INDONESIAN HEALTH JOURNAL
https://ihj.rivierapublishing.id/index.php/rp
Volume 3 Number 1 March 2024
P-ISSN: 2963-3044
E-ISSN: 2963-3036

The Influence of Oral Stimulation on the Improvement of Sucking Reflex and Weight Gain in Low Birth Weight Infants (LBW) at Bunda Patimah Primary Clinic

Parida Hanum[a,1]*, Putri Dela Pransiska[b,2], Putri Yohana Eltania[c,3], Putri Juni Ester Simamora[d,4] Sumaritoyani Br Purba[e,5]
Universitas Prima Indonesia, Sumatera Utara, Indonesia
[1]Paridahanum@unprimdn.ac.id, [2]putridelapransiska@gmail.com, [3]eltaniaputriyohana@gmail.com, [4]putrisimamora060602@gmail.com, [5]yaniy8924@gmail.com

Received: 13-02-2024 Accepted: 02-03-2024 Published: 28-03-2024

ABSTRACT

LBW suffer from many problems, including hypothermia, respiratory distress syndrome, intracranial hemorrhage, hyperbilirubinemia, and hypoglycemia because the sucking reflex is weak, resulting in insufficient intake. This weakness in sucking is related to the maturity of the baby's nerve structure and the strength of the mouth muscles. Oral motor skills are one of the most important skills a baby has. The aim of this research is to determine the effect of giving oral stimulation on increasing the sucking reflex and increasing the weight of LBW babies. This research uses a type of quantitative research that uses a pre-test and post-test one group design (Notoatmodjo, 2018), with a Quasi-Experimental design without a control group that compares the evaluation results before and after treatment of respondents. Data were collected using Sucking Reflex and BB Increase observation sheets. The statistical test used is the Wilcoxon Signed Rank Test. The measurement results showed that after giving oral stimulation there was an increase in the sucking reflex and an increase in BW (P value = 0.000), namely an increase in the Sucking Reflex of the majority in the strong category as many as 30 people (93.7%), and those in the minority in the weak category as many as 2 people (6.3%). Meanwhile, in weight gain, the majority in the category increased by 28 people (87.5%), and the minority in the category did not increase by 4 people (12.5%). Based on the research that has been carried out, it was concluded that there is an effect of giving oral stimulation on the Sucking Reflex and Increase in Body Weight in LBW.

Keywords: Oral Stimulation; Sucking Reflex; Increase in BB; LBW

Coresponden: Parida Hanum
Email: Paridahanum@unprimdn.ac.id

INTRODUCTION

Low birth weight babies or abbreviated as LBW are newborn babies with a body weight of less than 2500 grams. Pregnancy period less than 37 weeks can cause complications in the baby (Sholiha & Sumarmi, 2015). LBW can caused by the baby being born prematurely, too small, or both. The lower the baby's weight, the more important it is to monitor development in the weeks after birth (Pristya et al., 2020).

LBW is the main cause of death in children in Indonesia (Oktriyanto et al., 2022). LBW babies generally have a greater risk of morbidity and death compared to babies with normal weight. LBW babies also have lower chance of survival and more susceptibility to disease in mature age. It is more likely that babies will be born with LBW experience cognitive impairment, growth and development disorders, and infections can lead to death (Pristya et al., 2020).

The World Health Organization (WHO), estimates 15-20% of all births in the world are LBW, which is more than 20 million per year. In the year of In 2019, LBW births accounted for 14.9% of all births throughout world. The percentages decreased to 1.9% and 2.2%, 13% and 12.7% in worldwide in 2020 and 2021 respectively. Initiatives for reduce the number of LBW births by 30% by 2025 (WHO, 2022).

Nationally, the Infant Mortality Rate (IMR) has decreased from 24 deaths per 1,000 Live Births to 16.85 deaths per 1,000 Live Births (Lau et al., 2013).These results show a significant decline, even

exceeding the target in 2022, namely 18.6% deaths per 1,000 Live Births. This must be maintained to support the target in 2024, namely 16 deaths per 1,000 births lives and 12 deaths per 1,000 live births in 2030 (Sari et al., 2023).

