Ann PUBLISHER
Journal of Medicine and Health Sciences (Medisci)
e-ISSN: 3046-7322
p-ISSN: 3032-7326

The Impact Of Endorphin Massage On The Efficient Production Of Postpartum Breast Milk In TPMB Sulastri, Pagelaran District, Pringsewu Regency In 2024.

Kartini[1], Nurhasanah[2*], Ria Yulianti Triwahyuningsih[3]
[1,2*,3] University of Ahmad Dahlan Cirebon, Indonesia
***Corresponding Author : e-mail khansa_noer@yahoo.com**

Abstract. Initiating breastfeeding within the first day of delivery has been shown to decrease the likelihood of newborn mortality. It is specifically demonstrated to provide exclusive protection against diarrhea, respiratory infections, and pneumonia ASI. The project seeks to investigate endorphin massage's impact on smoothness development in postpartum women at TPMB Sulastri, S.ST., M.Kes in 2024.ASI stands for Automatic Speech Recognition. This research employs a quasi-experiment design utilizing a pretest-posttest control group strategy. The sample included of 14 participants in the intervention group and 14 participants in the control group. Purposive sampling techniques were employed. The instrument utilizes Standard Operating Procedures (SOP) and checklist sheets. A three-day Endorphin massage treatment was administered and assessed using the Mann-Whitney test. The study found that 50% of individuals had a moderate frequency of meal intake. The utilization rate of non-hormonal contraceptives was 71.4%. The weight of newborns does not exceed 100% of the BBLR. The gestational age at the time of labor is 100% accurate. The mean milk output of the intervention group was 2.6 before and 7.5 after. The mean of the control group was 2.5 before and 5.2 after. The endorphin massage significantly impacted the efficient production of breast milk in postpartum moms. This was evidenced by a p-value of 0.000 (< 0.05) and a positive Correlation Coefficient value of 0.88, indicating a highly robust association between the two variables. Ultimately, endorphin massage has a significant impact on facilitating the efficient production of breast milk in mothers throughout the postpartum period. It is desirable for lactating postpartum women to regularly engage in endorphin massage to ensure the continuous and unobstructed flow of breast milk during the entire two-year duration of breastfeeding.

Keywords: smoothness, production, breast milk, *Endorphin Massage*

INTRODUCTION

The well-being of mothers and young children is a key measure of a country's overall health, as seen by the elevated rates of Maternal Mortality (AKI) and Infant Mortality (AKB). Indonesia possesses the most elevated infant mortality rate among Southeast Asian countries. The primary factors contributing to infant mortality include diarrhea, malnutrition, and infections. Exclusive breastfeeding is a natural process that can effectively prevent and reduce infant morbidity and mortality. It has a positive impact on

both babies and mothers. Without exclusive breastfeeding, infants are more vulnerable to various diseases, which can increase their chances of getting sick and dying.

According to the World Health Organization (WHO) in 2021, only 42% of countries currently practice exclusive breastfeeding. However, there is an objective to boost this percentage to 75% by the year 2020, as stated by the WHO in 2022. According to the Central Statistics Agency in 2022, the percentage of babies under 6 months old that receive exclusive breastfeeding in Indonesia is 72.04%. This statistic has failed to meet the national target of 80%. Gorontalo province has the lowest achievement rate at 53.60%, whilst West Nusa Tenggara province has the greatest achievement rate at 79.69% (Central Statistics Agency, 2022).

According to data from the Lampung Provincial Health Profile in Indonesia, the goal for exclusive breastfeeding is set at 80%. However, as of 2022, this target has not been met, with only a 75.37% achievement rate in that year. In 2022, Lampung Province is ranked as the 7th highest in exclusive breastfeeding, according to the Central Statistics Agency. In 2022, the rate of exclusive breastfeeding among infants aged 0-6 months in Pringsewu Regency is 82.6%. The Sukoharjo Health Center has achieved the greatest rate of exclusive breastfeeding for infants aged 0-6 months in Pringsewu Regency, with a percentage of 99.2%. Pringsewu district has multiple health centers with a relatively low percentage of exclusive breastfeeding. The Pagelaran Health Center has a relatively low exclusive breastfeeding rate of just 59.4%, compared to the Bumiratu Health Center with a rate of 68.0% and the Ambarawa Health Center with a rate of 77.9%. During the initial three days after childbirth, breastfeeding remains challenging due to disruptions in the smooth flow of milk. According to the Pringsewu Health Office (2022), around 25% of postpartum moms in the Pringsewu area are unable to provide their first breast milk.

Not exclusively breastfeeding infants can have numerous detrimental effects. The most significant danger is mortality, as indicated by a meta-analysis research which found that exclusive breastfeeding is strongly linked to a heightened risk of all causes of death in children aged 0-5 months. children who receive exclusive breastfeeding have a 1.5 times higher risk of death, while those who receive partial breastfeeding have a 4.8 times higher risk. The mortality risk is primarily linked to infections in newborns between the ages of 0 and 5 months. Initiating nursing within the first day of delivery, as supported by UNICEF, might decrease the likelihood of newborn mortality. Furthermore, Exclusive nursing has been scientifically demonstrated to prevent diarrhea, respiratory infections, and

pneumonia. Exclusive breastfeeding is a highly beneficial strategy for preventing complications related to BBLR, reducing stunting, and lowering the risk of obesity or chronic diseases (Mawaddah, 2022).

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) advocate for the practice of nursing infants within the first hour after delivery, known as early breastfeeding initiation (EBI). During the Immediate Mother and Newborn Contact (IMD) process, the mother and baby will have direct skin-to-skin contact. This contact serves to enhance the mother's confidence and promote the successful practice of Exclusive Breastfeeding for a duration of 6 months, with the possibility of continuing for up to 2 years (Ministry of Health of the Republic of Indonesia, 2021). The government should develop a Government Regulation on Exclusive Breastfeeding to comply with the provisions of Article 129 paragraph (2) of Law Number 36 of 2009 concerning Health. The Pagelaran Health Center has implemented initiatives to facilitate the optimal production of breast milk through the provision of health education and nutrition counseling (Pringsewu Health Office, 2022).

The process of lactation relies on the chemicals prolactin and oxytocin, which are secreted by the neurohypophysis. Prolactin is involved in the formation of breast milk, while oxytocin is involved in milk production. Both physical and psychological changes influence the lactation process. The functioning of the hormone oxytocin is modulated by psychological factors, stress, excessive anxiety, and discontentment (Arsi et al., 2021). There are two main techniques to boost breast milk production: pharmacological procedures, which involve the use of drugs, and non-pharmacological methods, which do not involve the use of drugs. Pharmacological approaches are typically costly and have more pronounced adverse effects compared to non-pharmacological or complementary methods for enhancing breast milk production. These alternative methods, as stated in the Indonesian Minister of Health Regulation Number 6 of 2016, involve the use of plant-based substances or herbs such as papaya leaves, moringa leaves, mulberry leaves, green beans, lampes, anise, spinach, Bidara Upas, Blustru, Chicken Datap, Bitter Black Cumin, Jackfruit, Patikan Kebo, Pulai, Temulawak, and Turi. Additionally, relatively simple techniques like acupressure, acupuncture, aromatherapy, and massage can be employed (Yuliani et al., 2021). Massage therapy is a non-pharmacological remedy that is simple and secure to do in postpartum mothers. The patient's husband or family can also perform this intervention after receiving training from a midwife or health provider—therapeutic

manipulation of the body's soft tissues to improve physical and mental well-being. The postpartum period encompasses several relaxation methods that enable women to safely and gently care for their kids without experiencing excessive fatigue (Retnosari et al., 2022).

