning used and the nutritional status of the mother [2]. Breastfeeding mothers who have good nutritional status will store good nutritional reserves to be able to produce sufficient breast milk.

PKU Muhammadiyah Gombong Hospital is the only type B hospital in Kebumen Regency which is a PONEK (Comprehensive Emergency Neonatal Obstetric Service) hospital. The number of deliveries by sectio Caesarea at PKU Muhammadiyah Gombong Hospital from July to October 2020 totalled 311 cases.

This study aims to determine the relationship between nutritional status and breast milk production in post  
**Table 1** Frequency Distribution of Respondents by Age

Age	Frequency	Percentage
Not at risk (20-35 years)	109	87.9
At risk (<20 and >35 years)	15	12.1
<b>Total</b>	<b>124</b>	<b>100.0</b>

### 3.1.2. Characteristics of Respondents based on Education

**Table 2** Frequency Distribution of Respondents by Education

Education	Frequency	Percentage
Elementary <i>Sectio caesareahool</i>	5	4.0
Junior High <i>Sectio caesareahool</i>	29	23.4
Senior high <i>sectio caesareahool</i> vocational high <i>sectio caesareahool</i>	72	58.1
Diploma/bachelor	18	14.5
<b>Total</b>	<b>124</b>	<b>100.0</b>

### 3.1.3. Characteristics of Respondents based on Parity

**Table 3** Frequency Distribution of Respondents by Parity

Parity	Frequency	Percentage
Primipara	45	36.3
Multipara	79	63.7
<b>Total</b>	<b>124</b>	<b>100.0</b>

Based on the table above, the majority of respondents are in the age category not at risk (87.9%), senior high *sectio caesareahool*/vocational high *sectio caesareahool* (58.1%), and multipara (63.7%).

**Table 4** Distribution of the frequency of nutritional status and milk production in post-sectional Caesarea mothers at PKU Muhammadiyah Gombong Hospital

Variable	Mean	Median	SD. Deviation	Min-Max	95% CI
Nutritional Status	25.98	25.30	3.887	17.60 to 36.40	25.29 to 26.67

*sectio Caesarea* mothers at PKU Muhammadiyah Gombong Hospital.

## 2. METHOD

This research used an approach cross-sectional. The sampling method in this research was purposive sampling. The number of samples in this study were post *sectio Caesarea* mothers, totaling 124 respondents.

The instrument in this study was a nutritional status observation sheet using the formula Body Mass Index (BMI) and a breast milk production questionnaire. Nutritional status was categorized into less (< 18.5), normal (18.5-22.9), excess (23-24.9), obesity I (25-29.9), obesity II ( $\geq 30$ ), and obesity. Breast milk is categorized into good (7-10), sufficient (4-6), less (1-3). Data analysis using Spearman rank.

## 3. RESULT AND DISCUSSION

### 3.1. Result

#### 3.1.1. Characteristics of Respondents by Age

#### 3.1.4. Relationship between nutritional status and breast milk production in post-sectional cesarean mothers

milk production	7.3	7.5	1.934	2-10	7.0 to 7.69
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From the table above, it can be seen that the average post sectio Caesarea mother has obesity nutritional status I with a BMI of 25.98 and milk production of 7.3.

**Table 5** Relationship between Nutritional Status and Breast Milk Production in Post-Sectio Caesarea Mothers at PKU Muhammadiyah Gombong Hospital (n=124)

		Nutritional Status	of Milk Production	
Spearman's rho	Nutritional Status	Correlation Coefficient	1,000	-189
		Sig. (2-tailed)	.	.035
		N	124	124
Breastmilk Production	Breastmilk Production	Correlation Coefficient	-189	1,000
		Sig. (2-tailed)	.035	.
		N	124	124

Table 5 shows that the statistical test results obtained a significance value of Spearman's rho  $p = 0.035$  ( $<0.05$ ) so that there is a relationship between nutritional status and breast milk production in post sectio Caesarea mothers at PKU Muhammadiyah Gombong Hospital.

