



## The effectiveness moxibution on breast milk production in postpartum primipara mother

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### Abstract

**Background:** Lactation is a natural way of providing good nutrition through breast milk which is useful as an antibacterial and antiviral agent to protect babies from infection. Providing less than optimal breastfeeding can contribute 11.6% of the mortality of children under the age of 5 years. One reason for the lack of milk production is stress. Postpartum stress often occurs due to high anxiety pressure and feeling guilty. Mothers who feel fatigue and stress have high cortisol levels, which can inhibit the process lacto genesis. Alternatives to facilitate breast feeding can be done through pharmacological therapy and non-pharmacological therapy. Non-pharmacological therapy including massage therapy, hypnotherapy, moxibution, music therapy, warm therapy and feeding. Moxibution is Traditional Chinese Medicine (TCM) which is believed to have a positive effect to overcome anxiety and stress in postpartum mothers where moxa contains essential oils from leaves *Artemisia Vulgaris* and can soothe the soul.

**Method:** The type of research used is the Quasy Experiment Research with a pretest and posttest design. This research compiled two groups, namely the moxibution group and accupressure group. Technique Non probability sampling with method was consecutive sampling used to get 30 respondents divided into 2 groups.

**Result:** Paired t test show p value <0.05, which means that the administration of moxibution and accupressure was effective in increasing breast milk production as seen from the indicator of infant weight with a mean weight in the moxibution group 3.63 where the mean was higher compared to the accupressure group of 3.44.

**Conclusion:** The results of the study after being given therapy moxibution increased the mother's production of breast milk, so that the therapy was effectively implemented in postpartum mothers especially with primiparous postpartum mothers.

**Keywords:** Moxibution, accupressure, breast milk (ASI), Primipara Postpartum Mother

### 1. Introduction

Lactation is a natural way of providing good nutrition through breast milk which is useful as an antibacterial and antiviral agent to protect babies from infection <sup>[1, 2]</sup>. WHO recommends that exclusive breastfeeding be given until the age of 6 months and partial breastfeeding until the child is two years old to optimize children's health. As the best food for babies, it turns out ASI has not been fully utilized by the community, especially in mothers who have babies because there is a shift in the use of formula milk in some groups of people <sup>[3]</sup>.

Provision of less than optimal breastfeeding can contribute 11.6% of the mortality of children under the age of 5 years. This is evidenced by the decrease in breastfeeding based on increasing age ie 0 months of age of 39.8%, age of 1 month decreased to 32.5%, age of 2 months decreased to 30.7%, age of 3 months decreased to 25.2%, 4 months of age of 26.3% and 5 months of age dropped dramatically to 15.3%. In addition to the data obtained according to the increasing age of the baby, but can also see data globally <sup>[4]</sup>.

According to the World Health Organisation (WHO) stipulates that the target (2025) is at least 50% of the number of infants under six months who are given exclusive breastfeeding. Data from UNICEF explained that the percentage of exclusive breastfeeding in 2016 for 6 months was only 38% <sup>[5]</sup>. In developing countries only 39% of mothers give exclusive breastfeeding for 6 months. In

Southeast Asia the achievement of exclusive ASI shows numbers that are not much different. The coverage of exclusive breastfeeding in India reached 46%, in the Philippines 34%, in Vietnam 27% and Myanmar 24% <sup>[6]</sup>.

In Indonesia the coverage of breastfeeding in 2017 increased by 35.7% compared to 2016 which was 29.5% <sup>[7]</sup>. and in Central Java Province the coverage of breastfeeding in 2017 reached 41.9% where the increase in coverage of breastfeeding in Indonesia has increased every year, but the coverage that has been obtained is still not reaching the target according to the Ministry of Health of 80% <sup>[8]</sup>. Of the 35 cities in Central Java Province, Semarang City is the city with the fourth lowest ASI coverage of 19.5% <sup>[9]</sup>. Coverage of breast milk in Pegandan Puskesmas is 40.96% and Ngaliyan Health Center is 48.70% in 2017 <sup>[10]</sup>.

