

## Counseling on The Use of Nesting For Low Birth Weight (LBW) Babies in The Perinatology Room of Banten Province Hospital

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### ABSTRACT

Introduction Birth weight is the weight of a baby one hour after birth. Normal birth weight is between 2500-4000 grams, while babies with birth weight <2500 are said to be low birth weight (LBW). Babies born with low birth weight are generally less able to absorb new environmental pressures, which can result in stunted growth and development, and can interfere with their survival. Treatment that can be given to low birth weight (LBW) babies is with non-pharmacological therapy, which consists of baby massage, music therapy, kangaroo method care, and nesting. Nesting is a tool that has a shape similar to the mother's womb, which is used as a treatment to reduce LBW. According to the World Health Organization (WHO), 5-10% of babies in Indonesia experience LBW, in addition, according to the Indonesian Ministry of Health, LBW is one of the causes of increasing infant mortality rates, namely 35.5% of neonatal deaths in Indonesia. In 2023, there were 14.95% of babies in Banten Province who had low birth weight (LBW) babies. The purpose of this activity is to provide knowledge to parents of babies regarding the benefits of using nesting for low birth weight (LBW) babies. The activity was carried out at the Banten Regional General Hospital in the Perinatology room, which was attended by mothers as parents of LBW baby patients. The method of the activity carried out was by providing questions about the benefits of nesting at the beginning and end of the activity, providing counseling materials related to the benefits of nesting for LBW, and also demonstrating activities on how to make nesting in a simple way that can be done at home. The activity took place for one day in June 2024. The results of this activity were that the families of LBW patients understood that LBW can be controlled through the nesting method, families can demonstrate nesting independently, and also increase family knowledge regarding the benefits of nesting. So it can be concluded from this counseling activity, namely the nesting method can provide good sleep quality for LBW.

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## INTRODUCTION

Infants are children aged 0-12 months, infancy is the golden age as well as the critical period of a child's development, it is said to be the golden age because the baby is very short and cannot be repeated (Anggraini et al, 2018). The infant mortality rate (IMR) is an indicator commonly used to determine the degree of public health, both at the provincial and national levels. The main cause of infant mortality is low birth weight . Birth weight is the weight of the baby when weighed within 1 (one) hour after birth.

The determinant of birth weight in newborns is the nutritional status of the fetus. The nutritional status of the fetus is determined, among others, by the nutritional status of the mother at the time of conception (Ministry of Health of the Republic of Indonesia., 2021). The normal birth weight of a baby is between 2500-4000 grams, while a Low Birth Weight Baby (LBW) is a newborn baby with a body weight <2500 regardless of gestational age measured 1-24 hours after birth. Babies with low birth weight are generally unable to absorb new environmental pressures, which can have an impact on stunted growth and development, and can disrupt their survival (Hartiningrum & Fitriyah, 2019).

The World Health Organization (WHO) states that low birth weight causes 60-80% of infant deaths with a 20-fold increased risk of death. The prevalence of LBW in Indonesia according to WHO ranges from 5-10% (UNICEF, 2019). LBW is the main cause of the National Mortality Rate (AKN) in 2019 and causes 35.5% of neonatal deaths in Indonesia (Ministry of Health of the Republic of Indonesia, 2020). The Neonatal Mortality Rate in Indonesia is relatively high, namely 15/1000 live births and has not met the 2030 Sustainable Development Targets (TPB/SDGs) of 12/1000 live births.

The World Health Organization (WHO) estimates that 15% to 20% of all global births are classified as Low Birth Weight (LBW), totaling over 20 million each year. It is known that in 2019, LBW conditions accounted for 14.9% of all births worldwide. Then this data decreased to 13% in 2020 and then to 12.7% in 2021, which means a decrease of 1.9% to 2.2% (WHO, 2019). Statistical data shows that 98.5% of LBW cases occur in developing countries. This finding highlights that indirectly LBW is the main indicator of infant mortality in Indonesia. According to the data, the percentage of low birth weight newborns (LBW) in Banten province in 2023 was 14.95%, meaning that out of 100 babies born, 15 babies had low birth weight (LBW), and according to data from Banten Regional Hospital in 2024, from January to June, there were 122 births of Low Birth Weight (LBW) babies.