LBW suffer from many problems including hypothermia, syndrome respiratory disorders intracranial hemorrhage, hyperbilirubinemia, and hypoglycemia because the sucking reflex (baby sucking) is weak so resulting in insufficient intake (Qurvinalia et al., 2015). Suction mechanism and Premature babies' swallowing is not yet well developed. Lack of giving Mature breast milk in premature babies is characterized by problems giving food orally, thereby causing a delay in administration Breast milk, LBW and dehydration in the first few weeks after birth. This weakness in sucking is related to the maturity of the baby's nervous structure and oral muscle strength (Li et al., 2020).

One intervention that can be done to improve the sucking reflex and increase body weight in LBW is oral stimulation. Oral motor skills are one of them the most important skill a baby can have. Oral motor skills includes coordination of movement of hard tissue, soft tissue and blood vessels and control of the facial and oral nerves. According to another view, Oromotor skills refer to the movements of the muscles of the face, jaw, lips, palate, and tongue for sucking, swallowing, biting, blowing, chewing, and talking. This means that motor skills are important for supports eating and drinking (Fatin & Rahmawati, 2023).

Previous research conducted by (Maghfuroh et al., 2021), regarding Oral Motorcycles Improve Suction Reflexes for LBW Babies in Hospital NICU Rooms Muhammadiyah Lamongan obtained the results that there was a therapeutic effect Oral motor exercise on the sucking reflex of LBW babies at Muhamadiyah Hospital Lamongan in 2021. With a strong sucking reflex, babies can suck breast milk according to its needs so that the baby's nutrition can be met and it is hoped that the baby can grow and develop according to his age, that the risk factor for birth weight less than 2500 grams has an influence on the incidence of stunting among toddlers in Indonesia (Maghfuroh et al ., 2021).

Another research conducted by (Fatmawati et al., 2021) on The Effect of Stimulation on Gaining Weight Gain in LBW results showed an increase in body weight before oral stimulation occurred a percentage of 87.0% means that LBW babies experience a lot of weight loss. After oral stimulation, body weight increased as much as was experienced almost all respondents with a percentage of 95.7% with a value ($p=0.000$) <0.05 means there is an effect of oral stimulation on increasing body weight LBW baby. So with oral stimulation in babies it will provide good nutrition to the baby by providing adequate nutrition well so that the baby's weight will increase (Fatmawati et al., 2021).

Based on a preliminary survey in November 2023. Data obtained at Bunda Patimah Primary Clinic that there are mothers who have started from September-November LBW was 32 people. From the results of the interview 5 mothers who had LBW said that 3 of them were babies they have a weak sucking reflex so the baby often cries because still feel hungry and don't gain or gain weight. Based on the above background, the formulation of this research problem is formulated, namely "Is there an effect of providing oral stimulation on increasing the sucking reflex and increasing the weight of LBW babies at the Pratama Bunda Patimah Clinic in 2023?". The urgency of this study is to determine the effect of giving oral stimulation on increasing the sucking reflex and increasing the weight of LBW babies at the Pratama Bunda Patimah Clinic in 2023. So that the purpose of this study is to determine the increase in sucking reflex and increase in body weight of LBW babies before giving oral stimulation. To determine the increase in Sucking Reflex and increase in body weight of LBW babies after oral stimulation. To determine the effect of giving oral stimulation on increasing the sucking reflex and increasing the weight of LBW babies. The benefits and implications of this research are for Educational Institutions, It is hoped that it can provide information and education for midwifery profession students about the benefits of oral stimulation in increasing the sucking reflex and increasing body weight in LBW babies. For Related Agencies, It is hoped that the results of this study can provide information for the Bunda

Patimah Pratama Clinic agency in improving the ability to suck and increase body weight in LBW. For Further Researchers, It is hoped that the results of this study will become a basic guideline for further researchers in conducting further research related to improving the ability to suck and increasing body weight in LBW.

