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THE EFFECTIVENESS OF NECK MASSAGE IN INCREASING PUERPERAL MOTHERS' BREAST MILK QUANTITY FROM DAY ONE TO DAY THREE IN BANTUL

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ABSTRACT

Objectives: The common problem is that the mother experiences interrupted production of breast milk during day one to day three. Neck massage and pectoralis major muscles massage

muscles massage have been proven to be effective in milk production but there is yet any information explaining about which of neck massage and pectoralis major muscles massage that is more effective in increasing the quantity of breast milk. The study is to investigate the effectiveness of neck massage in increasing the number of puerperal mother's milk during day one to day three in Bantul using pre-experiment, the static group comparison design research method. The samples of the research are 27 respondents in the group of neck massage, 27 respondents in the group of pectoralis major muscles massage. **Methods:** The sampling technique used Proportionate Systematic Random Sampling. The massage was done once a day in 15 minutes for 3 days. The data were analyzed using Mann Whitney. The sampling results of this study discovered that the majority of respondents are 21-23 years old with normal nutritional status and have more than one child. **Results:** It was obtained that p-value of 0.000 ($p < 0.05$) shows that neck massage has a significant effect on increasing the quantity of puerperal mother's milk on day one to day three in Bantul. This research discovered that neck massage is more effective than pectoralis major muscles massage in increasing puerperal mother's milk from day one to day three in Bantul. **Conclusion:** After researched that neck massage is effective in increasing the quantity of puerperal mother's milk in Bantul. And neck massage is more effective than pectoralis major muscles massage in increasing puerperal mother's milk production from day one to day three in Bantul.

KEYWORDS : Knowledge; Attitude; Baby Massage.

INTRODUCTION

Breast milk is the most perfect baby food in terms of quality and quantity through proper breastfeeding management. Breast milk as a single food will be sufficient to satisfy the needs of normal infant growth until the age of six months. Breast milk given 30 minutes after birth upto 6 months without additional liquids is called exclusive breastfeeding, due to its protective factors and appropriate nutrients in breast milk that ensures nutritional status of the baby and declines infant mortality rate and illnesses [1]. According to the data of Central Bureau of Statistics (BPS) in 2013, Infant Mortality Rate (IMR) in world is 34 per 1000 live births, in developing countries the IMR is 37 per 1000 live births and in developed countries the IMR is 5 per 1000 live births. While in East Asia, the IMR is 11 per 1000 live births, in South Asia the IMR is 43 per 1000 live births, in Southeast Asia the IMR is 24 per 1000 live births and in West Asia the IMR is 21 per 1000 live births [2]. In Indonesia, the IMR in 2016 is 25.5 per 1000 live births. Sustainable Development Goals (SDGs) targeted that until 2030, the IMR will be 12 per 1000 live births. One of the main causes of infant mortality rate and illnesses in Indonesia is diarrhea and infection, whereas diarrhea and infectious diseases can be prevented by breast feeding the baby. Colostrum is the breast milk produced on the first day until the third day after the birth of the baby. Colostrum is consumed by the baby before consuming the actual breast milk. Colostrum contains white blood cells and antibodies which is higher than the actual breast milk, especially high in the level of passive A (IgA), which help encapsulate baby's tensile bowels and prevent germs from attacking the baby [3]. Based on the report of Indonesia Demographic and Health Survey (IDHS) in 2015, exclusive breastfeeding rate in Indonesia was 55.7%. A report from Yogyakarta Provincial Health Office in 2015 revealed that the rate was 71.6%. In Bantul, one of the regencies in D.I Yogyakarta, the exclusive breastfeeding rate was 74.73%, this breastfeeding coverage still has not reached the national target of 80% as expected by the government.

From the research conducted by Permana, it was discovered that one of the causes that leads to the failure of exclusive breastfeeding is due to the breast milk adequacy [4]. The common problem is that the mother experiences interrupted production of breast milk during day one to day three. In a preliminary study conducted in a Maternal and Child Health Hospital (MCHH) Ummi Khasanah Bantul and Local Public Hospital (LPH) Panembahan Senopati Bantul, it was discovered that there are 19 puerperal mothers. Fifteen

out of nineteen mothers complain about interrupted breast milk production especially on day one to day three, all the while, MCHH Ummi Khasanah Bantul and RSUD Panembahan Senopati Bantul has been applying breast care technique. Ipang Suryani conducted a research and found that neck massage and pectoralis major muscles massage have benefits for breast milk production of puerperal mothers [5]. A research conducted by Nurcahayati [6] revealed that there are benefits of massage the neck for breast milk production of puerperal mothers. From the Intarti's research results, it was also revealed that there is the effectiveness of muscles strengthening therapy of the pectoralis major and pectoralis minor in breast massage in milk production of the puerperal mothers [7]. Neck massage and pectoralis major muscles massage have been proven to be effective in milk production but there is yet any information explaining about which massages is more effective in increasing the quantity of breast milk. Theoretically speaking, neck massage is more effective in breast milk production [8]. Based on the above phenomenon, we are interested to do a research entitled "the effectiveness of neck massage in increasing puerperal mothers' breast milk quantity on day one to day three in Bantul". Thus, the research results can be analyzed and made as a reference in which neck massage is more effective than pectoralis major muscles massage in increasing the quantity of puerperal mothers' milk from day one to day three so that the production of mother's breast milk is uninterrupted and the baby receives exclusive breastfeeding.

