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THE APPLICATION OF SHALLOTS (ALLIUM ASCALONICUM L) AGAINST BREAST ENGORGEMENT

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ABSTRAK

Latar Belakang: Pembengkakan payudara (breast engorgrment) merupakan salah satu masalah yang sering dialami ibu paling awal pada masa setelah persalinan. Pembengkakan payudara terjadi karena peningkatan produksi air susu melebihi kapasitas penyimpanan. Tingkat kejadian pembengkakan payudara yang terjadi pada ibu di masa awal menyusui dapat mencapai hingga 85% terutama ibu primigravida. Sekitar10 % ibu post partum mengalami nyeri payudara akibat dari membengkaknya payudara dan memerlukan obat penghilang rasa sakit untuk meredakan nyeri.

Tujuan: Penelitian ini bertujuan mengetahui efektifitas aplikasi Bawang Merah (Alium Ascalonicum L) terhadap pembengkakan payudara (Breast Engorgement) pada ibu nifas.

Metode: Penelitian ini menggunakan rancangan penelitian quasi eksperimen dengan pendekatan Non Equivalent Control Group. Populasi penelitian ini adalah seluruh ibu nifas yang mengalami pembengkakan payudara (breast engorgement) di Wilayah Kabupaten Pringsewu. Variabel dependen penelitian ini adalah pembengkakan payudara (breast engorgement) sedangkan variabel independent dari penelitian ini adalah bawang merah. Pengumpulan data dalam penelitian ini menggunakan data primer dengan teknik observasi dengan menggunakan instrumen berupa kuesioner/checklist yang diisi oleh responden sebelum dan sesudah melakukan perlakuan. Waktu pelaksanaan penelitian ini adalah tahun 2019.

Hasil :Didapat nilai signifikasi/ nilai Asymp Sig (2–tiled) adalah 0,000 < 0,05. Berarti ada perbedaan hasil skor pembengkakan payudara sesudah diberi kompres bawang dengan hasil skor pembengkakan payudara sesudah perawatan payudara Breast Care.

Simpulan:kompres bawang pada payudara efektif terhadap pembengkakan payudara pada ibu nifas. Bidan mempunyai kemampuan untuk menerapkan terapi komplementer untuk melakukan penatalaksanaan pembengkakan payudara.

Saran: Meningkatkan kemampuan bidan dalam melakukan deteksi dini pembengkakan payudara saat menyusui, meningkatkan pengetahuan dan keterampilan dalam manajemen pembengkakan payudara saat menyusui dengan berbagai metode atau teknik komplementer menggunakan ramuan atau obat tradisional yang terbukti secara ilmiah bermanfaat.

Kata Kunci : Bengkak, Bawang Merah,Payudara

ABSTRACT

Background: Breast engorgement is one of the problems that are most often experienced by mothers in the postpartum period. Swelling of the breast occurs because the increase in milk production exceeds the storage capacity. The incidence of breast swelling that occurs in mothers during early breastfeeding can reach up to 85%, especially in primigravida mothers. About 10% of postpartum mothers experience breast pain due to breast swelling and need painkillers to relieve pain.

Purpose: To determine the effectiveness of the application of Shallots (Alium Ascalonicum L) against breast engorgement in postpartum mothers.

Methods: This study uses a quasi-experimental research design with the Non-Equivalent Control Group approach. The study population was all postpartum mothers who experienced breast engorgement in the Pringsewu District. The dependent variable of this study was breast engorgement while the independent variable of this study was the onion. Collecting data in this study using primary data with observation techniques using instruments in the form of a questionnaire/checklist filled out by respondents before and after treatment. The time of this research is 2019.

Results : of this study found the significance value / Asymp Sig (2-tiled) value was 0,000 <0.05. This means there is a difference in the results of the breast swelling score after being given an onion compress with the result of the breast swelling score after breast care.

Conclusion: Compressing the onion on the breast is effective against breast swelling in the puerperal mother. Midwives can apply complementary therapy to manage breast swelling.

Suggestion Improving the ability of midwives to carry out early detection of breast swelling during breastfeeding, increasing knowledge and skills in breast swelling management when breastfeeding with various complementary methods or techniques using ingredients or traditional medicines that are scientifically proven to be useful.

