



## Warm Compress Therapy With Essential Oil Aroma For Pain In Pregnant Patients After Caesarean Section

Adisty Dwi Treasa<sup>1\*</sup>, Arnianti<sup>2</sup>, Rini Mayasari<sup>3</sup>, Fyzria Qudratullah<sup>4</sup>, Agustini Liviana Dwi Rahmawati<sup>5</sup>, Zumrotul Ula<sup>6</sup>, Nurmiati<sup>7</sup>, Sitti Hardiyanti<sup>8</sup>

<sup>1</sup> Midwifery Professional Study Program, Mitra Adiguna Health College, Palembang, Indonesia

<sup>2</sup> Midwifery Professional Study Program, Mega Buana University, Palopo, Indonesia

<sup>3</sup> Midwifery Study Program, Budi Mulia Sriwijaya Health College, Indonesia

<sup>4</sup> Midwife Professional Education Study Program, STIKes Mitra Adiguna, Indonesia

<sup>5</sup> Nursing Study Program, Karya Husada Polytechnic, Indonesia

<sup>6</sup> Midwifery Study Program, Surabaya Health and Business Institute, Indonesia

<sup>7</sup> Midwifery Study Program, Universitas Megabuana Palopo, Indonesia

<sup>8</sup> Profesi Ners Study Program, STIKes Gunung Sari, Indonesia

### ABSTRACT

Warm compresses in addition to reducing the sensation of pain can also increase the healing process of damaged tissue. The use of heat in addition to providing the effect of overcoming or eliminating the sensation of pain, this technique also provides physiological reactions including increasing the inflammatory response, increasing blood flow in the tissue and increasing edema formation. The purpose of this study was to determine the effect of warm compress therapy with jasmine essential oil aroma on reducing pain intensity in post-Cesarean patients at Makassar Hospital. This type of research is quantitative research, with a pre-experimental research method using a one group pre-test - post-test design. The results of the univariate analysis obtained the pain intensity of post-Cesarean patients before warm compresses with aroma and respondents experienced moderate pain. While the pain intensity of post-Cesarean patients after warm compresses experienced mild pain. The conclusion shows that there is an effect of warm compress therapy with essential oils on reducing pain intensity in post-Cesarean patients at Makassar Hospital.

**Keywords :** Therapy, Warm Compress, Aroma Oil, Overcoming Pain, Pregnant Patients, Post Caesarean Operation

\*Correspondent : Adisty Dwi Treasa

\*E-mail : [adistydwitreasa@gmail.com](mailto:adistydwitreasa@gmail.com)





## 1. Introduction

Caesarean section (sectio caesarea) is a way of giving birth to a fetus by making an incision in the uterine wall through the front wall of the abdomen (Amin and Hardhi, 2013). Childbirth by caesarean section is a surgical process to deliver a fetus through an incision in the abdominal wall and uterine wall (Andayasari et al., 2015).

The reasons for performing a cesarean section are as follows:

### 1) PROM (Premature Rupture of Membranes)

Premature rupture of membranes or premature rupture of membranes is the release of fluid from the birth canal/vagina before the labor process (Marmi, 2011).

The risk of premature rupture of membranes can cause several problems for both the mother and the fetus. For mothers it can cause intrapartal infection (during childbirth), Puerperal infection (postpartum period), prolonged labor, postpartum hemorrhage, maternal morbidity and mortality. For infants, it can cause prematurity, prolapse funiculli (umbilical cord prolapse, hypoxia, secondary asphyxia, fetal deformity syndrome, perinatal morbidity and mortality (Fadlun and Feryanto, 2012).

### 2) Breech Position Position

Breech is a condition where the fetus lies lengthwise with the head in the fundus of the uterus and the buttocks in the lower part of the uterine cavity. There are several types of breech presentation, namely breech presentation, perfect breech presentation, imperfect breech presentation and foot presentation (Marmi, 2011).

### 3) Transverse Lie Abnormalities

Transverse lie is when the baby is positioned in the womb in such a way that the baby's body axis is transverse to the uterus axis. In fact, true transverse lie (the baby's body axis is perpendicular to the uterus axis and makes a 90o angle) is very rare (Eni, 2011). In the transverse lie, the shoulders are usually above the upper pelvic inlet while the head is located in one iliac fossa and the buttocks in the other iliac fossa. In this condition, the fetus is usually at the shoulder/acromion percentage (Icesmi, 2013).

