

## THE EFFECTIVENESS COMBINATION OF HYPNOBREASTFEEDING AND BREAST EXERCISES ON BREAST MILK PRODUCTION TIME IN THIRD TRIMESTER PREGNANT WOMEN

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### ABSTRACT

**Background :** Global Breastfeeding Scorecard report that evaluates breastfeeding data from 194 countries, the percentage of infants under six months who are exclusively breastfed is only 9.79% (9 countries). Meanwhile, in Indonesia exclusive breastfeeding for 0-6 months is only 50.67%. Several factor inhibiting exclusive breastfeeding such as lack of breast care during antenatal and physiological conditions of the breast before or during breastfeeding. Pregnant women have difficulty expressing breast milk on the first day until third day after giving birth. One of the alternative method to speed up the breast milk production time is using hypnobreastfeeding and breast exercises.

**Methods:** Quasi Experiment with Static Group Comparison design. Hypnobreastfeeding and breast exercises are independent variables. Breast milk production time is the dependent variable. The research sample was third trimester pregnant women whose breast milk has not come out at the Clinic Samarinda City. Total sample are 38 respondents and used purposive sampling. Samples were selected by according to inclusion and exclusion criteria. Technique analysis data bivariate used Chi-Square.

**Result:**  $p_{\text{value}} (0.016) < \alpha (0.05)$ . The relative risk (RR) is 5,152.

**Conclusion:** The combination of hypnobreastfeeding and breast exercises is effective on breast milk production time in third trimester pregnant women at the Clinic Samarinda City. Researchers suggest that health workers can provide training on hypnobreastfeeding and breast exercises to pregnant women whose breast milk has not come out (from 28-36 weeks of gestation), training can be done from 36 weeks of gestation.

**Keywords:** Hypnobreastfeeding, Breast Exercises, Breast Milk Production Time, Pregnancy, Third Trimester

## INTRODUCTION

Breast milk is the main food for infants aged 0-6 months and lasts until the child is 2 years old. The advantages of breastfeeding as a fulfillment of nutrition, immunology, and psychology<sup>1</sup>. Exclusive breastfeeding can prevent the mortality of 823,000 toddler per year in developing countries, reduce the risk of infectious diseases in infants (diarrhea and respiratory infections), protect against chronic diseases in adulthood, and increase intelligence scores. The *Global Breastfeeding Scorecard report* evaluates breastfeeding data from 194 countries, the percentage of infants 6 months who are exclusively breastfeeding is only 9.79% (9 countries). Meanwhile, in Indonesia exclusive breastfeeding for 0-6 months is only 50.67%<sup>2</sup>.

Several factors inhibiting exclusive breastfeeding such as lack of socialization to the community, lack of skills of health workers as exclusive breastfeeding counselors, lack of breast care during antenatal care, premature prelacteal feeding, lack of family support, and the physiological condition of the breast before or during breastfeeding. Problems with breastfeeding can occur during antenatal and postpartum periods. Mothers have difficulty expressing breast milk on the first day until third days after giving birth. Infrequent treatment (breast exercise) during antenatal has an impact on the puerperium<sup>3</sup>.

Mothers become insecure about breastfeeding their babies. Unconsciously, the mother's subconscious mind blocks her milk production. The subconscious mind affects 88% of a person's life. Parents give their babies milk formula or solid food when the milk production is not smooth, as a result, the milk decreases until it doesn't come out at all. It's called lactation failure<sup>4</sup>. Seeing the importance of breastfeeding for babies, needed proper efforts so that every mother can breastfeed her baby. Breastfeeding is a natural process, but many mothers have difficulties<sup>3</sup>.

Based on the results of the study, there are several methods to help facilitate pre and postnatal milk production, there are breast exercises, hypnobreastfeeding, *hypnopuncture breastfeeding*, oxytocin massage method, marmet technique, warm compresses, massage rolling (back), breast care, and the SPEOS method<sup>5</sup>.