METHOD

This research uses a type of quantitative research that uses a pre-test and post-test one group design (Notoatmodjo et al., 2018), with a Quasi-Experimental design without a control group that compares the evaluation results before and after treatment of respondents. The research population was all 32 mothers who had LBW babies who were treated at the Pratama Bunda Patimah Clinic. The sample for this study included all 32 mothers who had LBW babies who were treated at the Pratama Bunda Patimah Clinic. Sampling used total sampling technique. This data was obtained using observation techniques to determine the effect of oral stimulation on sucking reflex ability and increase in body weight in LBW. Measurement Aspects 1. Oral Stimulation Oral stimulation is given for 15 minutes every day for 7 day by applying gentle pressure on the baby's cheeks alternately, around the lips in a clockwise direction, rubbing gently in an o shape on the gum area, gently rubbing the tongue from the inside out, then rubbing the palate, finally placing the baby's finger on the tongue and paying attention to the reflex. baby. 2. Sucking Reflex Ability The sucking reflex ability in research is the respondent's ability to suck the nipple. Measurements were taken before and after treatment. After oral stimulation, the baby is observed to determine whether the baby's sucking reflex increases or not by giving him a drink from a spoon. The value is 0 if the baby cannot drink from a spoon, 1 if the baby can drink from a spoon. Weak: If the respondent gets a score of 0 Strong: If the respondent gets a score of 1 3. Weight Gain. Measurement of the baby's weight gain is carried out before and after treatment. Use standardized baby scales and use observation sheets. Increased: If the baby's weight increases by more than 200 grams Not increased: If the baby's weight increases by less than 200 grams.

RESULTS AND DISCUSSION

Table 1. Frequency Distribution of Characteristics of Respondents from Mothers with LBW Babies (n=32)

Characteristics	Frequency *(f)*	Percentage (%)
Work:		
Work	8	25
Doesn't work	24	75
Total	**32**	**100**
Education:		
Junior High School	4	12,5
Senior High School	20	62,5
S1	8	25
Total	**32**	**100**

Based on Table 1, it is known that the majority of mothers who do not work are 24 (75%), and the minority of mothers who do not work are 8 (25%). Meanwhile, the majority of mothers' education levels were high school education, 20 people (62.5%), and the minority had junior high school education levels, 4 people (12.5%).

Table 2. Frequency Distribution of Characteristics of Babies with LBW (n=32)

Characteristics	Frequency *(f)*	Percentage (%)
Gender:		
Man	20	62,5

Characteristics	Frequency (*f*)	Percentage (%)
Woman	12	37,5
Total	**32**	**100**
Gestational Age:		
<37 Week	8	25
37-42 Week	24	75
Total	**32**	**100**
BB Birth:		
< 2000 gram	4	12,5
2000-2300 gram	28	87,5
Total	**32**	**100**

Based on Table 2, it is known that the majority of baby respondents were 20 male (62.5), and the minority were 12 female babies (37.5). The majority gestational age is 37-42 weeks as many as 24 people (75%), and the minority gestational age is <37 weeks as many as 8 people (25%). Meanwhile, the majority of birth weights were 2000-2300 grams as many as 28 people (87.5%), and the minority birth weights were <2000 grams as many as 4 people (12.5%).

Table 3. Frequency Distribution of Sucking Reflex and Increase in Body Weight in LBW Before Oral Stimulation in LBW

Characteristics	Frequency (*f*)	Percentage (%)
Sucking Reflex		
Weak	28	87,5
Strong	4	12,5
Total	**32**	**100**
Weight Gain		
Increase	0	0
Not Increasing	32	100
Total	**32**	**100**

Based on the measurement results from Table 3, it shows that before Oral Stimulation was carried out the majority were in the Weak category as many as 28 people (87.5%), and the minority in the Strong category were 4 people (12.5%). Meanwhile, the majority of weight gain in the Not Increased category was 32 people (100%), and the minority in the Increased category was 0 (0%).