The failure to give breast milk for 6 months will have an impact on the baby's condition. Some studies show that the impact can be seen from the morbidity of infants with stunting of 37.2% <sup>[11]</sup>, respiratory infections by 23.8%, <sup>[12]</sup> malnutrition by 13.9% <sup>[13]</sup>, gastrointestinal infections by 31.4% <sup>[12]</sup> and obesity 12.2% <sup>[14]</sup>. Research conducted by Nur Azizah (2013) states that infants who do not get breast milk will get the disease 1.4 times greater than babies who get breast milk adequately <sup>[4]</sup>.

Government efforts to reduce the incidence of morbidity in infants and toddlers by giving exclusive breastfeeding for 6 months are in Government Regulation No. 33 of 2012

concerning exclusive breastfeeding as a guarantee of fulfillment of the baby's right to get the best food source (ASI) from birth to six months without adding additional food and other drinks [15].

Postpartum stress often occurs due to high anxiety pressure and feeling guilty. Mothers who feel fatigue and stress have high cortisol levels, which can inhibit the process of lactogenesis. As the process of breastfeeding there are three stages, namely lactogenesis I, lactogenesis II and lactogenesis III. Problems that occur in nursing mothers are caused by hypogalactia, this occurs due to congenital dysplasia, dietary problems, lack of zinc and stress, thus contributing to the inhibition of secretion of prolactin levels. Overcoming the problem of hypogalactia, the need for therapy that can launch ASI [16].

Alternatives to facilitate breastfeeding can be done through pharmacological therapy and non-pharmacological therapy. Research conducted by Vincencius (2016) shows that pharmacological therapy with domperidone drugs in nursing mothers has side effects namely abdominal cramps and dizziness [17]. Overcoming the side effects of pharmacological treatment, can be given with non-pharmacological therapy, this is found in Minister of Health Regulation No. 103 of 2014 concerning traditional health services, where the benefits and safety are scientifically proven. According to research conducted by Winterfeld (2012) and Amir (2014) states that non-pharmacological therapy including massage therapy, hypnotherapy, music therapy, warm therapy and feeding [18, 19].

According to Loretta (2012) states that massage therapy is recommended to overcome the smoothness of breastfeeding, but most people do not know the benefits of existing methods, so that the community has not fully implemented if experiencing problems in breastfeeding resulting in easier use of formula milk so the prevalence of exclusive breastfeeding coverage has not reached its target to date. [20] Research conducted by Parisa and Athens (2018) shows that the results obtained through massage reflexology have not been statistically significant for breast milk production which is assessed from the volume of breast milk, this is because the psychology of mothers during the study is unstable, reducing the motivation of mothers to breastfeed [21, 22].

Diah Research (2017) showed that massage at the acupuncture point ST 16, ST17, SP18, SI1, ST 36 and CV17 for 3 days 2 times lower than hypnotherapy, the researcher suggested observing the emphasis of each point and adding a point which can facilitate ASI. [23] This study conducted an experiment by comparing the treatment of hypnotherapy and massage at the acupuncture or acupressure point where acupressure was not significant in increasing milk production, so we placed acupressure massage as a comparison group.

The results of research conducted by Agustina (2016) showed that aromatherapy massage can reduce cortisol levels by 28% in postpartum mothers who experience depression when giving breast milk [24]. But these studies differ from research conducted by Mariana (2017) showed that a non-pharmacological therapy dititik aularis postpartum mothers in overcoming anxiety when breastfeeding is statistically not significant, but the

researchers suggest that new discoveries that can overcome psychological postpartum mothers [25].

Moxibution is Traditional Chinese Medicine (TCM), known for 2500 years in China treatment is Moxibution believed to have a positive effect to overcome anxiety and stress in postpartum mothers where moxa contains essential oils from the leaves of *Artemisia Vulgaris* and can soothe the soul [26]. Addition of acupuncture points CV17, ST16, ST18, ST36, LI4, SP6, BL17, BL18 through techniques moxibution cause warmed vasodilation and can increase blood flow that can launch ASI [26, 27].