Methods

Tools and materials

The data were collected using SOP neck massage and SOP pectoralis major muscles massage, breast pump and syringe (1 cc, 3 cc, 5 cc).

Research Procedures

This research is a quantitative type research using pre-experimental method with static group comparison design [9]. The respondents consist of two groups divided into experimental group (the respondents are given neck massage for 15 minutes) and comparison group (the respondents are given pectoralis major muscles massage for 15 minutes). The study was conducted at two hospitals, namely Maternal and Child Health Hospital Ummi Khasanah Bantul and Local Public Hospital Panembahan Senopati Bantul from December 2017 to February 2018. The study was conducted for three days and each of the respondents was given massage one time for the duration of 15 minutes. On a monthly average, the population of puerperal mothers at MCHH Ummi Glossary Bantul is 25 persons after

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6	11.10%	9
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Nutritional status	Thin	9	16.70%
Normal	16	29.60%	15
Fat	2	3.80%	3
Parity	Primipara	16	29.60%
Multipara	11	20.40%	20

The majority of respondents with healthy reproduction is on the experiment group as many as 21 (38.5%) respondents while the comparison group is 18 (33.3%) respondents. In terms of nutritional status, the majority of each group with normal nutritional status is the experiment groups as many as 16 (29.6%) respondents and the comparison group is as many as

with 15 (27.8%) respondents. Based on parity of experimental group primipara majority is as many as 16(29.6%) respondents and in comparison group, multipara majority is as many as 20(37%) respondents

group is 1.317, the quantity of breast milk on day two is 10,79537, the quantity of breast milk on day three is 28.719. Mean or an average value of the quantity of breast milk on day one after pectoralis major muscles massage is given is 0.481, the quantity of breast milk on day two is 0.6111 and the quantity of breast milk on day three is 2.081. The standard deviation on the experimental group namely, the quantity of breast milk on day one is 0.05798, the quantity of breast milk on day two is 0,51986 and the quantity of breast milk on day three is 1.3223.

Table 2 Normality test results.

Variables	Mean	SD	P-value
The quantity of breast milk day 1	0.4519*	1	0
The quantity of breast milk day 2	3.7731	8.2151	0
The quantity of breast milk day 3	16.3017	24.72	0

*Kolmogorov-Smirnov Test. 0.05 level of significant.

Normality test results using Kolmogorov-Smirnov, it was obtained that the quantity of breast milk day 1 is p-value=0,000 <sig 0.05, the quantity of breast milk day 2 is p-value=0,000 <sig 0.05, the quantity of breast milk day 3 is p-value=0,000 <sig 0.05, thus it can be concluded the data are not normally distributed.

Table 4 The difference between experimental group and comparison group.

Group	Average breast milk quantity	P-value
Experimental	27	39.44
Comparison	27	15.56

*Mann Whitney test. 0.05 level of significant.

The analysis results in this research is p-value= 0<sig 0.05, which means that there is a significant difference between neck massage and pectoralis major muscles massage. It is concluded that neck massage is more effective than pectoralis major muscles massage in increasing breast milk production of puerperal mothers from day one to day three.

Table 3 Average breast milk quantity on experimental group and comparison group in Bantul.

Group	N	The quantity of breast milk day	The quantity of breast milk day 2	The quantity of breast milk day 3
Mean	SD	Mean	SD	Mean
Neck massage neck	27	0.856	1.317	6.9352
Pectoralis major muscles massage	27	0.481	0.05798	0.6111

The quantity of breast milk production on day one after neck massage is given is 0.856, the quantity of breast milk on day two is 6.9352 and the quantity of breast milk on day three is 30,5259. The Standard deviation for the quantity of breast milk on day one by the experimental

Table 5 Bivariate analysis of confounding variable.

Confounding Variable	Average breast milk quantity	P-value
Mean	Std	
Age		
Healthy reproduction	27.92	0.452
The reproduction of the elders	26.4	
Nutritional status		
Thin	28.5	
Normal	26.81	0.612
Fat	28.2	
Parity		

Primipara	27.26	0.499
Multipara	27.68	
*0.25 level of significant. It was obtained that the age variable has p-value 0.71 > sig 0.25, nutritional status variable has p-value 0.955 > sig 0.25 parity variable has p-value 0.911 > sig 0.25. Therefrom, it can be concluded that the variables of age, nutritional status and parity did not confound with increasing the quantity of puerperal mother's milk from day one to day three in Bantul.		

CONCLUSION

After conducting a research entitled "The Effect of neck massage on increasing the quantity of puerperal mother's milk from day one to day three in Bantul", based on the analysis, it is concluded that neck massage is effective in increasing the quantity of puerperal mother's milk in Bantul. And neck massage is more effective than pectoralis major muscles massage in increasing puerperal mother's milk production from day one to day three in Bantul.

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