

The Effect Of Nesting On The Behavior Of Low Birth Weight Babies At Medi Medika Clinic, Tangerang Regency Year 2022

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Abstract.

Low birth weight babies (LBW) are babies with a birth weight of less than 2500 grams regardless of gestational age. Birth weight is the weight of a baby who is weighed within 1 (one) hour after birth (Amin & Hardhi, 2016). LBW can occur because the gestational age is less than normal, namely 37 weeks and the baby's weight is lower than babies in general (Ministry of Health, 2018). To determine the effect of nesting on the behavior of low birth weight newborns at the Medi Medika Clinic, Tangerang Regency. Using quasi experimental design with one group pretest posttest involving one group of subjects. The research sample was 30 low birth weight newborns who were treated at the Medi Medika Clinic in Tangerang Regency and were selected by purposive sampling technique. Research data were analyzed using paired t-test and Wilcoxon test. The results of the analysis showed that there was a significant effect of the use of nesting on the behavior of low birth weight newborns ($p = 0.000$). The use of nesting as a form of developmental care can facilitate the achievement of better rest (which is characterized by the regularity of physiological functions and the achievement of quiet sleep behavior), so it needs to be implemented in the care of low birth weight newborns at the Medi Medika Clinic, Tangerang Regency. There is a significant effect of the use of nesting on the behavior of low birth weight newborns. Pregnant women are advised to seek more information regarding pregnancy care through health workers, especially midwives, posyandu officers, the mass media and others, so they can recognize the low risk of newborns.

Keywords: Nesting, Infant Behavior and Low Newborns.

I. INTRODUCTION

An integral part of national development is health development, this is in accordance with law no. 36 of 2009 on Health. Health is defined as a state of health, whether physically, mentally, spiritually or socially and allows everyone to live a socially and economically productive life. Raising awareness, the willingness to live a healthy life for the community to improve public health which is as large as possible is the goal of national development. The Healthy Indonesia Program with a family approach (PISPK), stunting control and non-communicable diseases and immunization, is a health development program 2020 - 2024 (Dep.Kes.RI, 2019). Meanwhile, according to the World Health Organization (WHO), it is agreed that the degree of health is a fundamental right for every individual by not distinguishing which class, religion, descent, politics comes from and economic and social differences. In health development, it has a truth value or a basic rule that is the foundation for thinking and acting in building health to achieve and advance the performance of the health department, and this has been stipulated in the Vision and Mission of the Ministry of Health's Strategic Plan for 2020 – 2024.2 Based on data, the prevalence of low newborns for newborn deaths is estimated to be 15% of the 1000 births in the world with an average of 3.3% to 38% and often occurs in developing countries and countries with low socio-economics. This data is an indicator to determine the degree of public health, namely the infant mortality rate (AKB). In developing countries, it shows 90% premature incidence statistics and 35 times higher mortality rates compared to the birth rate of babies with a birth weight of more than 2500 grams.

This figure includes the main factors of LBW in increasing mortality, morbidity and disability of neonates, infants and children is also a long-term impact on life in the future (WHO, 2016). Based on data from the Ministry of Health of the Republic of Indonesia in 2012, the incidence of LBW ranges from 9% to 30% of the 1000 newborn birth rates. A special room for LBW baby care is needed for the state of immaturity of the baby's organ systems and also the state of the LBW baby is faced with different environmental conditions between intrauterine and extrauterine conditions (Holly and Patrick, 2012). Because the unbalanced difference between intrauterine and extra uterine causes the baby to work harder to adapt to those environmental differences. Developmental care is one way to change the environment to reduce stress in LBW babies as a

result of an excessive nursing environment, namely by implementing LBW baby developmental care. Developmental care has a positive impact so nurses need to play an active role in the application of this developmental care to newborns, especially babies with LBW in health facilities.