Table 4. Frequency Distribution of Sucking Reflex and Increase in Body Weight in LBW After Oral Stimulation in LBW

Characteristics	Frequency (*f*)	Percentage (%)
Sucking Reflex		
Weak	2	6,3
Strong	30	93,7
Total	**32**	**100**
Weight Gain		
Increase	28	87,5
Not Increasing	4	12,5
Total	**32**	**100**

Based on the measurement results from Table 4, it shows that after Oral Stimulation there was a difference in Sucking Reflex, the majority in the strong category were 30 people (93.7%), and those in the minority were in the weak category, 2 people (6.3%). Meanwhile, in weight gain, the majority in the category increased by 28 people (87.5%), and the minority in the category did not increase by 4 people (12.5%).

Table 5. Effect of Giving Oral Stimulation on Sucking Reflex in LBW Before (pretest) and after (posttest) Giving Oral Stimulation

Variabel	Mean Rank	Sum of Rank	N	Z	P Value
Negative Rank	0.00	0.00	0		0,000
Positive Rank	13.50	351.00	26	-5.099	

The results from table 5 show that there are differences in Sucking Reflex and after being given Oral Stimulation to LBW, which illustrates that 26 respondents experienced an increase in Sucking Reflex with a Mean Rank value of 13.50 and there were ties or similarity values in this study as many as 6 respondents from before to after the intervention. The results of the analysis based on the Wilcoxon test obtained a p value of 0.000, which means the p value <0.05, so it can be concluded that Ho is rejected and Ha is accepted, which means there is an influence of giving oral stimulation on the sucking reflex in LBW.

Table 6. Effect of giving oral stimulation on weight gain in LBW before (pretest) and after (posttest) giving oral stimulation

Variabel	Mean Rank	Sum of Rank	N	Z	P Value
Negative Rank	0.00	0.00	0		0,000
Positive Rank	14.00	378.00	27	-5.196	

The results from table 6 show that there is a difference in body weight after being given oral stimulation to LBW, which shows that 27 respondents experienced an increase in body weight with a mean rank value of 14.00 and there were ties or similarity values in this study as many as 5 respondents from before to after the intervention. The results of the analysis based on the Wilcoxon test obtained a p value of 0.000, which means the p value <0.05, so it can be concluded that Ho is rejected and Ha is accepted, which means there is an influence of giving oral stimulation on increasing body weight in LBW.

Sucking Reflex and Increase in Body Weight before Oral Stimulation is given to LBW

The results of research conducted at the Bunda Patimah Pratama Clinic showed that before Oral Stimulation the majority of sucking reflexes were in the Weak category, 28 people (87.5%), and the minority of sucking reflexes were in the Strong category, 4 people (12.5%). Meanwhile, the majority of weight gain in the Not Increased category was 32 people (100%), and the minority in the Increased category was 0 (0%).

The results obtained from this study are in accordance with the findings of (Syaiful et al., 2019), showing that the picture of the suction reflex before oral stimulation was carried out was that the majority had poor suction reflexes, namely 15 respondents (54%) and a small percentage had good suction reflexes, namely 1 respondents (3%). And in research conducted by (Fatmawati et al., 2021), results showed that 20 respondents (87%) experienced a decrease in body weight before oral stimulation was carried out.

Lack of mature sucking development in LBW babies is characterized by the emergence of oral feeding problems which will cause delays in breastfeeding, low body weight and dehydration during the early weeks after birth. This weakness in sucking is associated with the maturity of the baby's nerve structure and the strength of the mouth muscles. This is in accordance with the theory that babies less than 1 week old usually experience delays in oral feeding problems (Syaiful et al., 2019).

The sucking reflex component begins to appear at 28 weeks of gestation, but synchronization is still irregular, and the baby easily becomes tired. In line with the maturation process, a more regular mechanism will be obtained at 32-36 weeks of gestation. Various studies have shown a strong relationship between the maturity of the baby and the organization of the suckling pattern (Saputro & Megawati, 2019).

Babies with LBW often cause problems including hypothermia, respiratory distress syndrome, intracranial bleeding, hyperbillirubinemia and hypoglycemia due to weak sucking reflexes. This is due to the immaturity of the function of the vital organs. Babies with weak sucking reflexes before oral stimulation have a significant impact on nutritional intake. If the baby's nutrition is not met, the most obvious consequence will be weight loss which will result in other pathological conditions as mentioned above (Saputro & Megawati, 2019).