Proving the existence of innovative interventions in dealing with the problem of ASI production in postpartum mothers, researchers are interested in conducting research on the effectiveness of moxibution compared to acupressure on breast milk production in postpartum mothers.

## 2. Methods

This type of research uses Quasy Experiment Research with a pretest and posttest design. The researchers compiled two groups: the first intervention group given therapy moxibution and those given therapy acupressure in the intervention group two. The administration of moxibution intervention was given twice for 15 days and the intervention of acupressure was given twice for 15 days. The method used to assess the baby's weight using a BB scale specifically for babies. Measurement of infant weight is carried out before and after administration of the therapeutic action.

The population of this study was all postpartum mothers at Pegandan Health Center and Ngaliyan Health Center in Semarang City. Determination of the minimum number of samples using technique sampling non-probability with method consecutive sampling. And based on the inclusion and exclusion criteria as many as 30 postpartum mothers who were not fluent in giving breast milk production were divided into 2 groups with 15 respondents each in the group moxibution and 15 respondents in acupressure group.

In this study researchers conducted data collection by observation and identification. The collected data was analyzed through the IBM SPSS program version 24.0, and continued with the effect test namely parametric test (Paired t test and Independent t test). The processed data is used as the basis for discussing problem statements, which are then presented in table form so conclusions can be drawn.

## 3. Results

Based on the table above, data on the characteristics of respondents based on age i.e. in the intervention group I the average age of 20-35 was 14 respondents (93.7%), while in the Intervention group II the average age of 20-35 years was 14 respondents (93.7%). The education history of most of the high school educated as many as 8 respondents (53.3%), PT (Higher Education) as many as 6 respondents (40%) and SMP as much as 1 respondent (6.3%). Then most of the work history did not work as many as 8 respondents (53.3%) and work as many as 7 respondents (46.6%), while in the Intensive II group most of them did not work 8 respondents (53.3%) and worked 8 respondents (46.6%). So the results of the test chi square show that both groups have the same or homogeneous variant with a p value > 0.05.

**Table 1:** Descriptive characteristics of respondents from age, education and occupation in intervention group I and intervention group II

Characteristics		Group of respondents				Total		P value <sup>a</sup>
		Intervention I		Intervention II				
		N	%	n	%	n	%	
Age	<20 year	1	6.3%	1	6.3%	2	6.25%	0.463 *
	20-35	14	93.7%	14	93.7%	28	93.5%	
	>35 year							
	Total	15		15		30	100	
Education	up to junior high school	1	6.3%	1	6.3%	2	6.25%	0.952*
	high school	8	53.3%	8	53.3%	16	53.3%	
	College	6	40%	6	40%	12	40%	
	Total	15		15		30	100	
Work	work	7	46.6%	8	53.3%	15	50%	0.723*
	does not work	8	53.3%	7	46.6%	15	50%	
	Total	15		15		30	100	

<sup>a</sup> Chi Square \*Level of sig> 0.05

**Table 2:** Descriptive Characteristics of Dependent Variables in Intervention Group I and Intervention II

Variable	Group		n	Median	Mean	SD	p value <sup>a</sup>
Baby's weight	Intervention	Pre-test	15	3220.00	3184.38	356.214	0.107*
	Control	Pre-test	15	3137.50	3085.9	261.255	
	Intervention	Post-test		3350.00	3318.75	356.312	0.172*
	Control	Post-test	15	3300.00	3231.25	286.865	

<sup>a</sup> Chi Square \*Level of sig> 0.05

Based on the table above, showed that the average weight infants in the intervention group I before treatment amounted to 3184.38 (SD 356,214), while in the Intervention II group amounted to 3085.94 (SD 261,255). Then after treatment in the intervention group I the average baby's weight increased to 3318.75 (SD 356,312), while in

the Intervention II group the average baby weight was 3231.25 (SD 286,865). Conclusions from the results of the analysis show that the mean or average value of cortisol hormone and ASI production in the intervention group I and Intervention II is homogeneous or equivalent to the p value> 0.05.