A nonpharmacological approach to enhance breast milk production is using endorphin massage, as Arsi et al. (2021) suggested. The endorphin massage technique is an alternate strategy to alleviate postpartum discomfort and promote relaxation. Endorphins are recognized as compounds that offer numerous advantages. Endorphin massage can enhance the synthesis of endorphin hormones and promote the activation of prolactin and oxytocin reflexes, resulting in an augmentation of breast milk volume and production (Umami et al., 2023). When this massage is administered to postpartum mothers, it can provide a feeling of tranquility and relaxation. This, in turn, enhances the reaction of the posterior pituitary gland during lactation, leading to an increased production of the hormone oxytocin. Consequently, the letdown reflex is heightened. According to a study conducted by Hidayati and Hanifah (2019), the utilization of endorphin and oxytocin massage techniques has been found to enhance breast milk production. This leads to a faster release of breast milk than no massage treatment.

According to the pre-survey data conducted by TPMB Sulastri Pagelaran, the report indicates that the researcher interviewed three postpartum mothers out of 15 individuals surveyed in a month. Among these mothers, two reported that their breast milk had not yet been produced, while one reported that although it had been produced, it was not flowing smoothly. The mother reported that when attempting to breastfeed, the infant continuously cried due to frustration over the lack of breast milk. The mother herself experienced anxiety over the same issue. Consequently, the family recommended resorting to formula milk. According to the interview findings, some mothers who regularly consume vegetables and fruits still experience difficulties in producing breast milk. One mother even tried using breast milk boosters, but the results were still unsatisfactory. As a result, formula milk was given to ensure the baby could sleep well. According to the midwife's account, among others, she stated that postpartum mothers cannot produce breast milk on the first day due to the inefficient release of breast milk, resulting in low milk production. The duration of 0-3 days is necessary because, during this period, the mother undergoes preparations for the subsequent 3-8 days. This stage involves the transition from colostrum

to breast milk. From the ninth day after giving birth until the commencement of the involution stage, breast milk production will be controlled (PMB Sulastri, 2024).

During gestation, the fetus develops using the mother's blood supply. After birth, this blood transforms milk, which serves as the optimal primary source of nutrition for the newborn. Breast milk is highly appropriate and optimal for a kid's growth, as it provides a mother with the reassurance that her child will be protected from diseases. Andi Sitti Rahma states in Nurul Hidayah (2018) that breast milk contains antibodies against a range of viruses, such as poliovirus, coxsackievirus, echovirus, influenza virus, reovirus, respiratory syncytial virus (RSV), rotavirus, and rhinovirus. It has been scientifically demonstrated that breast milk effectively prevents the growth of these viruses. The virus above is highly perilous when it infects infants. Consequently, moms place great importance on breastfeeding their infants to ensure the development of robust antibodies for their immune systems. Islam has explicitly endorsed breastfeeding in the Qur'an, as stated in the divine words of Allah SWT in QS. Al-Baqarah (2): 233.

۞وَٱلۡوَٰلِدَٰتُ يُرۡضِعۡنَ أَوۡلَٰدَهُنَّ حَوۡلَيۡنِ كَامِلَيۡنِۖ لِمَنۡ أَرَادَ أَن يُتِمَّ ٱلرَّضَاعَةَۚ وَعَلَى ٱلۡمَوۡلُودِ لَهُۥ رِزۡقُهُنَّ وَكِسۡوَتُهُنَّ بِٱلۡمَعۡرُوفِۚ لَا تُكَلَّفُ نَفۡسٌ إِلَّا وُسۡعَهَاۚ لَا تُضَآرَّ وَٰلِدَةُۢ بِوَلَدِهَا وَلَا مَوۡلُودٞ لَّهُۥ بِوَلَدِهِۦۚ وَعَلَى ٱلۡوَارِثِ مِثۡلُ ذَٰلِكَۗ فَإِنۡ أَرَادَا فِصَالًا عَن تَرَاضٖ مِّنۡهُمَا وَتَشَاوُرٖ فَلَا جُنَاحَ عَلَيۡهِمَاۗ وَإِنۡ أَرَدتُّمۡ أَن تَسۡتَرۡضِعُوٓاْ أَوۡلَٰدَكُمۡ فَلَا جُنَاحَ عَلَيۡكُمۡ إِذَا سَلَّمۡتُم مَّآ ءَاتَيۡتُم بِٱلۡمَعۡرُوفِۗ وَٱتَّقُواْ ٱللَّهَ وَٱعۡلَمُوٓاْ أَنَّ ٱللَّهَ بِمَا تَعۡمَلُونَ بَصِيرٞ

Mothers should nurse their children for two complete years, specifically for those who desire to excel in breastfeeding. Additionally, the father's responsible for providing nourishment and assistance to the mother through acts of kindness and customary practices. An individual is not burdened but rather by their level of capability. Parents should not endure suffering for their children; it is the responsibility of the successors to do so. If both individuals mutually agree and decide to stop breastfeeding (before the age of two) of their own free will and after discussion, they commit no wrongdoing or offense. Furthermore, if you desire someone other than yourself to breastfeed your child, it is permissible for you to provide appropriate compensation. Have reverence for Allah and know that Allah is cognizant of your actions. (QS. al-Baqarah (2): 233).

According to a study completed by Magfirah in 2021, The independent test of the T-test yielded an average value of 8.50 for the treatment group, Endorphin Massage, and 4.90 for the control group (p-value < 0.05, significant at 0.000). The study demonstrated a rise in lactation in the group that underwent Endorphin Massage compared to the control group. Conclusion: The application of endorphin massage impacts the production of breast milk in moms after giving birth.

Additional research by Pratimi et al. (2020) found that the average breast milk production before Endorphin Massage was 2.667 in the control group and 2.400 in the treatment group. After the massage, the control group showed an increase in breast milk production to 3.267 with a p-value of 0.259, while the treatment group had an average increase to 4.933 with a p-value of 0.001 ($p < 0.05$). The study concludes that Endorphin Massage substantially enhances breast milk production in moms after childbirth. Hidayati and Hanifah (2019) conducted identical research. The data analysis conducted using the Wilcoxon test yielded a p-value of 0.000. The study investigates the impact of the Massage Endorphins and Oxytocin method on breast milk production in breastfeeding mothers aged 0-6 months in Gading Village.