### 4) PEB (Severe Pre-Eclampsia) Severe pre-eclampsia is pre-eclampsia with systolic blood pressure above 160 mmHg and diastolic blood pressure above 110 mmHg





accompanied by proteinuria measured qualitatively by +2 persistent or more (gr/liter) (Cunningham, 2013). Severe pre-eclampsia is a special condition in pregnancy, characterized by increased blood pressure (BP) and proteinuria. Severe pre-eclampsia is a collection of symptoms that arise in pregnant women, giving birth and during the postpartum period consisting of triads, hypertension proteinuria and edema. In severe pre-eclampsia in pregnancy, there are indications for pregnant women to undergo a cesarean section. If in an emergency a pregnant woman with severe pre-eclampsia must undergo a cesarean section (Aprina and Puri, 2016).

There are several obstacles or abnormalities in the labor process, causing the baby to be unable to be born spontaneously or born normally, for example due to narrow pelvis, placenta previa, threatening uterine rupture, prolonged labor, preeclampsia, cervical dystocia, and fetal malpresentation so that delivery is carried out by cesarean section. Anesthesia is given in a cesarean section operation which causes the patient to experience immobilization, the effect of which causes problems with impaired physical mobility. The effects of anesthesia also cause constipation.

Lack of information about the surgical process, healing, and post-operative care will cause anxiety problems. During the surgical process, an incision is also made in the abdominal wall, causing a break in the tissue discontinuity, stimulating the sensory area that stimulates the release of histamine and prostaglandin which will cause discomfort due to pain (acute pain) that occurs after the surgical process ends. After the surgical process is complete, the incision area is closed and causes a post-cesarean wound which if not handled properly and correctly will cause a risk of infection. During postpartum, progesterone and estrogen hormones will decrease and uterine contractions will occur and inadequate involution will result in bleeding and can cause a risk of shock, decreased hemoglobin and result in deficiency.

Pain management consists of pain management based on physical stimulation and cognitive behavior, Physical management includes skin stimulation, transcutaneous electrical nerve stimulation, acupuncture, and placebo administration. Cognitive behavioral interventions include distraction, relaxation techniques, guided imagery,





biofeedback, hypnosis, and therapeutic touch, which include skin stimulation techniques including massage, hot and cold compresses, acupuncture and contralateral stimulation. Hot compresses are skin stimulation that can provide an effective pain reduction effect. This action diverts the client's attention so that the client focuses on tactile stimuli and ignores the sensation of pain, which can ultimately reduce pain perception (Putri, 2015).

Compression is one of the efforts to overcome physical conditions by manipulating body temperature or by blocking the effects of pain (Sari & Rina 2015). Warm compresses in addition to reducing the sensation of pain can also increase the healing process of damaged tissue. The use of heat in addition to providing the effect of overcoming or eliminating the sensation of pain, this technique also provides physiological reactions including increasing the inflammatory response, increasing blood flow in the tissue and increasing the formation of edema (Putri, 2015).

Warm compresses on the lower abdomen reduce pain because heat increases blood circulation, thereby reducing tissue anoxia caused by contractions and tension. However, to obtain enough heat for effectiveness, it is necessary to use a special hot compress or bath towel. If the towel is wet, even after wringing it out, it is often too heavy for the woman to tolerate. However, hot compresses are an appropriate action to relieve pain in some women (Andreinie, 2016).

Warm compresses in addition to reducing the sensation of pain can also increase the healing process of damaged tissue, the use of heat has the advantage of increasing blood flow to an area and can possibly help reduce pain by accelerating healing. The use of heat, in addition to providing the effect of overcoming or eliminating the sensation of pain, this technique also provides physiological reactions including, increasing the inflammatory response, increasing blood flow in the tissue and increasing the formation of edema. Heat applied to the lower abdomen, back, groin, or perineum can be very soothing. Electric heaters, warm water bottles, and hot compresses are good sources of heat (Putri, 2015).

Warm compresses on the lower abdomen reduce pain because heat increases blood circulation, thereby reducing tissue anoxia caused by contractions and tension.





However, to obtain enough heat for effectiveness, it is necessary to use a special warm compress or bath towel. If the towel is wet, even after wringing it out, it is often too heavy for the woman to tolerate. However, a hot compress is an appropriate measure to relieve pain in some women. Warm compresses can be given using a hot towel or heated silica gel or a bottle filled with hot water or a heating pad. It can also be done directly by using a hot shower directly on the shoulders, stomach or back if the mother feels comfortable, the most effective warm compress to reduce pain is to use a towel soaked in water then squeezed and compressed to the mother's lower back or stomach (Andreinie, 2016).