**Table 3:** Descriptive Characteristics of Respondents by Breastfeeding Status Anxiety and the Intervention Group I and II Intervention

Variable	Group		n	Median	Mean	SD	p value <sup>a</sup>
Anxiety (DASS)	Intervention I	Pre-test	15	12.50	12.81	2.834	0.430*
	Intervention II	Pre-test	15	12.50	12.75	2.266	
	Intervention I	Post-test	15	13.50	13.00	1.897	
	Intervention II	Post-test	15	13.00	12.81	1.642	
Breastfeeding status	Intervention I	Pre-test	15	7.00	7.31	0.479	0.812*
	Intervention II	Pre-test	15	7.00	6.81	0.544	
	Intervention I	Post-test	15	10.00	10.44	0.512	
	Intervention II	Post-test	15	11.00	10.63	0.719	

<sup>a</sup> Chi Square \*Level of sig >0.05

Based on the table above, it shows that the average anxiety in the intervention group I before treatment was 12.81 (SD 2,834), while in the Intervention II group it was 12.75 (SD 2,266). Where as after treatment in the intervention group I the average anxiety became 13.00 (SD 1,897), while in the Intervention II group the mean anxiety was 12.81 (SD 1,642). The homogeneity test results of the two groups showed that the data variants were homogeneous or equivalent, there were no significant differences in the mean of anxiety before and after the treatment between the intervention group I and Intervention II with a p value >0.05.

Then the mean breastfeeding status in the intervention group I before treatment was 7.31 (SD 0.512), while in the Intervention II group it was 6.81 (SD 0.544). Whereas after treatment in the intervention group I the average breastfeeding status increased to 10.44 (SD 2.620), while in the Intervention II group the mean breastfeeding status was 10.63 (SD 0.719). The homogeneity test results of the two groups showed that the data variants were homogeneous or equivalent, ie there were no significant differences in the mean breastfeeding status before and after treatment between the intervention group I and Intervention group II with a p value >0.05.

**Table 4:** Differences in assessment of breast milk production with indicators of infant weight before and after intervention group I and intervention group II

Group		Mean	SD	p value <sup>a</sup>
Intervention I	Pre-test	3184.38	356.214	0.000*
	Post-test	3318.75	356.312	
Intervention II	Pre-test	3085.94	261.225	0.000*
	Post-test	3231.25	286.865	

Paired t test \*Level of sig> 0.05

Based on the table above, the mean body weight before the intervention group I was 3184.38 and after intervention was 3318.75, while in the intervention group II was average before the amount of 3085.94 and after the intervention was given the average baby weight was 3231.25. The results of the statistical analysis of the two groups using the paired t-

test showed that the p value was 0,000, it can be concluded that there were significant differences in infant weight before and after the intervention (p value <0.05). So that the intervention group I and intervention group II both had an effect on increasing the baby's weight.

**Table 5:** Analysis of differences in assessment of breast milk production with indicators of infant weight between intervention group I compared with Intervention group II

Variable	Group	Mean	SD	p value <sup>a</sup>
Baby's weight	Intervention I	134,38	73,814	0,707*
	Intervention II	145,31	88,741	

Independent t test \*Level of sig> 0.05

Based on the table above, it shows that there is no difference in mean gainscore of infant weight in intervention group I and Intervention group II. The results of the analysis using the independent t-test obtained p value 0.707. This shows that there was no significant difference in infant body weight between the intervention group I compared with the

intervention group II gain score (p> 0.05). Based on the value of the average difference in infant weight in the intervention group I amounted to 134.38, while the Intervention group II was 145.31. This shows that in the intervention group I and Intervention group II it was effective in increasing the baby's weight.

**Table 6:** Analysis of differences in variable body weight before and after intervention in the intervention group and control group by controlling for variables of age, anxiety and breastfeeding status.