Keywords: Breasts, Swelling, Shallots.

INTRODUCTION

Breast swelling (breast engorgement) is one of the problems that are often experienced by the earliest mothers in the postpartum period. Swelling of the breast occurs due to increased milk production exceeding storage capacity. Breast swelling can occur in the early days of breastfeeding and can even occur during the breastfeeding process (Cuningham, 2013). The level of breast swelling that occurs in the early period of breastfeeding reaches 85%. Swollen breasts are characterized by painful breasts, visible edema, tension, shiny, redness, breast milk (breast milk) does not flow smoothly, and the mother feels feverish. (Prawiroharjo,2014) About 10% of postpartum mothers experience breast pain as a result of breast swelling and need painkillers to relieve pain (Rumiari, 2018).

The problem of breast engorgement/swelling of the breast needs to be overcome because if it is not handled, it will cause many problems that will arise for both mothers and babies (Prawiroharjo, 2014). Swelling of the breasts at the beginning of breastfeeding can result in a decrease in breast milk production so that there is a process of reabsorption of the milk produced and it is feared that it will accelerate weaning. The acceleration of weaning causes babies not to get exclusive breastfeeding (Cuningham, 2013). The impact of the failure to provide exclusive breastfeeding in babies is the lack of nutritional intake in babies so that it occurs in the end causing health problems in children in the future such as children experiencing stunting because exclusive breastfeeding is one of the causes of stunting in children. Based on WHO data globally in 2017, 151 million children under five 22% are stunted (high is not in accordance with age) and three-quarters are in the Southeast Asian region. (WHO,2018)

Engorgement occurs due to a narrowing of the lactiferous ducts because the glands in the breast are not emptied and have an impact on increasing the flow of veins and lymph which causes pain and temperature rise in the area around the breast. This pain and temperature rise causes discomfort in the mother to give breast milk to her baby as a result of which the milk does not come out and if the swelling is not overcome it can increase the occurrence of blockage of the mastitis ducts and decrease milk production (Takhellambam, 2008).

Breast swelling treatment can be done pharmacologically and non-pharmacologically. Pharmacologically by administering drugs aimed at reducing pain to drugs that function to prevent temporary breast milk production.7 While non-pharmacological therapy is carried out in various ways including acupuncture, cabbage, ultrasound, oxytocin administration, cold compresses, traditional breast treatments, hot compresses, hot compresses, massage combination hot compresses, hot and cold compresses alternately. Pharmacological treatment is not the best choice according to many experts because drugs can cause side effects, therefore treatment with a non-drug approach is widely given to deal with the incidence of breast swelling (Breast Engorgement). (Takhellambam,2008).

One of the ways to deal with this swelling is to do warm compresses and cold compresses. Warm compresses on the swollen breast cause the mammary glands in the breast to dilate so that the blockage of the glands due to milk production can open (Chen, 2015). Cold compresses are used to reduce the pain that the mother feels when the swelling occurs. Many types of compress ingredients can be used to overcome breast swelling problems, namely herbal compresses that use traditional ingredients. Traditional medicines are a descending tradition prescribed by the ancestors in accordance with the local wisdom of the community which is believed not to cause side effects (Tusilawati, 2010). The reason for the use of traditional medicines in overcoming health problems is because ingredients are easily obtained in large quantities at prices that are affordable to the public. (Tusilawati,2010).

Shallots are one of the layered bulbous plants that are one of the Liliaceae family. Shallots contain a lot of substances that are very beneficial to the body. Shallots contain the organic sulfur compound Allylcystein Sulfoxide which is released when the shallots are mashed. This formed allinase enzyme can react with the skin which functions as a blood clot destroyer. (Utami, 2013) Shallots essential oil is also useful for improving blood circulation, and healing

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wounds on the nipples of nursing mothers. The content of cycloaliin, metialiine, quercetin, kaemfreol, and floroglusin is very effective in reducing body temperature (Tusilawati, 2010).