Giving aromatherapy through compression only requires a small amount of aromatherapy oil. Warm compresses with aromatherapy can be used to reduce back pain and abdominal pain. Aromatherapy according to Susilarini et al., (2017) is the use of high concentration essential oils extracted from plants and given through massage, inhalation, mixed into bath water, for compresses, through mucous membranes in the form of pessaries or suppositories and sometimes in pure form. Aromatherapy is a therapy that uses essential oils which are considered to help reduce and even overcome psychological disorders and disorders of comfort such as anxiety, depression, pain, and so on.

Aromatherapy works as liniments by compressing, the oil works by heating the skin and muscles then reducing pain. Muscles stimulated with hot compresses of lavender essential oil will relax so that the stimulus to the nerve endings will be reduced. As a result, the nerves will transmit pain impulses to the central nervous system, the use of warm compresses of aromatherapy in nursing science is better known as modality therapy, complementary therapy, alternative therapy, holistic therapy, non-biomedical therapy, non-allopathic care, and non-traditional care. This concept emphasizes the importance of a care system that applies a holistic caring approach due to the cultural shift towards client care that will improve health services. Complementary therapy can be used independently or not related to biomedical therapy because it is positioned as a health promotion effort (Sari & Rina 2015).





The aroma of jasmine essential oil will be captured by the sense of smell and forwarded to the central nervous system, then the message will be forwarded throughout the body through the blood and lymphatic circulation systems. The sign is the release of neurochemical substances that cause feelings of pleasure, relaxation, calm or arousal.

## 2. Research Methods

This type of research is quantitative research, the research method is pre-experiment, this study uses a one group pre-test - post-test design, which is to reveal the causal relationship by involving one group of subjects. The study was conducted at Makassar Hospital. The time of the study was conducted in July-August 2019. The target population in the study were all post-cesarean section patients, while the source population was all post-cesarean section patients at Makassar Hospital. The sample in this study was 15 post-cesarean section patients who met the criteria determined by the researcher. The sample was taken using a purposive sampling technique. The data collection technique used primary and secondary data obtained from Makassar Hospital, including the number of post-cesarean section patients. The data analysis technique used univariate analysis and data normality test.

Warm compresses with jasmine essential oil aroma were given 6 hours after the patient was given analgesic therapy, then a pre-test was carried out first, after which a warm compress with jasmine essential oil aroma was applied to the patient's lower back for 20 minutes. Primary data in the form of data obtained from direct observation using observation and interviews with the following details, before treatment for 20 minutes the respondents were assessed, using an ordinal measurement scale with an Instrument Sheet using a verbal descriptive scale. ordinal the results were recorded in the format (instrument) then the respondents were given a warm compress with jasmine essential oil aroma, the implementation of reducing pain intensity in post-operative patients with sectio caesarea at Makassar Hospital, using an ordinal measurement scale the results were recorded again in the format (instrument) then the data obtained was entered into the data collection format, tabulation for processing.





After the complete data reaches the target, the data is entered into a data tabulation format to facilitate statistical data processing. The results of the data processing that has been carried out are then used to describe the research data which will be presented in the form of a frequency distribution to provide an overview of the data obtained. Furthermore, the effect of giving warm compresses with the aroma of Jasmine essential oil on reducing pain intensity in post-operative patients with sectio caesarea at Makassar Hospital will be known.

### 3. Results and Discussion

#### a. Results

Table. 1  
Scale Painful Before Done Compress Warm with Aroma

No	Scale Painful	Frequency (n)	Percentage (%)
1	Currently	15	100
	Total	15	100

Based on table 1, it can be seen that the pain scale of post-Cesarean section patients before warm compresses with *essential oil aroma were given* at Makassar Hospital, namely 15 (100%) respondents experienced moderate pain.

Table. 2  
Scale Painful After Done Compress Warm with Aroma

No	Scale Painful	Frequency (n)	Percentage (%)
1	Light	12	80
2	Currently	3	20
	Total	15	100

Based on table 2, it can be seen that the pain scale of post-Cesarean Section patients after warm compresses with *jasmine essential oil aroma* at Makassar Hospital was 12 (80.0%) respondents experienced a pain scale of mild, and 3 (20.0%) respondents with moderate pain scale.





## b. Discussion

The results of this study indicate that the pain scale of post- Cesarean section patients before warm compresses with Jasmine essential oil aroma were given at Makassar Hospital in 2019, namely 15 (100%) respondents experienced moderate pain. This shows that all respondents experienced moderate pain.