Model		P value <sup>a</sup>	R	R Square
Baby's weight (Breast milk production)	Group	0,729	0,216	0,100
	Age	0,021*		
	breastfeeding status	0,289		
	Anxiety	0,747		

Ancova, \*Level of sig> 0.05

Based on the table above, shows the gain score of infant weight between intervention group I and Intervention group II after being controlled by variables of age, breastfeeding status and anxiety did not have a simultaneous effect on ASI production with a p value of 0.792 (p> 0.05). However, from a number of controlled variables, it was found that the most dominant variable influencing the baby's weight was the age variable with a p value of 0.024 meaning that at the 95% confidence level it could be said that there was an influence on infant body weight as an indicator of breast milk production with age variables. The results of determination (R Square) in the group (moxibution), age, breastfeeding status and anxiety simultaneously had an effect of 0.100 or 10% on infant body weight while the remaining 90% was influenced by other factors not examined in this study.

**5. Discussion**

Based on the results of statistical tests it was found that moxibution and acupressure were effective against infant weight. However, based on the average gain score of infant weight in both groups experienced an increase. At moxibution the average difference in infant weight is 134.38, while acupressure is 145.31. Then, ANCOVA test was conducted that there was a correlation of age variables

with infant weight as one indicator of breast milk production in the group moxibution with a p value of 0.024 (p <0.05). In general, milk is given on the first day as much as 60ml / kg BB a day. In normal babies, they will lose 5-10% of weight in the first week, this is due to the release of meconium and other fluids. In the second week, the baby's weight is at least the same as the time of birth or experiencing an increase [28]. According to meridian theory, as the human body has a bioenergy system that flows through the 12 main meridians and has two single midlines following the midline of the body that is in front of and behind the spine. Stimulated acupuncture points can cause deqi or qi (energy) [29]. ST36 acupuncture points are believed to increase the activity of the parasympathetic nervous system so that this point is usually used to treat patients with anxiety or depression and point BL17, BL18 has a function to improve the maternal immune system postpartum and has an anti-inflammatory effect. As a non-pharmacological anti-inflammatory treatment can be given with warm therapy and the benefits it has provides a relaxing effect through several acupuncture points [30]. Research conducted by Shunji (2017) shows that moxibustion therapy has a relaxing effect, so that the results of the study were found to be significant with a value (p value <0.05) in reducing anxiety in pregnant women [31].

Thermal effects with moxibustion therapy signal to the hypothalamus by stimulating an effector system that secretes signals with peripheral vasodilation. Opening a blood vessel causes vector permeability that delivers qi or energy signals from the acupuncture point to the target organ, the central nervous system, thus inhibiting the HPA hyperactivity axis. In the central nervous system stimulates the hypothalamus to secrete CRH and ACTH through the adrenal cortex to release cortisol levels to decrease. In this mechanism it has a relaxing effect on the mother, thereby increasing the hormone endorphins and serotonin. This gives stimulation to prolactin hormone to increase and produce ASI to the fullest.

The technique of acupressure points for lactation is one of the solutions to overcome the inability of breast milk production. This action can help maximize prolactin and oxytocin receptors and minimize side effects from delays in the baby's breastfeeding process. Acupressure points for lactation can also increase feelings of relaxation in postpartum mothers. Acupressure points for lactation through meridian points according to the organs to be targeted can help reduce the feeling of discomfort. Acupressure will increase blood and systemic levels of endorphins. Acupressure stimulation can bring a relationship of substance to the release of substances that can inhibit pain signals to the brain. The effects of stimulation of acupressure points can be through the nerves and can be through humoral transmitters that have not been clearly explained<sup>[31]</sup>.

The neurotransmitter theory that produces endorphins is by affecting the brain area, stimulating the secretion of beta-endorphins and enkephalin in the brain and spinal cord. The release of neurotransmitters affects the immune system and the antinoceptive system. Endorphins are natural body opiates produced by the pituitary gland which are useful for reducing pain, affecting memory and mood which will then provide a feeling of relaxation<sup>[32]</sup>.