The purpose of providing this care is to provide supportive nursing care so that the positive influence on growth and development and improvement of the health status of LBW babies will be better. In Banten province, the incidence of LBW numbers occurred as much as 9.7% to 10% and was ranked 15th in Indonesia and in Tangerang Regency the LBW death rate of 138 cases in 2019 decreased by 120 cases in 2018. Low birth weight babies are babies with a birth weight of less than 2500 grams regardless of gestational age, either premature or enough months (WHO, 2017 in the Ministry of Health, 2019). The first study conducted to obtain preliminary data on low birth weight babies (LBW) based on data on patient visits with LBW at the Medi Medika Clinic, Tangerang Regency in 2019 was 20 babies (14.28%) from 140 newborns, an increase in 2020 of 25 babies (11.28%) from 222 newborns and in 2021 of 19 babies (8.83%) from 215 newborns. Conditions like this if left unchecked will result in the growth and development of LBW babies will be disturbed and there is no specific research on this so the author is interested in conducting a study on "The effect of nesting on the behavior of low birth weight babies at the Medi Medika Clinic, Tangerang Regency".

II. METHODS

The research design used in this study was quasi-experimental. The research plan that will be used is the One Group Pretest Posttest. The target population in this study was LBW both treated and visited at the Medi Medika Clinic, Tangerang Regency, while the affordable population in this study was the entire LBW, with the number of LBWs treated and those who visited as many as 30 respondents at the Medi Medika Clinic, Tangerang Regency. The data collection tool is a respondent observation sheet with content related to LBW behavior. Filling out the observation sheet is carried out at the time before and after nesting use. Behavioral scores of low birth weight babies before and after nesting use. In this study, bivariate analysis was used to analyze the effect of nesting use on LBW perilaku. The data analysis technique used to test the hypothesis is the Wilcoxon test with a value obtained p value $(0.000) < \alpha (0.05)$ then H_0 rejected.

III. RESEARCH RESULTS

A. Univariate Results

Table 5.1. Distribution of the frequency of behavior of low birth weight babies before nesting use at the Medi Medika Clinic Tangerang Banten in 2022

LBW behavior	Frequency	Percentage
1. Good (score 1-2)	0	0
2. Not Good (score 3-12)	30	100
Total	30	100,0

Based on table 5.1, it is known that out of 30 respondents, the frequency distribution score for the LBW perilaku value before nesting use was mostly bad LBW behavior, namely 30 respondents (100%).

Table 5.2. Distribution of the frequency of behavior of low birth weight babies after nesting use at the Medi Medika Clinic Tangerang Banten in 2022

LBW behavior	Frequency	Percentage
1. Good (score 1-2)	17	56,7
2. Not Good (score 3-12)	13	43,3
Total	30	100,0

Based on table 5.2, it is known that out of 30 respondents, the frequency distribution score for the LBW perilaku value after nesting use was mostly good LBW behavior, namely 17 respondents (56.7 %). As for the frequency distribution score for the LBW perilaku value after nesting use, LBW behavior was not good at 13 respondents (43.3 %).

B. Bivariate Results

Table 5.3. Normality Results of nesting use on the behavior of low birth weight babies before and after nesting use at the Medi Medika Clinic, Tangerang Banten Regency in 2022

Variable	Shapiro Wilk Test			Conclusion
	Statistics	Df	Pvalue	
Before Nesting	.372	30	.000	Abnormally distributed data
After Nesting	.632	30	.000	Abnormally distributed data

With alpha 5% it can be concluded that the data is abnormally distributed. Because the data is abnormally distributed, bivariate testing uses the Wilcoxon test.

Table 5.4. Differences in LBW baby behavior before and after nesting at Medi Medika Tangerang Clinic in 2022

Perilaku Prematur	n	Mean	Negative ranks	Postive ranks	Ties	Z hitung	P Value
Pre Tes	30	15	30	0		-4.879	0,000
Post Test	30	0			0	0	

1. From the results of the analysis, it was found that the Negative Ranks or the difference (negative) between LBW behavior before nesting and after nesting is 0, both the value of N, Mean Rang and sum rank shows that there is no decrease from the value before nesting and after nesting.
2. Positive Rank or the difference (positive) between LBW behavior for before nesting and after nesting there are 30 positive data (N) which means that 30 frequency of LBW baby behavior has increased from the value before nesting to the value after nesting. The mean rank of the average increase was 23 while the number of positive rankings was 1035.
3. Ties is the similarity of values before nesting and after nesting where the value of LBW baby behavioral ties is 0, so it can be said that there is no equal value between before nesting and after nesting.