If the Qur'an mandates a task, it undoubtedly entails numerous advantages and benefits. Conversely, disregarding the command will result in flaws in human existence. This paper aims to analyze the issues about breastfeeding mentioned in the Qur'an, specifically focusing on the interpretation of Surah Al-Baqarah verse 233. This verse, found in the order of the Qur'anic mushaf, states that mothers should breastfeed their children for two complete years for those who wish to fulfill the entire breastfeeding period. The father is responsible for providing sustenance and clothing for the mother through ma'ruf. An individual is not encumbered but rather by their level of capability. The researcher aims to investigate the impact of endorphin massage on the efficient production of breast milk in postpartum mothers at TPMB Sulastri, S.ST., M.Kes in 2024.

LITERATURE

Massage therapy is a non-pharmacological intervention that is easy and safe to do in postpartum mothers. The patient's husband or family can also carry out this intervention after being trained by a midwife/health worker. *Postpartum massage* is one of the relaxation methods; this method allows postpartum mothers to enjoy the process of releasing babies that are safe, gentle, and not quickly tired. *Endorphin massage* is a technique that provides a sense of calm and peace that can increase the release of *endorphin* hormones, hence the name *Endorphin massage*. This includes touch and light massage all over the body (Retnosari et al., 2022).

Massage endorphins are natural substances produced by the body and have many benefits. The most crucial benefit of *endorphins* is to inhibit the course of pain from the source of pain, namely the part of the body that has experienced trauma to the center or

brain. If the release of *endorphins* in the body fails, pain will occur. The level of *endorphins* in each individual's body is different, so some people may feel more pain than others for the same type of pain. *Endorphins* are produced by the body itself and are known to be the body's best natural substance for pain relief. *Endorphins* can be triggered to be released through an *endorphin massage*.

According to Kuswandi, *Endorphin massage* is a light massage technique or gentle touch on pregnant women that triggers *Endorphins* released by the body so that pregnant women feel calm and comfortable. *Endorphin massage* is better done before the delivery process takes place. (Masning et al., 2017).

Purpose of *Endorphine Massage*

1. Normalizes heart rate and blood pressure
2. Improves relaxation
3. Releases *endorphins*
4. Inhibiting the transmission or sending of pain messages (Masning et al., 2017).

Benefits of *Endorphine Massage*

Endorphins are known as substances that have many benefits. Mongan thinks gentle massage can trigger substances, such as e*ndorphins,* to be removed. *Endorphins* It is known to release oxytocin, which is a hormone in the body that is needed during childbirth so that it can reduce pain. In addition to releasing substances, *Endorphins*massage *Endorphins* also has other benefits, namely controlling growth hormone and sex, controlling stress or frustration felt by the body, boosting the immune system, and reducing symptoms of eating disorders. In pregnant women, *it* is vital to do an endorphin massage. A gentle massage or delicate touch given to pregnant women both before and during childbirth can give the mother a calming and comfortable effect. This is because *Endorphin massage* can make the heart rate and blood pressure normal through the surface of the skin so that the mother feels relaxed (Masning et al., 2017). Endorphin massage can also reduce the severity of postpartum *Blues* in postpartum mothers (Retnosari et al., 2022).

Endorphine Massage *Procedure*

Endorphins are polypeptides produced by the body for pain relief. *Endorphins* can be triggered to be released by doing meditation activities, taking deep breaths, and eating spicy foods, or it can also be done by means of *chiropractic therapy*, acupuncture, and *massage*. How to do *an Endorphin massage* is:

1. Advise the mother to choose the most comfortable position possible. The position can be done by sitting or lying on its side to the left or right. Ask the husband to accompany his wife by sitting comfortably next to or behind her.
2. Ask the mother to take a deep breath with both eyes closed for a few moments to relax the mother. Pour lemongrass oil to make it easier to massage the palms. Then, gently stroke the outer surface of the mother's arm, starting from the upper arm to the forearm, using the fingertips.
3. After about 5 minutes, do the same on the other arm.
4. Similar actions can be performed on other parts of the body, such as the palms, neck, shoulders, and thighs because even if only a gentle touch is given, the mother can feel more relaxed and comfortable.
5. Then, perform actions on the mother's back. Advise mothers to choose a comfortable position, either sitting or lying on their sides. Next, gently massage the mother starting from the neck, forming an inverted V from the neck and moving towards the side of the ribs.
6. After that, the massages are done down the shoulders, back, buttocks, and tailbone grooves, encouraging the mother to relax.
7. When getting a massage, say words that can calm your feelings, like "relax and be happy." Husbands can also express words of love to their mothers when actions are carried out, such as "I am able to breastfeed comfortably."
8. After doing all the actions, ask the husband to hug the mother so that she feels more comfortable and create a calming and touching atmosphere (Masning et al., 2017).

Figure 1.
Endorphin Massage *Flow*

Endorphins Consisting of morphine, called morphine, belong to the opioid group, which occurs in suppresses the occurrence of pain. *Endorphins* are one of the compounds *neuropeptides, endorphins*. *Endorphin massage* is a residue of lipoprotein amino acids that bind to opiate receptors (opium) in various regions of the brain. The pituitary gland, situated beneath the brain, is responsible for the production of endorphins. Endorphins are a mixture of naturally occurring substances and morphine. Therefore, it can be inferred that the endorphin hormone acts as a morphine. Some individuals even claimed that his strength exceeded that of Morphine by a factor of 200. Our bodies naturally create endorphins. Endorphins can be excreted or created through several methods, such as relaxation techniques (deep breathing, laughter, smiling, hypnosis), exercise (which helps eliminate chemicals in the body), acupuncture treatments, meditation techniques focused on positive thinking, and massage. Endorphins bind to opiate receptors in our brains to alleviate pain. The release of endorphins helps to alleviate both tension and pain. Unlike opiate medicines such as morphine and codeine, endorphins are naturally created by our body and do not lead to addiction or dependence (Masning et al., 2017).

Indications and Contraindications of *Endorphin Massage*

The indications of *this endorphin massage* are people who are experiencing *stress* and pain, such as pregnant women who enter 36 weeks of pregnancy. At this age, the *massage* can stimulate the release of *endorphins* and oxytocin hormones, which can trigger contractions.

Contraindications of *Endorphin massage* are:

1. Presence of swelling or tumors
2. Presence of hematomas or bruises
3. Hot temperatures on the skin
4. Presence of skin diseases

In pregnancy: early pregnancy or not yet a term, amniotic fluid premature rupture, high-risk pregnancy, uterine contraction disorders (Masning et al., 2017).