The results of this study are also in line with research conducted by Lukman (2013) showing that the pain scale of post-operative caesarean section patients before intervention, the highest frequency was on a pain scale of 5 (severe pain) with a frequency of 29 respondents or a percentage of 74.36% and 10 other respondents showed a pain scale of 4 (very painful) with a percentage of 25.64%. Before the intervention, the pain scale felt by the patient was very painful, according to the researcher that each pain felt by each individual is very different, according to the individual's perception in feeling the pain they experience, based on factors that influence the intensity of the pain itself.

The results of the study showed that the pain scale of post-Cesarean section patients after warm compresses with jasmine essential oil aroma at Makassar Hospital in 2019 was 12 (80%) respondents experiencing mild pain, and 3 (20%) respondents with moderate pain. This means that after being given a warm compress with the aroma of jasmine essential oil, there was a decrease in the pain scale in patients.

Jasmine or jasmine flowers have many benefits, including overcoming tension, pain, influencing emotions, reducing anxiety, increasing self-confidence, energy, and euphoria, all of which are needed by a mother when going through the process of labor and giving birth to her baby. So the use of jasmine in this study is very appropriate, because all the benefits of jasmine are needed by the mother. For that, there needs to be an effort made by the people closest to the mother, both by health workers, husbands, and other family members. Providing safe and beneficial therapy is the right way.

The use of jasmine that has been made into essential oil makes it easier for mothers by inhaling its aroma so that mothers do not bother and do not have to be





confused with equipment or actions that disturb them with the post-Cesarean adaptation process that they are undergoing. There are various aromatherapy methods. Essential oils are absorbed by the body through inhalation, topically, orally, rectally, or vaginally. Absorption through topical application and inhalation are the two most commonly used methods. Aromatic substances in essential oils are volatile and have a distinctive scent. The sense of smell will capture this scent and transmit electrochemical messages to the central nervous system, then the message will be transmitted throughout the body through the blood and lymphatic circulation systems. The sign is the release of neurochemical substances that cause feelings of pleasure, relaxation, and calm.

This study is in line with Putri's (2015) study on the effect of hot compresses on reducing pain scale in primiparous mothers after Sectio Caesarea where the results of the study showed that the pain scale of post-Sectio Caesar mothers after being given hot compresses was known that of the 34 respondents studied, there were 27 people (79.41%) respondents experiencing moderate pain and there were 7 people (20.59%) respondents experiencing mild pain. From the data that has been obtained, it is known that all respondents experienced a decrease in pain scale except for 6 people (17.6 %) respondents with moderate pain.

According to Nurhayati et al., (2015), successful management of post-operative pain can increase patient satisfaction with the services provided by nurses (health workers). It was concluded that with awareness and attention to the pain felt by post-operative patients and interventions to reduce pain complaints, patient satisfaction with health services will increase even though the pain they experience is categorized as moderate to severe pain and they have to be active when experiencing the sensation of pain.

Based on the results of the Wilcoxon test, the p value was obtained = 0.001. Thus, the p value is  $0.01 < 0.05$  so it can be concluded that there is an influence between the pain scale before and after warm compresses with the aroma of jasmine essential oil.





This study is in line with the study of Oktavia & Faridah (2016) on the effect of jasmine extract aroma on reducing labor pain in the first active phase in parturients. Based on the results of statistical tests with the Wilcoxon test, a p value of  $0.000 < 0.05$  was obtained, so it can be assumed that the administration of jasmine extract aromatherapy has an effect on reducing the intensity of labor pain in the first active phase. In this study, inhaling the aroma of jasmine extract in parturient mothers in the first active phase to reduce the pain they feel, the way it works is like the gate control theory. The entry of normal somatic sensations when there is stimulation of larger fibers or only stimulation of large nerve fibers, the inhibitory nerves and projector nerves will be stimulated, but the inhibitory nerves prevent the projector nerves from transmitting signals to the brain (gate closes). Inhaling the aroma of jasmine extract can activate the inhibitory nerves so that the projector nerves do not transmit pain signals to the brain. In other words, aromatherapy can reduce the concentration of parturient mothers on the pain they feel.

Reducing pain with aromatherapy refers to the concept of gate control which lies in the physiology of the pain impulse delivery mechanism that occurs when the defense system is opened, and conversely the delivery of pain impulses can be inhibited when the defense system is closed.