Enhancement of comfort is one of the goals of the comfort theory developed by Kolcaba. Kolcaba states that treatments to increase comfort require at least three types of comfort interventions, namely: technical comfort measurement, coaching () and comfortcomfort food for the soul. Therapy that has an effect on comfort for the body as relaxation, namely massage therapy<sup>[32]</sup>.

Research conducted by Wiwin (2016) showed that with massage stimulation can increase milk production with a significance value of 0.001 ( $p < 0.05$ )<sup>[15]</sup>. However, the research conducted by Barirah (2016) showed that with marmot and oxytocin massage therapy there was no difference with the significance value of 0.939 ( $p > 0.05$ ).<sup>[33]</sup>

The presence of qi or energy that causes electrical effects when applied is continued through the brain implus at a rate four times faster than stimulation involving stimulation of the acupuncture point, the response leads to a neuro-hormonal pituitary-adrenocortical axis complex that can increase cortisol levels and cause relaxation effect. The process modulates the physiological response by increasing the transmittance of endorphins and serotonin to the brain and certain organs through the nerves and meridians. Stimulation at the acupuncture point, will stimulate the nearest tissue function and meridian path so that it can increase qi. Stimulation at the acupuncture point, secreting neurotransmitters and opioids to the hypothalamus and pituitary gland which will provide the feedback it receives

in the form of secretion of the prolactin hormone as it will increase, so that it can produce breast milk maximally.

Breast milk production has several factors that influence it, namely age, parity, education, employment, breastfeeding factors, psychological factors, food factors, socio-cultural factors and family support factors<sup>[34]</sup>.

According to Suraatmadja (2009) which states that the age of 20-35 years is the age of reproduction which can increase milk production. Reproductive organs that are ripe or ready at that age work optimally. This study is not supported by the research conducted by Diah (2017) which shows that the SPEOS method (Endorphin, Oxytocin and Suggestive Massage Stimulation) by controlling the age factor using the ANCOVA test results obtained at 0.43 means that age factors do not affect milk production<sup>[35]</sup>. The research of Hamidah (2017) shows the same results in the hypnobreastfeeding intervention and oxytocin massage that the age factor does not have an effect on breast milk production using multivariate analysis with logistic regression test results obtained  $< 0.001$ <sup>[36]</sup>.

Researchers argue that the age of the respondent is related to readiness when facing a new role as a mother. When the mother feels happy with the new role, this will affect the motivation of the mother to give breast milk to her baby. So, the feeling of pleasure will have a positive impact, namely being able to breastfeed the baby frequently. This will stimulate the release of breast milk through the hormone polyactin and oxytocin which can increase the baby's weight by giving breast milk ondemand.

## 6. Conclusion

Based on the results of the research and discussion described in the previous chapter, several conclusions can be formulated as follows:

- There were significant differences before and after to increase infant weight in the group moxibustion with a p value 0.000 ( $p < 0.05$ ). The average before treatment was 3184.38 and after treatment was 3318.75
- There were significant differences before and after to increase the baby's weight in the group acupressure with a p value 0.000 ( $p < 0.05$ ). The average before treatment was 3085.94 and after treatment amounted to 3231.25
- There was no significant effect between moxibustion on infant body weight after being controlled with the variables of age, breastfeeding and psychological status simultaneously obtained p value 0.729, but if not done simultaneously, variables age has a relationship with infant weight with a p value 0.021
- There were no differences in the mean gainscore of the baby's weight in the groups moxibustion and acupressure with a p value 0.780 ( $p > 0.05$ ). The average difference in the group moxibustion was 134.38, while the group acupressure was 145.31.
- There is no significant effect between moxibustion on infant weight after being controlled with variables of age, breastfeeding and psychological status simultaneously obtained p value 0.729, but if not done simultaneously, age variables have a relationship with infant weight with p value 0.021.

## 7. References

- National Health and Medical Research Council. Infant Feeding Guidelines. Canberra: National Health and Medical Research Council, 2012.