Endorphin Massage *Treatment*

Based on research conducted by (2020), The research sample was 30 postpartum mothers with inactive breast milk production, which was divided into two groups, namely 15 mothers in the group that was given treatment *Endorphin Massage* and 15 mothers in the control group. The *Non-Probability Sampling determines the sample* use *accidental*

sampling, which is based on inclusion criteria, which are assessed based on six criteria, namely the frequency of baby bowel movements and bowel movements, the color of urine and feces, the length of sleep after breastfeeding, and the baby's weight loss is not > 10%. Postpartum mothers on the third day who entered the inclusion criteria: 15 mothers in the treatment group were given *Endorphin massage* for three days from day 3 to day five postpartum while 15 mothers in the control group were not given *Endorphin massage*.

Another research conducted by Halimah Pawestri (2022) The method in this scientific paper uses a descriptive approach with a case study approach through nursing care. The inclusion criteria in this case study were: (1) Patients with compositional/non-analytic consciousness; (2) Patients can be positioned at an angle; (3) Breasts are no problem. The patient was given endorphin massage and suggestion for 30 minutes every day and given three consecutive days, and breast milk was calculated cumulatively using a measuring cup every day. The massage is done twice a day, namely at 07.00 WIB and 08.00 WIB. Anxiety that arises in mothers is evaluated using the Hamilton Anxiety Rating Scale (HARS).

Use of Oil Massage

Massage oil usually uses essential oils that can be easily absorbed into the skin tissue and stimulate the sense of smell. The content of massage oil consists of essential oils whose properties and mixed properties can be combined according to their properties and purpose. If there is a wrong process when combining, it will cause the massage oil mixture to become less valuable and give an unwanted aroma. A good massage oil does not have an allergic effect on its use because it uses natural ingredients. Massage oil can be used as a means of massage. Massage oil can speed healing by applying and massaging it on the sore spot. This massage process will stimulate the process of launching blood flow and body fluids and help the body relax. Massage oil aromatherapy from the purification of citronella oil has a soft, smooth texture and does not have coarse grains (Tanjung & Pangaribuan, 2018).

METHOD

The types of research used in this study are *quantitative,* namely research that uses sampling techniques to obtain findings that can be expressed numerically and manipulated mathematically (Hardani et al., 2020). The design used in this study is *a quasi-experiment* with the following approach: In this study, the researcher used a design *Pretest-Posttest Control Group Design*, which is in line with the opinion (Sugiyono, 2019) which stated,

that the experimental research design includes *Pretest-Posttest Control Group Design*. Using this design, the experimental and control groups have the same characteristics because they are randomly taken from a homogeneous population. In this design, both groups were first given a preliminary test (*pretest*) with the same test (Sugiyono, 2019). The method is to apply a treatment condition to one experimental group and then compare the results with those of a control group not subject to treatment conditions.

Utilizing a checklist, this study administered a pre-test to assess breast milk production in postpartum moms (O1) and (O2) prior to therapy. The experimental group received a three-day treatment called Endorphin Massage (X), while the control group received breast care (O). After the treatment, both groups underwent a post-test to measure milk production in postpartum mothers. The intervention group (O3) and the control group (O4) were assessed on the third day using a checklist sheet. The endorphin massage is administered over a period of three days, with an indeterminate time occurring five times daily. Each massage lasts between 3 and 5 minutes, and there is a 30-minute break between each session. The structure of this research design is as follows:

Table 1. Research Design

Pretest-Posttest Control Group Design

Pre Test	Experiment	*Post Test*
O1 →	X →	O2
O3 →	C →	O4

Information:

O1	:	The initial test *(Pretest)* was carried out before being given treatment using the intervention group's checklist sheet.
O2	:	The final test *(Posttest)* was carried out after being treated using the intervention group's checklist sheet.
X	:	Endorphin massage *treatment for three days*
C	:	The control group was given breast treatment.
O3	:	The initial test *(Pretest)* was carried out before the treatment was given using the control group's checklist sheet.
O4	:	The final test *(Posttest)* is carried out after being treated using a control checklist sheet.

For the characteristics of the sample not to deviate from the population, before sampling is carried out, it is necessary to determine inclusion and exclusion criteria.

Inclusion criteria are the criteria or characteristics that need to be met by each member of the population that can be taken as a sample. Meanwhile, the exclusion criteria are the characteristics of population members that cannot be taken as a sample. (Notoatmodjo, 2018).

The inclusion criteria for this sample are:

1. Mothers who are willing to be research respondents
2. Postpartum Mother 0-3 days
3. Postpartum mothers who immediately breastfeed their babies at birth (IMD)
4. Child suction factor or frequency of breastfeeding (Babies generally breastfeed 8-12 times within 24 hours. The length of breastfeeding varies and generally lasts between 20 to 30 minutes, with an estimated minimum of 15 minutes for one breast).
5. Rest pattern (6-8 HOURS)
6. Mothers who do breast care
7. Mothers with normal breast anatomy
8. Mothers who have good family support/mothers do not have stress factors.
9. Mothers who do not consume cigarettes and alcohol

The Exclusion Criteria for this sample are:

1. Drink booster breast milk
2. Already familiar with formula milk
3. No IMD
4. Using diapers

Data Collection Tools and Methods

The data used in this study is primary data obtained directly from the results of observation and intervention in postpartum mothers on days 0-3 at PMB Sulastri, SST., M.Kes, Pagelaran District, Pringsewu Regency.

1. Research Tools/Instruments

Research instruments are tools that will be used to collect data. (Notoatmodjo, 2018). The researcher used instruments such as observation sheets (*Checklist*) and SOP *Endorphin Massage to measure instruments in this study*.

2. Data Collection Methods

The data collection technique is a method or method used by the author to collect data, which the author will later use to obtain materials, information, and information related to the research. The data collection method in this study is primary data collected

from the results of the respondents' observation sheets. Data collection in this study. The data collection technique uses the observation sheet method ((Sunardi et al., 2019) *Checklist*) and SOP *endorphin massage*, which consists of several questions. This instrument is used to explore what is needed and what is wanted to be known in obtaining research results on the effect of *endorphin massage* on increasing breast milk production for postpartum mothers 0-3 days.

This study administered a pre-test of breast milk production in postpartum moms (T1) and (T2) prior to therapy, using a checklist sheet. Subsequently, the experimental group received a three-day treatment called Endorphin Massage (X), while the control group received breast care (O). Afterward, both groups underwent a post-test to measure breast milk production in postpartum mothers. This assessment took place on the third day after treatment and utilized a checklist sheet. The endorphin massage is administered over a period of three days, with an indeterminate time occurring five times daily. Each massage lasts between 3 and 5 minutes, and there is a 30-minute break between each session.

DISCUSSION

Distribution of Feeding Frequency, Use of Contraceptives, Weight of Newborn Babies and Gestational Age During Childbirth at TPMB Sulastri, S.ST., M.Kes in 2024

Food Intake

Table 2
Distribution of Frequency of Food Intake of Postpartum Mothers

Food Intake	Frequency (n)	Percentage (%)
Excess	2	7,1
Keep	14	50
Good	12	42,9
Sum	**28**	**100**

Table 2 shows that the distribution of feeding frequency data results were mostly obtained from the feeding intake of 14 people (50%) of medium postpartum mothers at TPMB Sulastri, S.ST., M.Kes.