Factors that can affect birth weight include internal environmental factors, namely maternal age, birth spacing, parity, hemoglobin levels, nutritional status of pregnant women, pregnancy check-ups, and illnesses during pregnancy, external environmental factors include environmental conditions, nutrient intake and socio-economic level of pregnant women and factors of use of health facilities related to the frequency of pregnancy check-ups or Antenatal Care (Komarudin et al., 2020).

Low Birth Weight has long-term impacts on their lives because it is related to neurological disorders so that children will experience growth and development disorders (Manuaba, et.al, 2018). The long-term impacts or problems that occur in low birth weight babies are psychological problems such as growth disorders. Low Birth Weight Babies have a higher susceptibility to infectious diseases, such as diarrhea and respiratory tract infections and an increased risk of complications, such as anemia, chronic lung disorders, fatigue, and loss of appetite compared to children with normal birth weight, resulting in suboptimal or disturbed physical growth (Proverawati, 2018).

Many intervention efforts can be made to reduce the impact of Low Birth Weight (LBW) such as baby massage, music therapy, kangaroo method care and *nesting* (Sarinengsih & Dirgahayu, 2021). *Nesting* is one method in an effort to maintain position so that it can save energy and minimize weight loss in babies (Mony et al., 2018).

*Nesting* is a tool used in the Neonatal Intensive Care Unit (NICU) or Perinatology room made of phlanyl material that has a length of about 121-132 cm and can be adjusted depending on the body length of the baby given to BBLR. *Nesting* makes the baby feel comfortable like in the womb by limiting space, minimizing movement and reducing jittery or surprise in the baby. According to Shalini (2018) stated that the use of *nesting* provides a sense of security, facilitates the baby's sleep more satisfied, can save energy, and maintain weight.

Providing *nesting* for LBW babies can provide calming support so that the baby expends less energy and can reduce the risk of high energy expenditure (Nursing & Amelia, 2017), providing a sleeping position support for the baby so that the baby remains in a flexed position with the aim of preventing rapid changes in position in the baby's body (Bayuningsih, 2011) in its implementation it is easy to use with tools that are already available in the baby care room. (Noor et al., 2016)

Based on the description above, it can be seen that knowledge is one of the important things in providing care for LBW, so sufficient knowledge is needed. Especially this knowledge is needed by families of patients treated in the perinatology room at the Banten Provincial Hospital who do not fully understand the *nesting method* for LBW. Therefore, we as the authors are interested in conducting counseling activities related to the benefits of using *nesting* for LBW. Counseling is one way that can be done to increase knowledge. By conducting counseling, it is expected to increase knowledge, influence attitudes, and have a good influence on the ability of mothers or families to provide care for LBW.

## METHOD

The implementation methods for this community service are as follows:

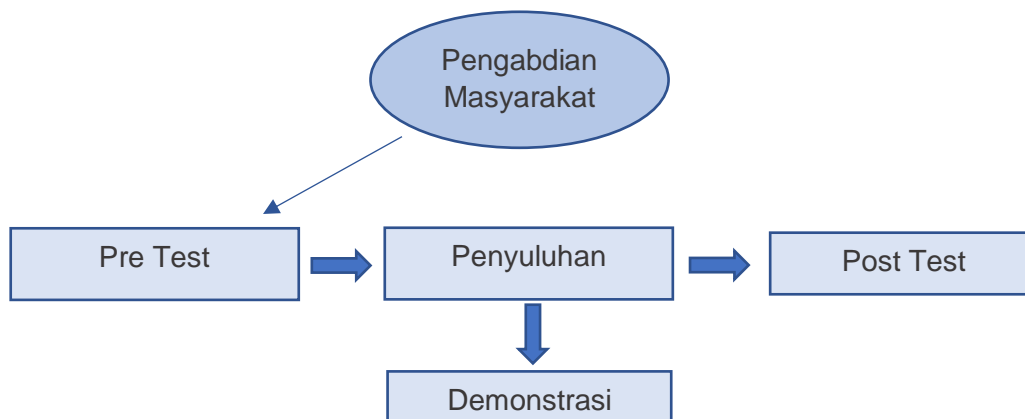


FIGURE 1. Implementation methods

service aims to improve the knowledge of mothers or families of LBW patients. This is done as an effort to improve the ability of families to know the benefits of *nesting* for low birth weight (LBW) babies, the method used in the series of stages is by providing counseling, with mothers who have low birth weight babies as the main target in this counseling. This activity is given to one of the family members (especially the patient's mother) as many as 10 people.

The stages of activities in this counseling are, consisting of the pre-test stage by filling in several questions that have been provided regarding the material to be given, at this stage it is done to see the extent of knowledge related to the use of *nesting* in LBW babies at Banten Regional Hospital. The next stage of activity is to conduct counseling on the use of *nesting*, at this stage material related to the benefits of *nesting will be provided*, and how to do or demonstrate related *nesting*. At the counseling stage, all participants will be given leaflets to be read by the patient's family, the implementation of this activity can also provide benefits for supplies at home by being carried out independently by the patient's family who

have been educated. The evaluation activity stage is carried out to determine the extent of understanding and knowledge from the results of the provision of material, by asking questions again related to *nesting* that has been delivered.

## RESULTS AND DISCUSSION

This Community Service Activity was carried out for 1 day on June 24, 2024 which was carried out in the Perinatology Room of the Banten Provincial Hospital with a duration of implementation for  $\pm$  1 hour, starting at 10.00 WIB to 11.00 WIB with 10 participants. During the implementation of the activity, the patient's family was provided with educational material about the benefits of the *nesting method* for increasing body weight in low birth weight babies (LBW), as well as direct *nesting demonstrations*, and the provision of leaflet media to be read by the patient's family, the implementation of this activity can also provide benefits for supplies at home by being carried out independently by the family, especially the mother of the patient who has been educated about BBLR.

Based on the results of community service activities through education about the effect of *nesting methods* on low birth weight for patient mothers, in the Perinatology Room of Banten Provincial Hospital, it shows that education can increase the knowledge of each patient's mother about how *nesting affects* controlling low birth weight. This is illustrated by the results of the evaluation by measuring the level of knowledge of respondents or patient mothers through a question and answer method at the beginning before education was given and at the end of the activity after education was given. The following are some questions given before and after counseling on the benefits of *nesting* are attached in table 1 below.

TABLE 1. Pre test and Post Test

PRE TEST USING NESTING	POST TEST USING NESTING
What is meant by nesting? A. Sleeping pillow B. Baby bed C. Baby bed like a bird's nest	What is meant by nesting? A. Sleeping pillow B. Baby bed C. Baby bed like a bird's nest
The purpose of using nesting for babies is: A. To minimize baby movement, provide comfort, minimize stress. B. So that the baby grows quickly C. baby becomes warm	The purpose of using nesting for babies is: A. To minimize baby movement, provide comfort, minimize stress. B. So that the baby grows quickly C. Baby becomes warm
The benefits of using nesting are: A. Promotes neonatal development B. Can adjust the position of the neonate C. All is correct	The benefits of using nesting are: A. Promotes neonatal development B. Can adjust the position of the neonate C. All is correct
Who can make nesting? A. Nurse B. Baby's parents C. All is correct	Who can make nesting? A. Nurse B. Baby's parents C. All is correct
At what age is nesting used in babies? A. 0-28 days B. 1-2 months C. 3-4 months	At what age is nesting used in babies? A. 0-28 days B. 1-2 months C. 3-4 months



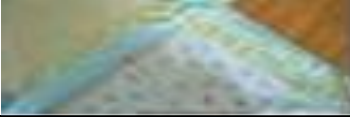


The question and answer method was used to determine the success of the counseling activity by asking questions to the patient's mother before and after being given education. From the results of the implementation of the activity, it was found that the level of participation of the patient's mother for this activity was quite good. This can be seen before the activity, the mother showed that there were several mothers who lacked knowledge regarding the benefits of *nesting* in LBW patients, when given questions, some of the patient's mothers were still confused about *nesting*, but some of them were able to answer.