In Lampung Province, the incidence of stunting in 2019 was 26.26%. Exclusive breastfeeding only reached 69.3% still far below the expected target of 80%. Pringsewu Regency is one of the districts in Lampung Province which experienced an increase of 1.24% prevalence of stunting in 2019. The percentage of babies who received exclusive breastfeeding in 2019 has reached the coverage target of Lampung Province of 80.8%. Based on data from the Lampungta Provincial Health Profile in 2019, the coverage of puerperal maternal service visits in Lampung Province was only 90.5% still below the expected target of 95% while Pringsewu Regency had coverage of 92.78%.

Presurvey results from 10 practice midwife clinics in Pringsewu Regency, the number of deliveries in January 2019 – February 2019 amounted to 125 deliveries and 74.4% of them, namely 93 puerperal mothers experiencing breast swelling There has been no research on the treatment of puerperal mothers with breast swelling using traditional ingredients that are widely obtained in their environment. This made researchers want to research shallots compresses for the treatment of breast swelling in the Pringsewu District. This study was conducted to determine the effectiveness of shallots compresses in overcoming the problem of breast swelling (breast Engorgement) in puerperal mothers so that mothers can exclusively breastfeed their babies.

METHODOLOGY

This study used a quasi-experimental, two-group with Pre-test and Post-Test Control Group Design, which is a research method to determine differences in the effectiveness of interventions in the experimental group by comparing the two treatment groups. The first group received an intervention with shallots, the second group was a control group with breast care. Both groups were observed to assess the scale of breast engorgement using a standard instrument by conducting a direct assessment of the incidence of breast engorgement using the Six Point Engorgement Scale (SPES). The measurement of breast engorgement used 6 questions. This instrument refers to the instrument that has been used in Hill PD's research, Humenick SS, and has been tested for validity and data reliability tests of (r = 0.84) (Whittlestone, 2008).

The subject of this study is postpartum mothers who experience breast swelling using the Six Point Engorgement Scale (SPES). The diagnosis was confirmed by a midwife who is also an enumerator in this study. The population in this study were all postpartum mothers in the Pringsewu Regency. The research subjects were 32 people with 16 people in the control group and 16 people in the intervention group. The sampling technique in this study was non-probability sampling with consecutive sampling with inclusion criteria: (a) postpartum mothers with breast swelling (b) not allergic to shallots (c) postpartum mothers with live babies. Exclusion criteria: (a) the mother is on treatment for suppression of lactation (b) the mother has mastitis or breast abscess (c) the mother is diagnosed with breast cancer. The sampling method was carried out on mothers who came to several midwife practice clinics in the Pringsewu Regency area. The intervention group was given compresses on the swollen breasts using crushed/pounded shallots. on the breast except for the areola and nipple. Compressing is done 2 times a day (morning and evening) before the mother takes a bath for 30 minutes for 3 consecutive days.

The primary data collection instruments used were informed consent sheets, observation sheets before the test (Pre-test) and after the test (Post-test), and the assessment instrument for breast swelling before the intervention in the treatment group and control group using the Six Point Engorgement Scale (SPES). Analysis of research data was carried out with the help of computers using a non-parametric statistical test, namely the Wilcoxon test because the data were not normally distributed and continued with the Mann-Withney test to see the post-intervention comparison between the control and intervention groups.

RESULTS

Univariate Analysis of Respondent's Characteristics

Based on table 1, it is known that the characteristics of 32 respondents obtained the results of most respondents: aged 20-35 years, namely 26 people (81.25%), basic education, namely 15 people (46.9%), mothers not working 29 people (90.6%), mothers with parity more than 1 amounting to 20 people (62.5%), mothers giving birth per-vaginally as many as 30 people (93.75%), the condition of the nipples of their breasts normally (protruding) as many as 29 people (90.6%), experienced swelling starting less than 3 days as

many as 21 people (65.6%), did not do breast care during the ANC as many as 22 people (68.75%), had a previous history of breast swelling as many as 16 people (50%) and all respondents in one breastfeeding their baby.