The condition of a baby with LBW will have difficulty gaining weight because it is caused by their body's poor ability to respond to everything, including the nutrients that enter the body. Reduced ability to drink will have an impact on health, including the continued growth and development of the baby (Fatmawati et al., 2021).

According to researchers' assumptions, the baby's ability to suck well is very necessary because with good sucking, good nutrition can be provided, so that nutrition is met. If a baby's sucking or a baby's ability to drink is lacking, it will pose a risk to the baby because nutritional intake cannot enter so that nutrition is also not fulfilled, which will result in apnea, bradycardia and a decrease in oxygen saturation. The lack of ability to swallow is also due to the premature age of the baby because the suction muscles are still weak.

Sucking Reflex and Increase in Body Weight after being given Oral Stimulation to LBW

From the results of the research that has been carried out, after carrying out the intervention there was a difference in the Sucking Reflex before and after being given Oral Stimulation, namely that there was an increase in the Sucking Reflex of the majority in the strong category by 30 people (93.7%), and those in the minority in the weak category by 2 people. (6.3%). A total of 2 people did not experience an increase in Sucking Reflex, this was because the respondents did not carry out the Oral Stimulation stages according to the SOP. Meanwhile, in weight gain, the majority in the category increased by 28 people (87.5%), and the minority in the category did not increase by 4 people (12.5%). A total of 4 people did not experience weight gain, this was because the mothers were more focused on post-SC health rather than breastfeeding their babies and needed to adjust as mothers.

The results obtained from this study are in accordance with the findings of Sholikhah et al (2020), showing that the picture of the suction reflex after oral stimulation was that the majority had adequate suction reflexes, namely 18 respondents (64%) and a small percentage had inadequate suction reflexes, namely 4 respondents (14%). And in research conducted by (Fatmawati et al., 2021), the results were that 22 respondents (95.7%) experienced an increase in body weight after oral stimulation.

A strong sucking reflex in babies occurs 30 minutes after birth, so it is highly recommended that if the baby's reflex is strong within 30 minutes of being given breast milk. A sign of a strong sucking reflex is that if stimulation is given to the baby's mouth, the baby immediately sucks it. This reflex is an inherent (built in) reaction to certain stimuli and small babies will automatically respond to adapt to their environment. Reflexes regulate the movements of a newborn baby. The nature of this reflex is automatic and beyond the newborn baby's control. The sucking ability of newborn babies varies. Some newborn babies suck efficiently and vigorously to obtain milk, while other babies are less skilled and become exhausted before they are even full (Saputro & Megawati, 2019).

According to the researchers' assumption, this weight gain is influenced by the respondent's own condition, which is getting better day by day, so that the ability to drink becomes stronger and nutrition can be received by the body well. According to the theory of oral stimulation, you will have better oral motor skills so that you can improve your ability to drink and suck, thus helping to form a relationship between feelings of fullness and satisfaction with mouth movements, so that nutritional intake is met and the baby's weight can increase.

The Effect of Giving Oral Stimulation on Sucking Reflex and Increase in Body Weight in LBW

Based on the results of the analysis of different tests using the Wilcoxon test, it shows that there is a significant difference ($p<0.05$), namely the values before and after intervention with Asymp.sig. (2-tailed) is 0.000 so Ho is rejected and Ha is accepted. This shows that there is an effect of giving oral stimulation on the Sucking Reflex and Increase in Body Weight in LBW.

The results obtained from this study are in accordance with research conducted by Maghfuroh et al (2020), the results of the analysis were t= -16.233, $p=0.000$ where $p<0.05$ means there is an effect of oral motor exercise therapy on the sucking reflex of LBW babies. Oral motor exercise for babies with LBW can improve the baby's sucking reflex so that their nutritional needs are met and can improve the baby's condition so that they can reduce care time in the nursery.