The wilcoxon test results obtained p value (0.000) $< \alpha$ (0.05) then H_0 was rejected, meaning that there was an effect of nesting use on the behavior of LBW babies at the Medi Medika Clinic, Tangerang Regency in 2022.

Discussion

A. Univariate Analysis

1. Behavior of Low Birth Weight Babies Before Nesting Use at Medi Medika Clinic Tangerang Banten in 2022.

Based on table 5.1, it is known that out of 30 respondents, the frequency distribution score for the LBW perilaku value before nesting use was mostly bad LBW behavior, namely 30 respondents (100%). This is in accordance with the opinion of Bradford (2015) that the gestation period needs to be known to know the relationship between the adaptation of the baby and the function of the organs in the LBW baby, so that the problems faced can be found solutions so that the baby's abilities can be adjusted so that LBW behavior becomes good gradually. Meanwhile, according to Dini Zen (2017), the average behavior score during the non-nesting phase was at an average score of 6 (not good) from the number of 23 respondents where the average behavior of babies in the non-nesting phase was 6.22 with a standard deviation of 2.92.

This is in accordance with Levine's nursing theory in Energy Conservation that the principle of care for LBW babies includes supporting the process of growth and development of babies. With the state of immaturity of the LBW baby's organs, the LBW baby needs a lot of energy to optimize its developmental tasks. The position of the baby affects the amount of energy expended by the body. The best position for premature babies is to do a flexion position because it will reduce metabolism in the body, one of which is the use of the nesting method. According to Bobak (2015), said that the frequency of the baby's pulse is different when sleeping calmly and awake so that it will affect the baby's behavior, especially in LBW. Meanwhile, LBW babies who have a poor state of organ system immaturity will cause bad baby behavior, so it is necessary to manage the care environment in the development of care.

2. Frequency of Behavior of Low Birth Weight Babies After Nesting Use at Medi Medika Clinic Tangerang Banten in 2022.

Based on table 5.2, it is known that out of 30 respondents, the frequency distribution score for the LBW periaku value after nesting use was mostly good LBW behavior, namely 17 respondents (56.7 %). As for the frequency distribution score for the LBW periaku value after nesting use, LBW behavior was not good at 13 respondents (43.3 %). This is in accordance with research conducted by Linceamalia (2018), the results of the analysis show that in the non-nesting phase 50% of babies are above the score of 6 (the phase of waking up and crying) and another 50% are below the score of 6. While in the nesting phase 50% of premature babies are at a behavioral score of 2 (quiet sleep) and another 50% are below a score of 2. The smaller the behavioral score shows the better the quality of sleep for premature babies.

Meanwhile, a behavioral score above 4 indicates that the baby is in a waking condition, where in this waking condition oxygen consumption in premature babies will be higher (Ludington, 2019). In a baby, this calm sleep condition is indispensable, where in this condition the baby will be facilitated to optimize the growth and development process. Because with a decrease in feriferous vascular tone, arterial blood pressure, pulse frequency and muscles that experience a state of complete rest during this quiet sleep will make the baby use the existing energy for its growth and development so that the baby's behavior becomes good (Guyton, 1995; Wong et al, 2016). With reduced motor activity is an indication that the baby is in a state of rest and the occurrence of energy conservation processes. With the condition of the baby in a state of calm sleep this implies that the baby is in a relaxed state and minimal motor activities with the help of the nesting. This is in accordance with research conducted by Ferrari et all (2017) that lying in nesting has a great effect on spontaneous motor behavior.

B. Bivariate Analysis

The Effect of Low Birth Weight Baby Behavior Before and After Nesting Administration at Medi Medika Clinic, Tangerang Regency in 2022.