Table 1.
Characteristics of Respondents

Characteristics		Frequency	Percentage
Age	20 – 35 Years	26	81.25
	< 20 / > 35 Years	6	18.75
Education	Elementary	15	46.88
	Middle School	14	43.75
	High	3	9.37
Working Status	Working Mother	9.37	Not
	non-working mothers	29	90.63
Parity	1	12	37.5
	> 1	20	62.5
Type of Delivery	Vaginal Birth	30	93.75
	SC	2	6.25
Breast Nipple Condition	Protruding	29	90.63
	Flat	3	9.37
Days Start of Swelling	3 days	21	65.63
	> 3 days	11	34.37
Breast Care during ANC	Treatment	10	32.25
	No Treatment	22	68.75
History of Breast Swelling	Ever	16	50
	Never	16	50
Breastfeeding Status	Breastfeeding	32	100
	Not Breastfeeding	0	0

Univariate

Analysis Breast Swelling Score Analysis

In this study, 32 samples were obtained that met the criteria which were divided into 2 groups, namely the shallots compress group and the breast care group(breast care). Each group will be measured breast swelling scores before and after the intervention whose results are both compared and seen the results of the changes. The results of changes before and after the intervention in both groups can be seen in the table below:

Table 2.
Differences in the score scale of breast swelling in the shallots compress group and the breast care, group

Differences in the scale of Pre and post	Shallots		Breast Care		Total
	N	%	N	%	
Decrease	16	100	14	87.5	30
Increase	0	0	0	0	0
Fixed	0	0	2	12.5	2

From table 2, it can be seen that the percentage value of the difference in the pre-intervention and post-intervention breast swelling scores of the shallots compress group and the breast care group (Breast Care). Of the total samples 32, 30 samples decreased and 2 samples had fixed scores, all of which were in the breast care group.

Based on Table 3 for the shallots compress group, it was shown that the breast swelling score values before and after being given shallots

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compresses on the mother's breasts were both 16 people. The average score value of breast swelling before being compressed was 4.19 with a standard deviation of 0.655, with a value of at least 3 and a maximum value of 5. While the average score value of breast swelling after being compressed by shallots is 1.50 with a standard deviation of 0.730 is 0.655, with the smallest value of 1 and the largest value of 3.

Table 3.
Distribution of Breast Swelling Scale Before and After Shallots Compressing Breasts

Value	N	Min	Max	Average	Standard Deviation
Pre-Shallots Compress	16	3	5	4,19	0,655
Post-Shallots Compress	16	1	3	1,50	0,730
Pre-Breast Care	16	3	5	3,87	0,619
Post-Breast Care	16	1	3	2,25	0,577

The breast care group showed that the score scores of breast swelling before and after breast care (Breast Care) on the mother's breasts were both 16 people. The average score of breast swelling before breast care is 3.87 with a standard deviation of 0.619, with a value of at least 3 and a maximum value of 5. Meanwhile, the average score value of breast swelling after breast care is 2.25 with a standard deviation of 0.577 is 0.655, with the smallest value of 1 and the largest value of 3.

Table 4.
Wilcoxon test results from red shallots compress with breast care (breast care)

Value	Mean	Difference	Z count	p
Pre-Shallots Compress	4.19	2.69	-3,593	0.000
Post-Shallots Compress	1.50			
Pre-Breast Care	3.87	1.62	-3,376	0.000
Post–Breast Care	2.25			

Table 4 shows the results of breast swelling scores before and after shallots compresses and breast care have a p-value = 0.000 which means p = <0.05, so it can be concluded that the shallots compress group and the breast care group both have differences before and after the intervention. Then it can be said that there is an effect of shallots compresses on breast swelling, meaning that shallots compress on the breasts are effective against breast swelling in puerperal mothers.

DISCUSSION

The results of a study conducted on 32 respondents found that there was a significant difference between the breast swelling score value in the shallots compress group and the breast swelling score value in the breast care group. Mann Whitney's statistical test results show that the Asymp Sig (2–tiled) value is 0.000 which means < 0.05. This means shallots compresses on the breast are effective against breast swelling in puerperal mothers.

Research on the use of shallots in overcoming breast swelling has not been found, but researchers conducted a literature review with relevant literature on this research topic, namely the use of shallots as one of the herbal medicines that are widely used and trusted by the public. Analysis of the benefits of shallots content as well as the pathophysiology of the benefits of shallots. In addition, the author will conduct studies using other relevant research approaches used to support this research, namely studies related to overcoming breast swelling using herbal ingredients or traditional medicines.