2. Aldy OS, Lubis BM, Sianturi P, *et al.* Dampak Proteksi Air Susu Ibu Terhadap Infeksi. *Pediatri*. 2009; 11(3):167-73
3. UNICEF. ASI Penyelamat Hidup dan Efektif di Dunia. <http://www.unicef.org/indonesia/id/2014>
4. Nur Aziezah dan Merryana Adriani. Perbedaan Tingkat Konsumsi dan Status Gizi Antara Bayi Dengan Pemberian ASI Eksklusif dan Non ASI Eksklusif. *Media Gizi Indonesia*. 2013; 9(1):78-83.
5. Cai X, Wardlaw T, Brown DW. Global trends in exclusive breastfeeding. *International breastfeeding journal*. 2012; 7(1):12.
6. Santi MY. Upaya peningkatan cakupan ASI Eksklusif dan Inisiasi menyusui dini (IMD). *Kesmas Indonesia*. 2017; 9(01):69-80.
7. Kementerian Kesehatan Indonesia.. *Buku Saku Pemantauan Status Gizi Tahun, 2017-2018*.
8. Dinkes Prov Jateng. *Profil Kesehatan Provinsi Jawa Tengah Tahun Semarang: Dinas Kesehatan Provinsi Jawa Tengah, 2016-2017*.
9. Kemenkes RI. *Profil Kesehatan Indonesia Jawa Tengah 2016-2017*. Jakarta: Kementerian Kesehatan RI; [139].
10. Dinas Kesehatan Kota Semarang. *Profil Kesehatan Tahun 2017*. [www.dinkes.semarangkota.go.id](http://www.dinkes.semarangkota.go.id)
11. Kementerian Kesehatan. 2016. *Profil Kesehatan Indonesia*. <http://www.depkes.go.id>
12. Depkes RI. 2011. *Profil Kesehatan Indonesia 2010*. Jakarta
13. Depkes RI. *Situasi Anak Balita di Indonesia*. Info Datin. 2015
14. Kementerian Kesehatan RI. 2010. *Riset Kesehatan Dasar (Riskesdas)*. Jakarta
15. Wiwin W, Suryani S, Munayarokh, Anies, Liliana NK, Diyan W *et al.* Speos (Endorphins And Oxytocin Stimulation Massage And Suggestive Provisions) Reduced In The Time Of Asi Production Between The Postpartum Mother In The Private Bidan. 4 Asian Academic Society International Conference (AASIC). 2016
16. Miller KJ. The Effect of Childhood Sexual Abuse and Posttraumatic Stress Disorder on Self-Efficacy Among Female Offenders: Howard University: 2013
17. Vincencius William, Michael Carrey. Domperidone untuk meningkatkan produksi ASI (Air Susu Ibu). *Continuing Professional Development*. 2016; 43(3):238
18. Amir LH. Managing common breastfeeding problems in the community. *Bmj*. 2014; 348:g2954
19. Winterfeld U, Meyer Y, Pancho A, Einarson A. Management of deficient lactation in Switzerland and Canada: A survey of midwives' current practices. *Breastfeeding Medicine*. 2012; 7(4):317-8.
20. Loretta Anderson, Kathryn Kynoch, Sue Kildea. Effectiveness Of Breast Massage In The Treatment Of Women With Breastfeeding Problems: A Systematic Review Protocol. The Joanna Briggs Institute. DOI: 10.11124/JBISRIR-2016-003058
21. Parisa Mirzaie, Sakineh Mohammad-Alizadeh-Charandabi, Sakineh Goljarian, Mojgan Mirghafourvand, Mohammad Bager Hoseinie. The Effect Of Foot Reflexology Massage On Breast Milk Volume Of Mothers With Premature Infants: A Randomized Controlled Trial. *European Journal of Integrative Medicine*. 2018; 17:72-78.
22. Atena Mohammadpour, Mahboubeh Valiani, Alireza Sadeghnia, Sedigheh Talakoub. Investigating the Effect of Reflexology on the Breast Milk Volume of Preterm Infants' Mothers. *Iranian Journal of Nursing and Midwifery Research*. DOI:10.4103/ijnmr.IJNMR\_175\_16