In previous research, the analysis results showed a significance value of $p=0.000$, where $p<0.05$ means that there is an effect of oral stimulation on body weight in LBW babies (Fatmawati et al., 2021). The effect of oral stimulation on the sucking ability of LBW babies can be seen from the increase in the volume of milk they drink and the increase in body weight and length (cm/day) which are measured once a week. Measuring body weight aims to assess whether nutritional and fluid administration is adequate, identify problems related to LBW, monitor growth, and calculate drug doses and fluid amounts.

Giving oral stimulation to LBW is very important to stimulate the weak sucking reflex to become stronger. This shows that the research results are in accordance with the theory that the oral stimulation reflex has a significant influence on the sucking reflex in LBW babies. Basically, the sucking reflex is not influenced by the baby's gender or weight. The suction reflex tends to be related to nerve maturity, because the suction reflex is triggered by stimulation of the cranial nerves consisting of the Trigeminal, Facial, Glossopharyngeal and Vagus nerves (Saputro & Megawati, 2019).

Oral stimulation can improve the immune system, increase the flow of lymph fluid throughout the body to cleanse harmful substances in the body, change brain waves positively, improve blood circulation and breathing, stimulate digestive and excretory functions, increase weight gain, reduce depression and tension, make you sleep soundly, reduce pain, reduce bloating and colic (stomach ache), improve the inner relationship between parents and their babies, increase the volume of breast milk, develop communication, understand the baby's signals, increase self-confidence (Sugiati & Sudiari, nd).

One of the management measures that needs to be taken into account is that monitoring of nutrition must be carried out carefully and carefully. The obstacle that occurs in LBW in relation to nutritional monitoring is that the baby's sucking reflex is not yet perfect or is still weak. Therefore, nutrition must be provided carefully (Hanum et al., 2022).

According to researchers' assumptions, the condition of a LBW baby will be seen as a reduced ability to suck or drink because it is caused by the body's poor ability to respond to everything. Reduced ability to suck or drink will have an impact on the baby. A baby's sucking reflex ability will be influenced by the stimulation given to the baby. The more often the baby is given oral stimulation, the better trained the baby will be to suck or drink. So, by providing oral stimulation to the baby, the baby will provide good nutrition because the baby's suction and ability to drink can be given good nutrition by the mother so that the baby's weight will increase and there will be no apnea and bradycardia in the baby.

CONCLUSION

Based on the research that has been carried out, it was concluded that 1) Before Oral Stimulation was carried out, the majority were in the Weak category, 28 people (87.5%). Meanwhile, the majority of weight gain in the Not Increased category was 32 people (100%). 2) After being given Oral Stimulation, there was an increase in the Sucking Reflex of the majority in the strong category, 30 people (93.7%). Meanwhile, in weight gain, the majority in the category increased by 28 people (87.5%). 3) Based on the results of the analysis, it shows that there is a significant difference ($p<0.05$), namely the values before and after intervention with Asymp.sig. (2tailed) is 0.000 so Ho is rejected and Ha is accepted. This shows that there is an effect of giving oral stimulation on the Sucking Reflex and Increase in Body Weight in LBW. From the results of this study, the researcher wrote several suggestions, namely 1) Providing oral stimulation will be more effective if it is done correctly according to standard operating procedures (SOP), carried out from an early age continuously and sustainably. 2) For health workers to be able to carry out oral stimulation treatment as midwifery care for babies, and provide education for mothers and families about oral stimulation, and involve families in LBW care. 3) For future researchers to be able to develop further research with more accurate data collection methods and techniques, and the results of this research can be used as material or as a comparison for research on topics related to oral stimulation in LBW.

REFERENCES

Fatin, K., & Rahmawati, K. I. (2023). *Memahami Individu Melalui Psikologi Perkembangan*. Uwais Inspirasi Indonesia.

Fatmawati, L., Syaiful, Y., & Tias, A. A. N. (2021). Pengaruh Stimulasi Oral Terhadap Peningkatan Berat Badan Pada Bayi BBLR. *Journals of Ners Community*, *12*(1), 50–58. https://doi.org/10.55129/jnerscommunity.v12i1.1298

Hanum**,** P., Nababan, P. Y., Tamba, Y. S., Sitinjak, R., & Bawamenewi, T. R. (2022). Pelatihan Tentang Rooting Sucking Reflex Pada Bayi Berat Lahir Rendah. *Mitra Keperawatan Dan Kebidanan Prima*, *4*(4), 76–80.