Aromatherapy is one of the efforts to close the defense system. In addition, aromatherapy affects the smoothness of blood circulation, so that the supply of nutrients to the wound tissue is sufficient and the healing process will be faster. When aromatherapy is inhaled, the active substances contained in it will stimulate the hypothalamus (pituitary gland) ) to release endorphin hormones. Endorphins are known as substances that cause feelings of calm, relaxation, and happiness.

This study is also in line with the study of Sari et al., (2015) on the effect of jasmine aromatherapy on reducing the pain scale in female adolescents experiencing dysmenorrhea, where the results of the study showed a p value of  $0.000 < 0.05$ , so there is an effect of jasmine aromatherapy on reducing the scale of menstrual pain in





female adolescents at SMAN 2 Pontianak in 2015. The implication is that jasmine aromatherapy can be a non-pharmacological therapy to reduce menstrual pain.

Hot compresses on the lower abdomen reduce pain because heat increases blood circulation, thereby reducing tissue anoxia caused by contractions and tension. The effectiveness of warm compresses on reducing labor pain is supported by several factors, including the media used, namely by using a towel as a compressing medium; water temperature, where the most effective temperature to reduce pain and safe is at a warm temperature of 38-40°C and finally the duration of the compress, the effective compressing time is 20 minutes.

The inhaled jasmine aroma is delivered to the anterior olfactory nucleus via the olfactory nerve and olfactory bulb, where the compound will reach the hypothalamus which is related to the autonomic nervous system. Therefore, olfactory stimulation can affect autonomic nervous activity through the hypothalamus. Furthermore, the hypothalamus has a relationship with the amygdala regarding emotions (feelings). Inhalation of jasmine aroma particles can reduce sympathetic vasoconstrictor activity in muscles and lower blood pressure. In addition, the content of compounds in jasmine aroma can increase parasympathetic nerve activity and lower a person's heart rate, and the presence of sedative content (linalool) can increase a person's relaxation. The presence of linalool content in jasmine aroma will stimulate the hypothalamus to produce sedative substances in the body such as endorphins, enkephalins, serotonin so that it can bring up feelings of joy, pleasure, and relaxation (Kusnaldi et al., 2011).

#### 4. Conclusion

Based on the results of this study, it can be concluded that the results of the univariate analysis obtained the intensity of pain in post- Cesarean section patients before warm compresses with jasmine essential oil aroma were that most respondents experienced moderate pain with a scale range of 4-6. While the intensity of pain in post- Cesarean section patients after warm compresses with jasmine essential oil aroma were that most respondents experienced mild pain with a scale range of 1-3. The results of the





bivariate analysis showed that there was an effect of warm compress therapy with jasmine essential oil aroma on reducing pain intensity in post- Cesarean section patients at Makassar Hospital. Researchers hope to apply warm compress therapy with essential oils in pain management in post- Cesarean section patients.

## 5. Compliance with ethical standards

### Acknowledgements

Researchers would like to thank the hospital leadership and its staff, as well as all parties who have helped carry out this research. Therefore, researchers hope that there will be more services that can help people become healthier.

### Disclosure of conflict of interest

This research collaboration is a positive thing for all researchers so that conflicts, problems and others are absolutely no problem for all writers.

### Statement of informed consent

Every action we take as authors is a mutual agreement or consent.

## Reference

1. Atikah Rahayu, SKM, MPH, et al. 2019. Textbook of Reproductive Health for Adolescents and Elderly. In Journal of Chemical Information and Modeling (Vol. 53, Issue 9).
2. Ali Imran; Dr. A. Nursinah, Verawati, Rusnita. HEALTH COMMUNICATION TEXTBOOK (Key to Success in Hospital Administration). ISBN: 978623-10-0088-0. <https://agdosi.com/2024/04/04/buku-ajar-komunikasi-kesehatan-kunci-sukses-administrasi-rumah-sakit/>
3. Arman, SR 2017. Factors Related to the Selection of Caesarean Section Delivery Method at Agung Hospital, Jakarta, November 2016-October 2017. Journal of Chemical Information and Modeling, 53(9).
4. Bachri, S., Arnianti, A., & Indra, I. (2024). Training and Methods in Implementing Dry Cupping Therapy for Cholesterol Patients at the Healthy Together Clinic in Makassar City. Sahabat Sosial: Journal of Community Service, 3(1), 94–100. <https://doi.org/10.59585/sosisabdimas.v3i1.522>
5. Ministry of Health RI. 2017. Profile Health Indonesia Year 2016. Jakarta: Ministry Health Republic Indonesia.
6. Wound Care And Treatment For Health. ISBN No.: 978-623-09-8231-6. <https://agdosi.com/2024/01/10/wound-care-and-treatment-for-health/>
7. Julita, E., Rahagia, R., Fajar Cahya, MR, Resti Wijayanti, FE, Malaha, N., Rasyid, D., & Pannyiwi, R. (2023). Therapeutic Communication of Nurses in the Surgical Treatment