Use of contraceptives

Table 3
Frequency distribution of contraceptive usage among postpartum mothers

Use of contraceptives	Frequency (n)	Percentage (%)
Hormonal	8	28,6
Non Hormonal	20	71,4
Sum	**28**	**100**

Table 3 indicates that the frequency of contraceptive use data primarily came from hormonal contraceptives, with 20 individuals (71.4%) reporting at TPMB Sulastri, S.ST., M.Kes.

Birth Weight

Table 4
Weight Frequency Distribution of Babies Born in

Birth Weight	Frequency (n)	Percentage (%)
BBLR	0	0
No BBLR	28	100
Sum	**28**	**100**

According to Table 4, newborn newborns' weight frequency distribution data primarily came from babies born without BBLR. Specifically, 28 individuals (100%) at TPMB Sulastri, S.ST., M.Kes contributed to this data.

Gestational Age During Childbirth

Table 5
Distribution of Gestational Age Frequency During Melahrikan

Gestational Age When Partus	Frequency (n)	Percentage (%)
Preterm	0	0
Aterm	28	100
Postterm	0	0
Sum	**28**	**100**

According to gestational age frequency distribution data during childbirth in Table 5 was primarily collected by 28 individuals (100%) at TPMB Sulastri, S.ST., M.Kes.

Univariate Analysis
Intervention

Table 6
Average Smooth Milk Production of the Intervention Group Before and After *Endorphin Massage*
On Postpartum Mothers at TPMB Sulastri, S.ST., M.Kes
Year 2024

Endorphin Massage	***N***	***Mean***	***Std. Deviation***	**Min**	**Max**
Pre-test (Before)	14	2,6	0,63	2	4
Post-test	14	7,5	0,51	7	8

Table 6 indicates that the consistent production of pre-test breast milk with endorphin massage treatment yielded an average value of 2.6, with a minimum value of 2 and a maximum value of 4. After the endorphin massage treatment, the post-test resulted in an average score of 7.5, with a minimum score of 7 and a maximum score of 8. This indicates an increase in the average production of smooth breast milk in postpartum mothers after receiving the endorphin massage treatment at TPMB Sulastri, S.ST., M.Kes in 2024.

Control

Table 7
Average Smooth Breast Milk Production of Control Group Before and After Postpartum Mothers at TPMB Sulastri, S.ST., M.Kes in 2024

Control Group	***N***	***Mean***	***Std. Deviation***	**Min**	**Max**
Pre-test (Before)	14	2,5	0,65	2	4
Post-test	14	5,2	0,91	4	7

Table 7 reveals that the control group achieved an average value of 2.5, with a minimum value of 2 and a maximum value of 4, in the smooth production of pre-test breast milk (before). After the post-test, the control group's therapy yielded an average score of 5.2, with a minimum value of 4 and a maximum value of 7. Consequently, there was a rise in the mean value of the lactation output in the control group of postpartum moms at TPMB Sulastri, S.ST., M.Kes in 2024.

Normality Test

A data normality test is performed before conducting the T-test to ascertain if the data follows a normal distribution. The Kolmogorov-Smirnov/Shapiro-Wilk normality test determines if the data is normally distributed. If the value of Sig. is greater than 0.05, it indicates that the data is typically distributed. If the significance value (Sig.) is less than 0.05, then the data is considered to be non-normally distributed.

Table 8 .Results of *Shapiro-Wilk Normality Test*

Group	Df	Statistics	P-value	A	Information
Endorphin Massage Before	14	0,815	0,002	0,05	Data is not normally distributed
Endorphin Massage After	14	0,886	0,000	0,05	Data is not normally distributed
Breast Care Before	14	0,731	0,001	0,05	Data is not normally distributed
Breast Care After	14	0,889	0,079	0,05	Normally distributed data
Dietary Intake Before	14	0,796	0,005	0,05	
Dietary Intake After	14	0,639	0,000	0,05	Data is not normally distributed
Use of contraceptives Before	14	0,516	0,000	0,05	Data is not normally distributed
Use of contraceptives After	14	0,616	0,000	0,05	Data is not normally distributed
Birth Weight Before	14	-	-	0,05	Data is not normally distributed
Birth Weight After	14	-	-	0,05	Data is not normally distributed
Gestational Age of Childbirth Before	14	-	-	0,05	Data is not normally distributed
Gestational Age of Childbirth After	14	-	-	0,05	Data is not normally distributed

The normality test findings are presented in Table 10, where the Shapiro-Wilk test was employed due to the sample size being less than 50 responders. The normality test findings indicate that the breast treatment after group had a normal distribution. However, the endorphin massage before and after group, as well as the control group of breast care before, showed non-normally distributed data values. Furthermore, the variables that impact food consumption and the utilization of contraceptives were shown to have non-normal distribution both before and after the data collection. Testing for the variation in birth weight and gestational age before and after childbirth cannot be conducted due to the

identical values obtained. Due to the absence of a normal distribution in the data, the study used a nonparametric bivariate correlation test called the Mann-Whitney test.

Bivariate Analysis

Disruptive Variables

Table 9 presents the statistical analysis results conducted using the Mann-Whitney test. Based on the disturbing variable, the test reveals a significant disparity in the average values between the two groups. Furthermore, no correlation is observed between food intake, contraceptive use, birth weight, and gestational age at childbirth, as indicated by a p-value greater than 0.05.

Table 9
The study investigates the impact of dietary intake, contraceptive use, newborn weight, and gestational age on breast milk production in postpartum mothers at TPMB Sulastri, S.ST., M.Kes. Year 2024

Disruptive Groups	Df	Mean Rank	Z	P-value
Dietary Intake Intervention Control	 14 14	 13,9 15,7	-0,412	0,681
Use of contraceptives Intervention Control	 14 14	 15,5 13,5	-0,822	0,411
Birth Weight Intervention Control	 14 14	 14,5 14,5	0,000	1,000
Gestational Age During Childbirth Intervention Control	 14 14	 14,5 14,5	0,000	1,000

Table 10
The study investigates the impact of endorphin massage on the efficient production of breast milk in postpartum mothers at TPMB Sulastri, S.ST., M.Kes in the year 2024.

Smooth Breast Milk Production	Mean (±SD)	Min	Max	Z	CC	Sig. (2-tailed)
Endorphin Massage Before	2.6 (± 0.63)	2	4	-4,638	0,88	0,000
Endorphin Massage After	7.5 (± 0.51)	7	8			
Breast Care Before	2.5 (± 0.65)	2	4	-4,530	-	0,000
Endorphin Massage After	5.2 (± 0.91)	4	7			

The data presented in table 10 indicates that the Mann-Whitney test revealed a significant difference in mean values between the two groups. Specifically, the smooth breast milk production in the intervention group showed a mean value of 4.9 before and after the intervention, with a p-value of 0.000, which is less than the significance level of 0.05. This indicates that the hypothesis Ha is supported and the null hypothesis Ho is rejected. This implies that there is a significant effect of endorphin massage on the smooth production of breast milk in postpartum moms at TPMB Sulastri, S.ST., M.Kes in 2024. The correlation coefficient value of 0.88 further confirms that the two variables have a strong association.