23. Anuhgera D, Kuncoro T, Sumarni S, Mardiyono M, Suwondo A. Hypnotherapy is more effective than acupressure in the production of prolactin hormone and breast milk among women having given birth with caesarean section. *Medicine and Clinical Science*, 2017.
24. Agustina CS. Hadi, Melyana Nurul Widyawati. Aromatherapy Massage As An Alternative In Reducing Cortisol Level And Enhancing Breastmilk Production On Primiparous Postpartum Women In Semarang. Asian Academic Society International Conference (AASIC), 2016.
25. Mariana Haddad-Rodrigues, Ana Márcia Spanó Nakano, Juliana Stefanello, and Renata Cristina Campos Pereira Silveira. Acupuncture for Anxiety in Lactating Mothers with Preterm Infants: A Randomized Controlled Trial. *Evidence-Based Complementary and Alternative Medicine*. <http://dx.doi.org/10.1155/2013/169184>.
26. DAI Guo-bin, LIU Qiong, SUN Tian-ai, LIU Mai-lan, LIANG Hao, DING Jia-feng, *et al.* Relationship Between The Sensor Temperature And Moxibustion Distance Of Mild Moxibustion. *World Journal of Acupuncture-Moxibustion (WJAM)*. 2017; 27:4.
27. Ho-Yeon Go, Ju Ah Lee, Sunyoung Park, Sunju Park, Jeong-Su Park, Chunhoo Cheon, *et al.* Comparative Effects Of Artemisia Vulgaris And Charcoal Moxa Stimulating Zhongwan (CV 12) On Body Temperature In Healthy Participants: A Cross-Over Single-Blind Randomized Study. *J Tradit Chin Med*, 2015.
28. Atikah Eni. *Kapita Selekt: ASI & Menyusui*. Yogyakarta: Nuha Medika
29. Koenadi S, dan Agustin I. *Akupuntur Dasar*. Airlangga University Press, 2005.
30. Tetsuya Kondo and Masazumi Kawamoto. Acupuncture and moxibustion for stress-related disorders. *BioPsychoSocial Medicine*. 2014; 8:7. doi:10.1186/1751-0759-8-7
31. Shunji Suzuki, Chiharu Tobe. Effect Of Acupressure, Acupunture and Moxibustion In Women With Pregnancy-Related Anxiety And Previous Depression; A Preliminary Study. *Journal Of Clinical Medicine Research*. 2017; 9(6):525-527.
32. Dwi Rahayu, Budi Santoso, Esti Yunitasari. Produksi Asi Ibu Dengan Intervensi Acupresure Point For Lactation Dan Pijat Oksitosin, 2015, 9-19.

33. Barirah, Eti Mulyati, Norma Yunita. The Effect Of Combined Marmet And Oxytocin Massage To Colostrum Production Among Section Caesarean Mother. International Conference on Applied Science and Health, 2017.
34. Arora A, Manohar N, Hayen A, Bhole S, Eastwood J, Levy S, *et al.* A Determinants of breastfeeding initiation among mother in Sydney, Australia: findings from a birth cohort study. International breastfeeding journal. 2017; 12:39.
35. Diah Eka Nugraheni dan Kusuma Heryati. Metode SPEOS (Stimulasi Pijat Endorpin, Oksitosin dan Sugestif) Dapat Meningkatkan Produksi ASI dan Peningkatan Berat Badan Bayi. Jurnal Kesehatan. 2017; VIII(1);1-7
36. Hamidah Shentya Fitriana. Hipnobreastfeeding dan Pijat Oksitosin Berpengaruh Terhadap Pengeluaran Kolostrum Pada Ibu Post Partum. Jurnal Ilmu dan Teknologi Kesehatan. 2017; 5(1):35-42.