Breast swelling is a condition that occurs in nursing mothers that occurs a lot before the third day of postpartum Breast bending is caused by static electricity in the blood vessels and lymph vessels, which increases intraductal pressure, which affects different parts of the breast, and increases pressure throughout the breast. This is because of blockages in the ducts. This can happen on one or more channels (Bahiyatun, 2009). Breast swelling causes discomfort in nursing mothers and is one of the factors that cause the failure of exclusive breastfeeding. If this swelling is not resolved properly it will increase pain and can become complications

such as mastitis. Breast swelling during breastfeeding will greatly affect the lactation process which includes the onset and duration of lactation and can inhibit the development of successful breastfeeding causing early breastfeeding cessation and will result in breast infections

The results of studies to overcome breast swelling have been carried out by giving various kinds of treatments both pharmacologically with anti-inflammatory drugs, oxytocin, and non-pharmacological therapies such as warm compresses, cold compresses, cabbage (Zuhana, 2017), acupressure and acupuncture (Mangesi, 2016), gua sha (Chiu et al., 2010), and the administration of herbal ingredients.

Herbal medicines have received recommendations as one the alternative treatments in today's world. Herbal medicines are medicines whose processing is carried out traditionally, recipes descending from predecessors and related to beliefs, customs adopted, and customs within the scope of a particular society. Traditional medicines have been widely used because based on research do not cause many dangerous side effects during treatment or treatment if their use is correct. The content of traditional medicines has a complex composition, organic, easy to obtain, and economically very affordable. (Sudradjat,2016). Based on the ingredients used in this study, namely shallots as one of the herbal medicines that are widely used as a body temperature lowering drug. There have been many research results that link the application of shallots compresses to a decrease in body temperature. Referring to the Manuscript of Primbon Jampi Java Fiber Volume I in Mulyani's research, 2017 stated that many traditional medicines/herbs used to treat / swollen diseases including swollen breasts are in the form of medicinal materials derived from wood, grains, rhizomes, flowers, foliage, tubers, and others. This medicinal material is an ingredient that exists in the residential environment and is relatively easy and cheap to obtain.

Shallots (Allium Cepa L) is a member of famillia liliaceae, is a layered bulbous plant that contains various beneficial substances such as potent flavon glycosides as bacteria killers and can be used in wound treatment including wounds on the nipples of the breasts, essential oils to improve blood circulation, as well as wound healers, saponins as sputum thinners, cycloalins, are substances that can lower body temperature, floroslusin as one of the cancer prevention drugs, vitamins and minerals are useful for body metabolism. (Tusilawati. 2010).

One of the signs and symptoms of breast swelling is a rise in body temperature or temperature in the breast that is swollen. (Prawiroharjo,2014). In general, if the body or one part of the body is swollen, the body temperature will rise. An easy way to reduce swelling gradually is to reduce body heat. (Mulyani,2017). For a long time, some people believe that shallots have various benefits in traditional medicine such as reducing fever/body temperature by giving a bandage because the ground shallots are semi-liquid or wet, thickening aimed at being able to seep into the pores, and how to give with compresses/tapes which are done twice in the morning and evening intended to maintain body temperature to be warm. (Ethics,2017)

In this study, shallots compress therapy was given to breasts that experienced swelling by compressing directly on the breasts 2 times a day in the morning and evening before bathing. This is in accordance with the 2001 Bove study which states that herbal remedies can be combined with the principle of hydrotherapy and used as compresses or for baths

The composition of shallots has a cycloaliin content which is a substance that works well giving signals of a decrease in body temperature so that this plant is used as an antipyretic drug. The application of shallots compresses will give a signal to the hypothalamus through the spinal cord. Hypothalamus is the main center for maintaining energy balance and body temperature, hypothalamus functions as a body thermostat that is continuously informed about skin temperature and core temperature through special temperature-sensitive receptors called thermoreceptors. When the receptor is stimulated the system effector emits a signal that initiates sweating and peripheral vasodilation. Changes in the size of blood vessels are regulated by the vasomotor center in the medulla oblongata of the brain, under the influence of the hypothalamic anterior part so that vasodilation occurs. Vasodilation causes the dissipation or loss of energy or heat through the skin to increase. (Setiana,2020).