Distribution of Frequency of Feeding Intake, Use of Contraceptives, Weight of Newborn Babies, and Gestational Age During Childbirth

The food intake data of postpartum moms was mostly derived from a sample size of 14 individuals, constituting 50% of the total participants, as indicated by the distribution of feeding frequency data. The utilization of contraceptives mostly stemmed from the adoption of non-hormonal contraceptives by a total of 20 individuals, accounting for 71.4% of the sample population. The weight of newborns primarily determined the weight of newborns without Birth Before Last Menstrual Period (BBLR), comprising 28 individuals (100%). The gestational age at childbirth was primarily determined by 28 individuals (100%) at TPMB Sulastri, S.ST., M.Kes.

Various factors can influence the production of breast milk, including diet, mental well-being, contraceptive usage, breast hygiene, breast structure, physiological conditions, sleep patterns, frequency of breastfeeding, infant's suction strength, birth weight, nutrition during pregnancy and childbirth, and the consumption of cigarettes and alcohol. (Azizah and Rosyidah, 2019).

Prolactin is influenced by maternal nutrition, with higher levels of nutritional intake resulting in increased milk production. Nevertheless, the hormone oxytocin is essential for the production of breast milk, and the baby's sucking influences its function. Increased frequency of infant suckling stimulates greater production of breast milk. Oxytocin is commonly known as the hormone associated with affection. This is because the level is significantly impacted by factors such as mood, happiness, love, security, calmness, and comfort. (Azizah and Rosyidah, 2019).

Researchers hypothesize that dietary intake, contraceptive use, birth weight, and gestational age during childbirth significantly influence the breastfeeding process in the

postpartum period. These factors are believed to be closely associated with the optimal production of breast milk.

Univariate Analysis
Intervention

According to the statistics, the smooth production of breast milk before the endorphin massage therapy had an average value of 2.6, with a minimum value of 2 and a maximum value of 4. The average score obtained after the endorphin massage therapy in the post-test was 8.0, with a minimum score of 7 and a maximum score of 8. Consequently, the mean quantity of breast milk production significantly rose following endorphin massage therapy in postpartum moms at TPMB Sulastri, S.ST., M.Kes in 2024.

Lactogenesis II commences with a rapid decline in progesterone levels subsequent to the delivery of the placenta. Lactogenesis II typically takes place between the third and eighth day after childbirth. In this stage, the transition from colostrum to breast milk takes place, characterized by a reduction in salt, chloride, and protein levels, and a rise in fat and lactose levels in breast milk. Several variables that can impede the second stage of lactogenesis include being a first-time mother, being obese, and having diabetes mellitus. Failure to breastfeed babies exclusively can result from a delay in the lactogenesis II stage. (Azizah and Rosyidah, 2019).

Galactopoiesis refers to the period of time, starting from the ninth day after childbirth and continuing until the beginning of the involution stage, during which breast milk production is carefully regulated to maintain a balance. The breast is a dynamic organ that synthesizes milk in response to demand and supply. The feedback control mechanism regulates breast milk production in response to the baby's specific requirements and consumption. Increasing the frequency of breastfeeding leads to a proportional rise in milk production. Galactopoiesis, the process of milk production, typically takes place from 6 to 9 months after giving birth and continues throughout the breastfeeding period (Azizah and Rosyidah, 2019).

The production of breast milk is regulated by the management of lactation hormones, including prolactin and oxytocin. Following the delivery of the placenta, there is a decline in the levels of estrogen and progesterone. Prolactin is a hormone that is involved in the production of breast milk, starting from the final trimester of pregnancy and continuing until the initiation of breastfeeding. The levels of the hormone prolactin are influenced by complete breast emptying, and sufficient suction by the newborn might enhance prolactin

levels. According to Rosyidah (2019), it has been demonstrated that breastfeeding mothers who nurse between 8 to 12 times in a 24-hour period have an increase in prolactin levels, as well as an increase in serum prolactin levels. Oxytocin is a hormone that is involved in the production of breast milk. It stimulates the let-down reflex. The secretion of breast milk from the alveoli to the lactiferous duct is facilitated by the let-down reflex, also known as the Milk Ejection Reflex (MER). Due to the baby's suction stimulus, the hypothalamus will transmit a signal to the posterior pituitary gland, prompting the release of oxytocin. Oxytocin activation induces contraction of the myoepithelial cells surrounding the alveoli within the mammary glands. Contraction of myoepithelial cells propels milk from the active duct into the active sinuses, making it ready for expulsion when the baby sucks on the nipple. Oxytocin release is affected by the baby's suction stimulation, leading to nipple erection that facilitates milk production by transporting it from the active sinuses to the nipple pores. Furthermore, oxytocin is a hormone that can induce uterine contractions both during labor and in the postpartum period. This can help prevent excessive bleeding after childbirth and speed up the process of the uterus returning to its normal size. The let-down reaction, also known as the Milk Ejection reaction (MER), can be enhanced by happy emotions, positive thoughts, a strong connection between the mother and the infant, as well as the baby's unique sounds and odors that the mother perceives. Postpartum women may experience a decrease in metabolic energy rate (MER) due to anxiety, stress, and discomfort.

Massage therapy is a non-pharmacological remedy that is simple and secure to do in postpartum mothers. After receiving training from a midwife or health worker, the patient's husband or family members can also do this intervention. Postpartum massage is a relaxation technique that enables moms after childbirth to experience a safe, gentle, and rejuvenating process of releasing tension and fatigue. Endorphin massage is a technique that promotes a feeling of tranquility and serenity, leading to an enhanced production of endorphin hormones. Hence, it is referred to as endorphin massage. This encompasses tactile and gentle manipulation applied to the entire body (Retnosari et al., 2022).

According to a study conducted by Pratimi et al. (2020) The study findings revealed that the average breast milk production prior to Endorphin massage in the treatment group was 2,400, whereas the average increase in breast milk production in the treatment group was 4,933. Additional research carried out by Magfirah (2021) The

independent test of the T-test yielded an average value of 8.50 for the treatment group Endorphin Massage.

According to the assumption of the researcher, breastfeeding mothers are recommended to do *endorphin massage* on the first day to the third day so that the stage where there is a balance of milk production starting from the ninth day of the postpartum mother to the beginning of the involution stage runs smoothly, in the research conducted by the researcher it was found that there was an increase in postpartum maternal production for an average of 3 days after the massage was carried out. Postpartum mothers who have been given *endorphin massage* have been proven to increase the smoothness of breast milk production compared to those who are not given *endorphin massage*; this is because, during *endorphin massage,* mothers are also motivated to breastfeed their babies so that they feel more comfortable and feel more confident to breastfeed their babies so that they facilitate breast milk production in mothers.