Based on the results of research conducted on the effect of nesting use on the behavior of low birth weight babies at the Medi Medika Clinic, Tangerang Banten Regency in 2022. The results of the study found that the Negative Ranks or the difference (negative) between LBW behavior before nesting and after nesting was 0, both the value of N, Mean Rang and sum rank showed that there was no decrease from the value before nesting and after nesting. Meanwhile, the difference (positive) between LBW behavior for before nesting and after nesting there are 45 positive data (N), which means that 45 frequency of LBW baby behavior has increased from pre-test values to post-test values. The mean rank of the average increase was 23 while the number of positive rankings was 1035. The result of Ties is the similarity of values before nesting and after nesting where the value of LBW baby behavioral ties is 0, so it can be said that there is no equal value between before nesting and after nesting. Likewise, wilcoxon test results obtained p value (0.000) $< \alpha$ (0.05) then H_0 was rejected, meaning that there is an effect of nesting use on the behavior of LBW babies at the Medi Medika Clinic, Tangerang Regency in 2022. Based on the results of research by Miftakhur rohmah (2020) on the Effectiveness Of Use Of Nesting On Body Weight, Oxygen Saturation Stability, And Breath Frequency In Prematures In Nicu Room Gambiran Hospital Kediri City, that the use of nesting in LBW babies is effective in stabilizing weight, oxygen saturation, breathing frequency of LBW babies. with the results of studies in both groups of $p < \alpha$ (0.05), then H_0 is rejected and H_1 is accepted. This is in accordance with the research with the results of the analysis found that the average LBW breathing frequency score has increased from the value before nesting to the value after nesting. The mean rank of the average increase is 7.80 times/minute while the number of positive rankings is 39 times/minute.

The pulse frequency of LBW has increased from the value before nesting to the value after nesting. The mean rank of the average increase is 7.86 times/minute while the number of positive rankings is 55 times/minute. The saturation frequency of LBW has increased from the value before nesting to the value after nesting. The mean rank of the average increase was 21.50% and the number of positive rankings was 903%. Meanwhile, the frequency of LBW behavior has increased from the pre-test value to the post-test value. The mean rank of the average increase was 23 while the number of positive rankings was 1035. This research has shown that for some babies, a good position can help the baby's development, including posi-

tioning can protect the baby's skin, improve sleep quality, help the baby stabilize heart rate and breathing, save energy, help the baby in learning to coordinate hand-to-mouth movements, help the baby feel safer and encourage the baby to relax (BLISS, 2016). This nesting is oval and made of fabric (can use a blanket roll) and is placed in an incubator (Ferrari et al, 2017). Wilcoxon test results obtained p value (0.000) $< \alpha$ (0.05) then H_0 was rejected, meaning that there is an influence of nesting use on the physiology and behavior of LBW at the Medi Medika Clinic, Tangerang Regency in 2022. In accordance with Dini's research (2017) which states the effect of nesting on LBW behavior shows that in physiological function frequency, namely breath. From the results studied, the average value shows that the frequency of breathing during non-nesting has increased before the nesting phase is carried out. In addition, Nanang's opinion (2018) said that there is an influence on the use of nesting. In the city of Cirebon, there are changes in body temperature and oxygen saturation as well as pulse frequency in low birth weight babies.

IV. CONCLUSION

Based on the discussion of the results of research on the effect of nesting on the behavior of LBW babies at the Medi Medika Clinic, Tangerang Regency in 2022, it can be concluded that LBW behavior before using nesting is still high, namely 100% of the total 30 respondents, namely bad LBW behavior (score 3-12). Meanwhile, after nesting use, most of LBW's behavior was good, namely 17 respondents (56.7 %). As for the frequency distribution score for the LBW periaku value after nesting use, LBW behavior was not good at 13 respondents (43.3 %). Niai P value (0.000) $< \alpha$ (0.05) means that there is an influence of nesting use on LBW changes at the Medi Medika Clinic, Tangerang Regency in 2022.

V. SUGGESTION

1. For Pregnant Women

It is recommended to find more information about pregnancy care through health workers, especially midwives, posyandu officers, mass media and others, so that they can recognize the risks of pregnancy, especially LBW and visit midwives or doctors as early as possible to get antenatal care.

2. For Educational Institutions

The results of this study are expected to be used as evidence base practice and include it in the sub-subject matter of perinatalogical nursing, especially material about LBW about the effect of nesting use on LBW behavior.

3. For the Nursing Profession

For trained nurses, to continue the use of nesting in the room so that the recovery and stability of LBW behavior can be carried out appropriately and quickly.

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