Shallots compressed on the breasts that experience swelling provide a warm effect that works through the use of thermal energy through the method of conduction and evaporation, namely the transfer of heat from another object by direct contact. When warm skin touches warm, heat transfer will occur through evaporation so that the transfer of heat energy turns into a gas (Cahyaningrum, 2014). This research is in line with the research of Lawrence & Lawrens 2005, Mangesi & Zakarijja-Grkovic, 2016 and Pustotina, 2016 that heat/cold packages can be used to treat breast swelling during postpartum early.

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One of the signs that mothers feel when their breasts are swollen is pain. Pain is one of the clinical manifestations of breast swelling, where the breast will feel painful, hot, touched, and tense (Saifuddin, 2002). The warm effect of shallots administration in addition to the decrease in temperature can also reduce pain, this is the effect of shallots heat, the author assumes the same thing as a hot/warm compress. Warm compresses are associated with the occurrence of vasodilation of blocked breast milk ducts, lowering the local skin temperature helps tissue circulation and metabolism. Warm compresses can also reduce muscle spasms and increase pain thresholds (Simkin and Ruth,2005). Hot compresses can relieve ischemia and launch blood vessels thus relieving pain by reducing tension and increasing feelings of well-being. (Witt and Bolman,2015). According to Potter and Perry (2006) in Nengah and Surinati (2013), the administration of hot compresses causes a warm effect and a stimulating effect on kuteus in the form of touch. This effect causes the release of endorphins, thus blocking the transmission of the pain stimulus.

The application of shallots compresses on the surface of the skin has the effect of changing the size of venous blood vessels (vasodilation) and inhibiting heat production. The compound profile disulfide and profile metal disulfide which are one of the compositions of shallots are volatile therefore allowing the acceleration of body heat transfer to the skin (evaporation) (Setiana, 2020). The effect of applying shallots compresses is what is expected to improve the painful and swollen condition of the breasts. Breast swelling is one of the main problems when breastfeeding and becomes a reason to stop breastfeeding in the first two weeks. Various studies and studies have been carried out to determine the causes and ways to overcome breast swelling when breastfeeding starting from preparation for the breastfeeding process, detecting factors that cause swelling, breastfeeding management including increasing nursing mothers' knowledge about the benefits of breast milk, how to breastfeed, correct breastfeeding techniques, breast care before and during breastfeeding, to how to overcome breastfeeding problems including breast swelling.

Despite the promising results of the intervention in this study, namely the administration of shallots compresses, there are still shortcomings that are possessed such as sufficient trial evidence from the intervention to the limitations of respondents and the time of the study so that further studies are needed. In recent years, midwives have become more numerous and more likely to use complementary practices in providing obstetric services (Septiani, 2019). Midwives play an important role in the early detection and proper management of breast swelling to maintain health and increase breastfeeding success. The administration of shallots compresses in this study contributed to a different approach in the provision of obstetric care related to breast swelling in nursing mothers. Midwives can evaluate the traditional methods used to treat breast swelling and encourage them to use rational and proven useful methods. Implement breast care services during pregnancy before breastfeeding.

CONCLUSION

Based on the results of research on the effectiveness of shallots application (Alium Ascalonicum L) on breast swelling (Breast Engorgement) in puerperal mothers that has been carried out, it can be concluded that there are differences in the post data of the shallots compress group with the breast care group/breast care obtained a significance level of 0.000. This suggests that shallots compresses are effective in lowering breast swelling

SUGGESTIONS

Improving the ability of midwives to carry out early detection of breast swelling during breastfeeding, increasing knowledge and skills in breast swelling management when breastfeeding with various complementary methods or techniques using ingredients or traditional medicines that are scientifically proven to be useful.

DAFTAR PUSTAKA

Bahiyatun, S. P. (2009). Buku Ajar Asuhan Kebidanan Nifas Normal. EGC.

Bobak, Irene. M., Lowdermilk., and Jensen (2004) Buku Ajar Keperawatan Maternitas. Edisi 4. Jakarta : EGC.

Bove, M. (2001). Fever. Dalam: An Encyclopedia of Natural Healing untuk Anak dan Bayi.

Cahyaningrum, E. D. (2017). Pengaruh kompres bawang merah terhadap suhu tubuh anak demam. Bidan Prada.