Control

Table 9 reveals that the control group achieved an average value of 2.5, with a minimum of 2 and a maximum of 4, in the smooth production of pre-test breast milk (before). Following the post-test, the control group's therapy resulted in an average score of 5.2, with a minimum value of 4 and a maximum value of 7. Consequently, there was a rise in the mean smooth milk production among postpartum mothers in the control group at TPMB Sulastri, S.ST., M.Kes in 2024.

Lactation is the physiological process of synthesizing and secreting breast milk. This process occurs in the alveoli, which are small sacs located within the lobes of the breast. The alveoli are surrounded by myoepithelial cells, which have the ability to stimulate the nerves in the myoepithelium. This stimulation leads to contractions that facilitate the movement of milk into the active ducts. Breast milk is retained in the lactiferous duct until it is triggered by stimulation. The Milk Ejection Reflex (MER) triggers the contraction of the myoepithelial cells surrounding the lactiferous duct, resulting in the secretion of milk through the nipple (Azizah & Rosyidah, 2019).

Multiple issues frequently arise throughout the process of breastfeeding. Specifically, the mother may have symptoms such as stress, nipples that are flat or sunken, nipples that are blistering or painful, breasts that are swollen, milk ducts that are obstructed, or mastitis. The production of breast milk itself is the inhibiting element in breastfeeding. Inadequate lactation and sluggish milk ejection might result in insufficient

breast milk supply for infants. Furthermore, moms have concerns about weight gain, time constraints, and the loss of breast firmness, among other factors. Conversely, if the mother's breast milk is not of optimal quality, it can lead to several negative effects for babies. These include frequent crying, jaundice, decreased weight, reduced satisfaction, and difficulty sleeping (Hariastuti, 2023).

Mothers who have recently given birth must prioritize breast care during the postpartum period. The postpartum phase lasts for six weeks or 40 days following childbirth. During the postpartum period, it is crucial to engage in breast care to promote optimal breast milk production. This occurs due to the mother experiencing physical changes in her reproductive organs, which return to their pre-pregnancy state, as well as undergoing psychological changes in order to prepare for the birth of new offspring. To enhance the comfort of nursing, moms can undergo appropriate treatment, typically involving massage techniques and the use of natural products and tools. (Azizah and Rosyidah, 2019). According to a study completed by Magfirah in 2021 The T-test is used to analyze the findings of independent test studies. The mean score of the control group was 4.90. Additional research carried out by Pratimi et al. (2020) The study revealed that the average breast milk production prior to Endorphin massage in the control group was 2,667, while the post-massage breast milk production in the control group increased to 3,267. Based on the researcher's hypothesis, breast milk production can be enhanced through breast care practices, even without massage. However, the benefits are less substantial than those gained from an endorphin massage.

Bivariate Analysis

Statistical tests using the Mann-Whitney test revealed a significant difference in mean values between the two groups. Specifically, the smooth breast milk production value in the intervention group showed a significant change from 4.9 before to after the intervention, with a p-value of 0.000, less than the significance level of 0.05. This indicates that the null hypothesis (Ho) has been rejected, and the alternative hypothesis (Ha) has been accepted. Therefore, it can be concluded that there is a significant association between endorphin massage and the smooth production of breast milk in postpartum moms at TPMB Sulastri, S.ST., M.Kes in 2024. This conclusion is supported by a correlation coefficient of 0.88, which signifies a strong relationship.

Breast milk, also known as lactation, is a distinctive and intricate fluid secreted by the mammary glands of both breasts. According to Azizah and Rosyidah (2019), breast

milk is the optimal choice of liquid for infants up to 6 months old due to its easily digestible and absorbable components and superior vitamin content compared to formula milk.

Some lactating moms experience a decrease in the quantity of breast milk they make for their infants, and the primary hindrance to nursing is the actual production of breast milk. The determinants of inadequate breastfeeding coverage include maternal characteristics, infant-related variables, psychological health services, and socio-cultural issues. Several breastfeeding issues may arise, such as low milk production, particularly during the initial days after birth, caused by inadequate levels of progesterone, estrogen, and prolactin in the mother's body. The efficacy of exclusive breastfeeding can be assessed based on the frequency, duration, and quantity of breast milk consumption. Challenges that impede breastfeeding during the initial week include reduced milk production. Enhancing lactation can be achieved through the act of stimulating or rubbing the mammary glands (Magfirah, 2021).

The problems related to the production of breast milk are intricately linked to the process of breastfeeding. Lactation is dependent on the chemicals prolactin and oxytocin, which are released by the pituitary gland. Prolactin plays a role in the production of breast milk, while oxytocin is involved in the secretion of milk. The process of lactation is influenced by both physiological and psychological changes. Psychological variables, such as stress, heightened apprehension, and discontentment, influence the activity of the hormone oxytocin. The success of the lactation process is intricately linked to the presence of endorphin hormones in our body. In addition, endorphins provide alleviation from the distress caused by childbirth pain (Arsi et al., 2021).

Endorphins are an endogenous chemical synthesized by the body and possess numerous advantages. Endorphins' Benefits The primary objective is to impede the transmission of pain signals from the site of injury, such as the body region that has suffered trauma, to the central nervous system or brain. If the secretion of the substance endorphins in the body is unsuccessful, the sensation of pain will arise. Individuals vary in their endorphin levels, resulting in differing pain experiences even when exposed to the same sort of pain. The body's production of endorphins is widely recognized as its most effective natural pain relief mechanism. Endorphins in the body can be stimulated to be released by a type of massage called Endorphin massage or endorphin massage. Kuswandi explains that Endorphin massage is a mild technique that involves light touch or soft

pressure on pregnant women. The purpose is to stimulate the production of Endorphins by the body, which helps pregnant women feel peaceful and at ease. Massage using endorphins It is preferable to complete the task prior to the commencement of the delivery process. (Masning et al., 2017).

This aligns with the findings of a study conducted by Magfirah in 2021. Research conducted independently yields results that are analyzed using a T-test. The mean value of the treatment group was 8.50 for the Endorphin massage, while the control group had a mean value of 4.90 (0.000) with a P-value less than 0.05. The study findings demonstrated a notable augmentation in breast milk production among the participants who underwent Endorphin massage, as compared to the control group.