Meanwhile, after being given counseling and demonstrations related to *nesting*, an increase in knowledge was seen. The mother of the patient with LBW was able to answer the questions given again and was able to demonstrate *nesting* independently. So from the results of the post-test, it can be seen that this counseling activity was successful, because all mothers who participated in this activity were able to understand and carry out the *nesting method*.

Counseling is carried out with the hope of providing new information and new knowledge related to the benefits of *nesting* for LBW. Babies born with low birth weight need to be given further care, this is done with the aim of maintaining body posture and improving motoric and physiological functions of the baby. The *nesting method* provides many benefits for LBW including facilitating neonates, facilitating hand-to-hand and hand-to-mouth position patterns in neonates so that the flexion position is maintained, minimizing disabilities caused by improper positions, preventing complications caused by the influence of changes in position due to gravity, as well as a way to encourage normal development in LBW neonates.

According to Rohmah (2020), the *nesting method* was chosen because it can help maintain the energy expended by the baby, so that the growth and development process becomes more optimal. The use of the *nesting method* is carried out because this method is considered to be able to provide a significant influence on various physiological parameters that can increase body weight in LBW. The *nesting method* was also chosen because it can be easily practiced by mothers with media that is also easy to obtain and safe for babies. The following in table 2 below are the stages of how to make *nesting*.

TABLE 2. Stages of Nesting Making

Stages	Picture
Prepare the swaddle to be used	
Combine 3 layers of swaddling into 1	
Fold the corner of the swaddle together with the other folds to form a triangle.	
Fold the swaddle to form a long roll and join the two ends of the swaddle to form a circle.	
Place the roll on the blanket then place the baby in the circle/ nest	

Babies with lower birth weight really need to receive treatment because babies with low birth weight need a fairly long adaptation process, where this process occurs because the baby does not have enough fatty tissue in the subcutaneous area, fatty tissue in the subcutaneous area needs to be very thick so that the baby is protected and not easily experience hypothermia ( Hotmayda et al., 2019).

The application of *nesting* carried out on LBW can provide sufficient rest time, because the baby feels comfortable when in *the nest*, the baby feels the same atmosphere as in the mother's womb, with a flexed position. The use of the *nesting method* provides a significant increase in body weight. This is in line with previous research conducted by Rohman et al., 2020 which explains that there is an effect of weight gain before and after being given the *nesting method*. Weight gain will increase by 15-20 grams/day in early life which occurs in full-term babies or premature babies (Mohrbacher, N. & Stock, 2010).

*nesting* method used is able to provide improvements in the baby's body physiology, and also helps stabilize the baby's physiological functions. Where in the *nesting method* the baby's movement will be limited, thus providing a comfortable place *to support motor development* for the baby (Hendrawati et al., 2020), Care using nesting is highly recommended because it can help in providing comfort, help in supporting the baby and help in reducing the risk of excessive energy expenditure. By holding community service through counseling activities on the use of nesting, this can increase the knowledge of patient families about the benefits of using nesting on BBLR babies. The counseling method has a significant influence on the level of knowledge and with the knowledge possessed it can be applied in everyday life (Hartaty & Kurni Menga, 2022).

## CONCLUSION

After the completion of the community service activities, it was concluded that by providing health education to the patient's family, their knowledge also increased. This community service activity can have an impact on the patient's family about the benefits of using *nesting* for low birth weight babies, including increasing the knowledge of the patient's family . The patient's family understands the benefits of using *nesting* and understands how to make *nesting* at home independently. The patient's family is expected to be able to implement what has been conveyed during the counseling.

## AUTHOR CONTRIBUTION

This activity involves a team that works together so that this service runs smoothly Annisa Rahmawati and Herti Eka Herawati act as the proposer of activities, writer, initiator of ideas, carry out community service and compile the results of activities. Ns. Zahrah maulidia septimar., S .kep., M.Kep play a role in providing direction and advice.

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