Publish: Association of Indonesian Teachers and Lecturers  
**International Journal of Health Sciences (IJHS)**

Journal Homepage: <https://jurnal.agdosi.com/index.php/IJHS/index>

Volume 2 | Number 4 | December 2024 |



- Room of RSUD Arifin Nu'mang. *International Journal of Health Sciences*, 1(1), 39–47. <https://doi.org/10.59585/ijhs.v1i1.51>
8. Leonard, P.S.J., Crouse, D.L., Boudreau, J.G., Gupta, N., & McDonald, J.T. (2020). Provider volume and maternal complications after Caesarean section: Results from a population-based study. *BMC Pregnancy and Childbirth*, 20(1).
  9. Masdarwati, M., Kadir, E., Serli, S., Ruben, SD, Pannyiwi, R., & Rante, A. (2023). Counseling on Complementary Foods for Breast Milk with Toddler Nutritional Status. *Sahabat Sosial: Journal of Community Service*, 1(2), 58–60. <https://doi.org/10.59585/sosisabdimas.v1i2.28>
  10. Notoatmodjo, S. 2003. *Health Education and Behavior*. Jakarta: PT Rineka Cipta (2005). *Health Research Methodology*. Nurarif, AH (2016). Application of nursing care based on medical diagnosis and nic-noc nanda. *Jurnal Ners*, 11(October 2, 2016).
  11. Oktavia, NS, & Faridah, BD (2016). The Effect of Jasmine Extract Aroma on Reducing Pain in the First Stage of Active Labor in Parturients. *Applied Science and Education Journal. Research of Applied Science and Education*, V11(4), 323- 330.
  12. Padila, P. (2015). *Maternity Nursing Care 1*. Yogyakarta: Nuha Medika.
  13. Purdue, P. (2010). *Pain Assessment Scale*.
  14. Rini Mayasari. (2020). 1035325 Characteristics Related to Caesarean Section Delivery at H Abdul Manap Regional Hospital, Jambi City in 2019. *Journal of Midwifery: Budi Mulia Health Science Journal*, 10(1), 47-52.
  15. Rezeki, S., & Sari Maya. 2018. Characteristics of Mothers Giving Birth with Indications for Caesarean Section at Martha Friska Pulo Brayon Hospital. *Doppler*, 7(1).
  16. Rahmawati, ALD, & Sari, EL (2023). Case Study of Nursing Care Description of Pain Comfort Disorders in Patients Experiencing Reproductive System Disorders at the Jakarta Regional Hospital. *Barongko: Journal of Health Sciences*, 2(1), 163–175. <https://doi.org/10.59585/bajik.v2i2.233>
  17. Rini Mayasari. 2020. 1035325 Characteristics Related to Caesarean Section Delivery at H Abdul Manap Regional Hospital, Jambi City in 2019. *Journal of Midwifery: Journal of Medical Science, Health Sciences, Budi Mulia Midwifery Academy, Palembang*, 10(1).
  18. Wijayanti, L.A., Lestaluhu, V., Saputra, MKF, Masithah, S., Pannyiwi, R., & Malaha, N. (2024). Readiness for Accreditation of the Administration and Management Working Group at the Basaan Community Health Center Southeast Minahasa Regency. *International Journal of Health Sciences*, 2(1), 48–64. <https://doi.org/10.59585/ijhs.v2i1.239>
  19. Wiguna, TO, Surya, IGHW, Manuaba, IBGF, & Sudirman, J. 2020. Indications for mothers to undergo cesarean section at Sanglah General Hospital, Denpasar in 2018. *Medical Science Digest*, 11(2).
  20. Yusnayanti, C., Manang, I., Pannyiwi, R., Ishmatika, EN, Treasa, AD, & Malaha, N. (2024). Training and Counseling in Improving the Quality of Life of the Elderly Through the Utilization of Posyandu Cekke, Enrekang Regency. *Sahabat Sosial: Journal of Community Service*, 2(4), 461–468. <https://doi.org/10.59585/sosisabdimas.v2i4.416>