### 3.2. Disectio caesareaussion

The results showed that most of the post-sectio Caesarea Mothers were not at risk (20-35 years old), had senior high sectio caesareahool/vocational high sectio caesareahool, and were multiparous. The ideal age for a woman to become pregnant and give birth, especially her first pregnancy, is between the ages of 20-35 years because at that age the risk of women facing medical complications during pregnancy and childbirth is the lowest. In a healthy reproductive period (20-35 years) breast milk production is still sufficient because the function of the reproductive organs is still working optimally. Women who are more than 35 years old will experience a decrease in the function of their reproductive organs and other organs so that the risk of complications in pregnancy, childbirth, and breastfeeding is very high [14]. Mothers giving birth at a healthy reproductive age (20-35 years) are more likely to give breast milk than mothers who give birth at risky reproductive age ( $<20$  and  $>35$  years) [15].

The higher the client's education, the client's beliefs are usually supported by rational sectio caesareaintific evidence and the individual can adapt to a culture that is following his health condition. People with higher education will more easily understand the information received compared to people with lower education [19]. However, it does not mean that mothers with low education have less milk production. Breast milk production is not only influenced by education and mothers who have low education can also have more knowledge about breastfeeding. Knowledge in the modern era as it is today is not only shaped by the level of education [16].

A mother with primiparous parity will feel anxious more easily than a multiparous mother, this will affect the milk produced by the mother [13]. Mothers with primiparous parity do not have sufficient experience with breastfeeding, so they are easily anxious. This is because they have more knowledge and experience regarding the breastfeeding process so that lactation management will be carried out by mothers properly [8].

The results showed that the average nutritional status of the respondents was obese I, with a Body Mass Index (BMI) of obesity I (25.98). Postpartum mothers' weight is still affected by pregnant weight. Changes in body weight in postpartum mothers can be a problem for postpartum mothers, because during the process of pregnancy until delivery there are many physical and psychological changes, but usually, after the mother gives birth, the weight will naturally decrease if the mother compensates by giving breast milk, but obesity causes the permanent weight of some mothers during pregnancy [10]. Some respondents said they reduced physical activity during pregnancy following this because they were anxious if they did excessive physical activity during pregnancy. Physical activity is one of the factors that determine the nutritional status of pregnant women [4]. Most of the mothers said they had a bad diet because during pregnancy and childbirth the mother experienced an increase in appetite, which resulted in an increase in body weight during pregnancy and childbirth so that the majority of mothers with obesity nutritional status I. Good nutritional status is due to a balance between energy intake with energy needs [4].

The average milk production of respondents is in a good category (7.3). There is a difference between the production of breast milk in mothers with normal delivery methods and cesarean section delivery. This is because the lumbar area anesthesia for sectio Caesarea mothers will cause inhibition of the release of the hormone oxytocin. This shows that there will be a delay in breast milk production in mothers with cesarean

delivery, so it takes a longer time to spend milk production [6].

The total value of milk production and intake in infants is different for each breastfeeding period with an amount of  $\pm$  between 450-1200 ml and has an average of about 750-850 ml for each day. The production of breast milk from mothers with poor nutritional status can decrease to  $\pm$  between 100-200 ml per day. Colostrum or the first milk that comes out after giving birth has a small amount and the milk will increase continuously in a few days if the mother breastfeeds properly. The first day is 5 ml, the second day is 5-15 ml, the third day is 15-30 ml, the fourth day is 30-45 ml, and the fifth day is 45-60 ml. Furthermore, from day 5 to day 14, breast milk undergoes a transition and the volume of breast milk will increase and mature on day 15 [22]. Because the study was conducted on post sectio Caesarea mothers at PKU Muhammadiyah Hospital.

The results showed that there was a relationship between nutritional status and milk production in post sectio Caesarea mothers in Ward Rahmah PKU Muhammadiyah Gombong Hospital ( $p$ -value= 0.035). The nutritional needs of breastfeeding mothers are greater than during pregnancy. When breastfeeding mothers need extra energy to restore health conditions after giving birth, for daily activities, and the formation of breast milk [13]. Mothers who have good nutritional status will find it easier to produce breast milk properly. Manggabarani et al show in their research that breastfeeding mothers who had poor nutritional status experienced non-smooth milk production, as much as indicated by the  $p$ -value = 0.003 [9].

#### 4. CONCLUSION

The research shows there is a relationship between nutritional status and milk production in post sectio Caesarea mothers at PKU Muhammadiyah Gombong Hospital ( $p$  = 0.035).

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