Chen F.-H, Chen S.-L, Hu W.-Y.(2015) Taiwanese Women's Experiences of Lactation Suppression After Stillbirth. Journal of Obstetric, Gynecologic, Neonatal Nursing. http://dx.doi.org/10.1111/1552-6909.12724 .

Chiu, J. Y., Gau, M. L., Kuo, S. Y., Chang, Y. H., Kuo, S. C., & Tu, H. C. (2010). Effects of Gua-Sha therapy on breast engorgement: a randomized controlled trial. Journal of Nursing Research, 18(1), 1-10.

Cunningham (2013) William Obstetri. EGC. Jakarta.

Dinas Kesehatan Kabupaten Pringsewu (2019). Kabupaten Pringsewu dalam Angka 2019.

Dinas Kesehatan Prov.Lampung (2019). Profil Kesehatan Provinsi Lampung tahun 2019. Lampung: Dinas Kesehatan Prov. Lampung.

Indrani, D., & Sowmya, M. V. (2019). A Study to Find the Prevalence of Breast Engorgement among Lactating Mothers. J Reprod Med Gynecol Obstet, 4, 023.

Kiranmalanchanu, Takhellambam (2008) a study to evaluate the effectiveness of warm compress on reduction of breast engorgement among primi posnatal mothers admitted in selected hospitals at kolar district, Karnataka.

Lawrence, R. A., & Lawrence, R. M. (2005). Breastfeeding. A guide for the medical profession 6 th ed. St. Louis: Mosby.

Mangesi, L., & Zakarija-Grkovic, I. (2016). Treatments for breast engorgement during lactation. Cochrane Database of Systematic Reviews, (6).

Mulyani, H., & Harti, S. (2017). Pengobatan tradisional jawa dalam manuskrip serat primbon jampi jawi. Litera, 16(1).

Nengah Runiari.dkk (2018). Pengaruh Pemberian Kompres Panas terhadap Intensitas nyeri Pembengkakan payudara Pada ibu postpartum di Wilayah Kerja Puskesmas Pembantu Dauh Puri

Nengah, & Surinati. 2013. Pengaruh Pemberian Kompres Panas Terhadap Intensitas Nyeri Pembengkakan Payudara Pada Ibu Post Partum di Wilayah Kerja Puskesmas Pembantu Dauh Puri

Prawirohardjo, Sarwono (2014) Ilmu kebidanan. Yayasan Bina Pustaka. Jakarta

Roesli, Utami (2009) Mengenal ASI Eksklusif. Jakarta: Trubus Agriwidya

Saifuddin, A. B. (2006). Buku acuan nasional pelayanan kesehatan maternal dan neonatal. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo,

Septiani, R., & Lestari, G. I. (2020). Hubungan Karakteristik Bidan dengan Praktik Kebidanan Komplementer di Praktek Mandiri Bidan. Jurnal Ilmiah Keperawatan Sai Betik, 15(2), 114-119.

Setiana E. 2020. Pengaruh Kompres Bawang Merah Terhadap Penurunan Suhu Tubuh Anak Demam. Purwokerto: Repository Universitas Muhammadiyah

Simkin, P., & Ancheta, R. (2005). Buku saku persalinan. Jakarta: EGC.

Sudradjat, S. E. (2016). Mengenal berbagai obat herbal dan penggunaannya. Jurnal Kedokteran Meditek, 22(60), 62-71.

Tusilawati, Berliana. 2010. 15 Herbal Paling Ampuh. Yogyakarta: Aulia Publishing

Utami Prapti and Lina Mardiana. (2013). Umbi Ajaib Tumpas Penyakit. Jakarta: Penebar Swadaya,

WHO. (2018).World Health Statistics 2017 Monitoring Health for the SDGs, Sustainable Development Goals"Management of breast conditions and other breastfeeding difficulties". National Center for Biotechnology Information US National Library of Medicine. Retrieved 4 August 2017. This article incorporates text from this source, which is in the public domain

Zuhana, N. (2017). Perbedaan efektifitas daun kubis dingin (Brassica Oleracea Var. Capitata) dengan perawatan payudara dalam mengurangi pembengkakan payudara (Breast Engorgement). Jurnal Ilmiah Bidan, 2(2), 51-56.