Lau, C., Ambalavanan, N., Chakraborty, H., Wingate, M. S., & Carlo, W. A. (2013). Extremely low birth weight and infant mortality rates in the United States. *Pediatrics*, *131*(5), 855–860. https://doi.org/10.1542/peds.2012-2471

Li, X.-L., Liu, Y., Liu, M., Yang, C.-Y., & Yang, Q.-Z. (2020). Early premature infant oral motor intervention improved oral feeding and prognosis by promoting neurodevelopment. *American Journal of Perinatology*, *37*(06), 626–632. DOI: 10.1055/s-0039-1685448

Maghfuroh, L., Nurkhayana, E., Ekawati, H., Martini, D. E., & Kusbiantoro, D. (2021). Oral Motor Meningkatkan Reflek Hisap Bayi Bblr Di Ruang Nicu Rs Muhammadiyah Lamongan. *Jurnal Kesehatan Kusuma Husada*, 62–67. https://doi.org/10.34035/jk.v12i1.571

Notoatmodjo, S., Kasiman, S., & Kintoko Rohadi, R. (2018). Patient's Behaviour with Coronary heart desease Viewed from Socio-Cultural aspect of Aceh Society in Zainoel Abidin Hospital. *MATEC Web of Conferences*, *150*, 5065. https://doi.org/10.1051/matecconf/201815005065

Oktriyanto, O., Rahardja, M. B., FN, D. N., Amrullah, H., Pujihasvuty, R., & PN, M. M. (2022). Determinants of Low Birth Weight in Indonesia. *Jurnal Kesehatan Masyarakat*, *17*(4), 583–593. https://doi.org/10.15294/kemas.v17i4.33365

Pristya, T. Y. R., Novitasari, A., & Hutami, M. S. (2020). Pencegahan dan pengendalian BBLR di Indonesia: systematic review. *Indonesian Journal of Health Development*, *2*(3), 175–182. https://doi.org/10.52021/ijhd.v2i3.39

Qurvinalia, D. F., Wulandari, Y., & Supatmi, S. K. (2015). *Penerapan Metode Kanguru (PMK) pada bayi prematur dalam meningkatkan berat badan di Paviliun Annisa Rumah Sakit Siti Khodijah Sepanjang*. Universitas Muhammadiyah Surabaya.

Saputro, H., & Megawati, F. (2019). Efektifitas Stimulasi Oral Terhadap Reflek Hisap Lemah Pada BBLR. *Jurnal Ilmiah Ilmu Keperawatan Indonesia*, *9*(03), 609–615.

Sari, I. P., Sucirahayu, C. A., Hafilda, S. A., Sari, S. N., Safithri, V., Fitria, F., Febriana, J., & Hasyim, H. (2023). Faktor Penyebab Angka Kematian Ibu Dan Angka Kematian Bayi Serta Strategi Penurunan Kasus (Studi Kasus Di Negara Berkembang): Sistematic Review. *Prepotif: Jurnal Kesehatan Masyarakat*, *7*(3), 16578–16593. https://doi.org/10.31004/prepotif.v7i3.21101

Sholiha, H., & Sumarmi, S. (2015). Analisis risiko kejadian berat bayi lahir rendah (BBLR) pada primigravida. *Media Gizi Indonesia*, *10*(1), 57–63.

Sugiati, N. K., & Sudiari, M. (n.d.). Pengaruh Pemberian Stimulasi Oral Oleh Perawat Terhadap Reflek Hisap Bayi Prematur Di Ruang Cempaka I Neonatus RSUP Sanglah. *PROSIDING*, 173.

Syaiful, Y., Fatmawati, L., & Sholichah, S. (2019). Stimulasi oral meningkatkan reflek hisap pada bayi berat lahir rendah (bblr). *Journals of Ners Community*, *10*(1), 20–28. https://doi.org/10.55129/jnerscommunity.v10i1.841