Additional research was carried out by Pratimi et al., (2020) Out of the postpartum moms who met the specified criteria on the third day, 15 mothers in the treatment group received Endorphin massage for 3 consecutive days starting from day 3 to day 5 after giving birth. In contrast, the control group of 15 mothers did not get Endorphin massage. The study results indicated that the average breast milk production before Endorphin massage was 2,667 in the control group and 2,400 in the treatment group. After the massage, the control group showed an increase in breast milk production to 3,267 ($p = 0.259$), while the treatment group had an average increase to 4,933 ($p = 0.001$) ($p < 0.05$). Additional research was carried out by Hidayati & Hanifah (2019). The data analysis using Wilcoxon test yielded a statistically significant result with a p-value of 0.000. The administration of the Endorphin massage and Oxytocin has a positive effect on increasing breast milk production in breastfeeding mothers aged 0-6 months in Gading Village.

CONCLUSION

Based on the researcher's hypothesis, the study findings indicate that not all moms start producing breast milk immediately after giving birth. This is because the creation of breast milk is a complex process that involves the interaction of mechanical, neurological, and hormonal factors that influence the release of oxytocin. There is a strong need for massage treatments that can effectively stimulate breast milk production, such as the Endorphin Massage technique.

During the execution of this study, there were constraints in gathering data due to the requirement that respondents refrain from using diapers on their children. This was necessary in order to accurately estimate the frequency of urination in their children.

Nevertheless, certain parents in the profession opt to make their children wear diapers. Therefore, the researcher persists in seeking to facilitate comprehension and engagement among the participants, enabling them to assist in the implementation of this study and adhere to the directive of not using diapers on their infants.

BIBLIOGRAPHY

Akhiriyanti Nur Evi., Nisa Hainun., Linda Kristiani Telaumbanua. (2021). Breast Milk Father. Jakarta: Mitra Wacana Media.

Andi Sri., Heni., Hestri & Asih. (2023). The Effectiveness of Oxytocin Massage and Endorphin Massage on Postpartum Breast Milk Production on Days 1-2 at Mulyati Sambaliung Independent Practice Midwife. *Jurnal Sehat Indonesia*, vol 5(1). https://doi.org/10.59141/jsi.v5i01.48.

Arsi, R., Rejeki, S., & Zulfa, A. (2021). The Speos method (endorphin, oxytocin, and suggestive massage stimulation) in increasing the production of breast milk in Post Partum. *Journal of Maternal Nursing*, *4*(1), 1–14. https://doi.org/10.32584/jikm.v4i1.752

Azizah, N. A. (2019). Textbook for Postpartum Midwifery and Breastfeeding Care Courses. In *Textbook for Postpartum Midwifery and Breastfeeding Care Courses*. https://doi.org/10.21070/2019/978-602-5914-78-2

Central Statistics Agency. (2022). *Percentage of Babies Less Than 6 Months Aged Less Than 6 Months Who Receive Exclusive Breastfeeding by Province (Percent), 2020-2022*. https://www.bps.go.id/indicator/30/1340/1/persentase-bayi-usia-kurang-dari-6-bulan-yang-mendapatkan-asi-eksklusif-menurut-provinsi.html.

Health Office, Pringsewu. (2022). *Health Profile of Pringsewu Regency 2021* (pp. 1–65).

Fadjriah Ohorella, Nurqalbi Sampara, and H. (2019). Effect of Combination of Woolwich and Endophine Massage on Smooth Breastfeeding in Post Partum Mothers at Labuang Baji Hospital. *Αγαη*, *8*(5), 55.

Hardani., Auliya., Andriani, H., Fardani., Ustiawaty., Utami., Sukmana, D. J., & Istiqomah R.R. (2020). *Qualitative & Quantitative Research Methods* (Issue March). CV Pustaka Ilmu Group.

Halimah & Pawestri. (2022). Endhorphin Massage and Suggestion to Increase Breast Milk Production in Post Sectio Caessaria Mothers. *Unimus Journal*, vol 3(1), https://doi.org/10.26714/nm.v3i1.9088.

Hidayati, T., & Hanifah, I. (2019). Application of Endorphin and Oxytocin Massage Methods to Increase Breast Milk Production in Breastfeeding Mothers 0-6 Months in Gading Village, Probolinggo Regency. *Journal of Health Sciences*, *12*(1), 30–38. https://doi.org/10.33086/jhs.v12i1.772

Ministry of Health. (2021). *Indonesia Health Profile 2020* (B. Hardana, S.Si,MM (ed.)). Ministry of Health Repoblik Indonesia.

Magfirah. (2021). *Effect of Endorphin Massage on Breast Milk Production*. *7*, 548–554.

Masning, firda fibrila, maritini fairus. (2017). The Effect of Endorphin Massage on Breast Milk Production Contains Nutrients for Growth and Babies In addition, for the psychology of breastfeeding mothers in Lampung Province, exclusive breastfeeding coverage. Metro Midwifery Study Program, Tajungkarang Health Polytechnic. *X*(2), 35–40.

Mawaddah, S. (2022). *Mother's Decision in Exclusive Breastfeeding* (M. Nasrudin (ed.); Print 1). Central Java: PT. Nasya Expanding Management.

https://play.google.com/books/reader?id=H22AEAAAQBAJ&pg=GBS.PA2&hl=id.
Notoatmodjo, P. D. S. (2018). *Health Research Methodology*. PT Asdi Mahasatya.
Nursalam. (2016). *Nursing Science Research Methodology*. Jakarta: Selemba Medika.
Nurfaiza Alza & Nurhidayat. (2020). Effect of Endorphin Massage on Breast Milk Production in Post Partum Mothers at Somba Opu Health Center, Gowa Regency. *Journal of Imiah Kesehatan*, vol 2(2). https://doi.org/10.36590/jika.v2i2.61
Pratimi, B. M. A., Ernawati, E., & Saudia, B. E. P. (2020). Effect of Masase Endorphin on Increasing Milk Production in Post Partum Mothers in the Working Area of the Bagu Health Center. *Journal of Midwifery Update (MU), 1*(2), 61. https://doi.org/10.32807/jmu.v1i2.62
Sugiyono. (2019). *Educational Research Methods Quantitative, Qualitative, and R&D Approaches*. Alphabeta.
Sunardi, S., Nugroho, P. J., & Setiawan, S. (2019a). Instructional Leadership of the Principal. *Equity In Education Journal*, *1*(1).
Retnosari., Setiawati., & Putri M.C.N. (2022). Textbook on Holistic Massage Concepts. Malang: CV Literasi Nusantara Abadi.
Rofika Ana. (2022). The Effect of Endorphin Massage on Smooth Breastfeeding in Breastfeeding Mothers. *Professional Health Journal*, vol 3(1), https://www.ojsstikesbanyuwangi.com/index.php/PHJ.
PMB Sulastri. (2023). *Profile of PMB Sulastri Pagelaran 2022. 1*. 1–63.
Wiastuti., Maharani & Qomatiyah. (2021). The Effect of Husband's Support Related to Endorphin Massage on Breast Milk Production in Postpartum Mothers. Journal of Midwifery Sciences, vol 7(2), https://10.48092/jik.v7i2.130.
WHO. (2022). World health statistics 2022 (Monitoring health of the SDGs). In *Monitoring health of the SDGs*. http://apps.who.int/bookorders.