Hypnobreastfeeding is a hypnotic mechanism by activating the subconscious mind (alpha to delta waves) of humans to feel relaxation. Positive affirmations about breastfeeding are easy to do, do not require expensive costs, can be done at home, and can be done since pregnancy. Calm during pregnancy and breastfeeding suppresses the secretion of cortisol, adrenaline, and increases the secretion of endorphins, oxytocin, and prolactin. The breast is a mandatory organ to be cared for during antenatal care. Breast exercises are exercises that are useful for strengthening the pectoralis muscle in the chest, so that the breasts feel denser and help breast milk production<sup>4</sup>.

Based on the above, the researcher is interested in conducting a study "The effectiveness combination of hypnobreastfeeding and breast exercises on breast milk production time in third trimester pregnant women at the Clinic Samarinda City". Specific objectives: 1) identify characteristics of respondents; 2) identify the breast milk production time in the control group; 3) identify the breast milk production time in the treatment group; 4) to analyze the effectiveness combination of hypnobreastfeeding and breast exercises on breast milk production time in third trimester pregnant women.

This research is very important to do because the failure of exclusive breastfeeding results in the physical and psychological condition of the baby. Babies are easy to suffer infectious diseases and cause a reduction of baby's brain cells as much as 15-20% (inhibiting the development of baby's intelligence at a later stage), and prevent the mortality of children under five year or toddler in

Indonesia by 30,000 every year<sup>2,6</sup>. This study requires evidence-based scientific evidence to determine the effectiveness combination of *hypnobreastfeeding* and *breast exercises* on breast milk production time.

**METHODS**

The quantitative with observational analytical research design. The type of research is Quasi Experiment with Intact Group Comparison/Static Group Comparison design. The independent variables are hypnobreastfeeding and breast exercises. The dependent variable is breast milk production time. The treatment group will be given hypnobreastfeeding and breast exercises. Meanwhile, the control group was not given any treatment as long as the breastfeeding time was

observed. However, after obtaining data regarding the breast milk production time, the control group respondents were taught breast exercises by the researcher/enumerator. The population in this study is all pregnant women at the Clinic Samarinda City. The research sample was third trimester pregnant women whose breast milk had not yet come out at the Clinic Samarinda City. The sample size used formula  $(t-1) (r-1) \geq 15$  with a drop out percentage of 20 % so that the sample per group are 19 respondents. The total sample are 38 respondents. The technique sampling is purposive sampling. Samples were selected according to inclusion and exclusion criteria. The technique data analysis bivariate used Chi-Square.

**RESULT**

**Table 1.** Characteristics of Third Trimester Pregnant Women at the Clinic Samarinda City

No	Characteristics	Control Group		Treatment Group	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
<b>1. Age</b>					
	<20 Years	1	5.3	1	5.3
	20-35 Years	15	78.9	14	73.5
	>35 Years	3	15.8	4	21.2
<b>2. Education</b>					
	Basic Education	2	10.7	3	15.8
	Middle Education	15	78.6	14	73.5
	Higher Education	2	10.7	2	10.7
<b>3. Work</b>					
	Doesn't Work	9	47.4	12	63.2
	Working	10	52.6	7	36.8
<b>4. Parity</b>					
	Primipara	9	47.4	8	41.9
	Multipara	8	41.9	9	47.4
	Grandemultipara	2	10.7	2	10.7

Interpretation of the data in Table 1, almost all respondents in the control group aged 20-35 years were 15 people (78.9%), 15 people had middle education (78.6%),

most of them worked as many as 10 people (52.6%), and almost half of the primiparous respondents were 9 people (47.4%).

**Table 2.** Combination of Hypnobreastfeeding and Breast Exercises

No	Combination of Hypnobreastfeeding and Breast Exercises	Control Group		Treatment Group	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1.	Not Treated	19	100	0	0
2.	Treated	0	0	19	100

The interpretation of the data in Table 2 states that all respondents in the control group were not treated while the

respondents in the treatment group were given a combination of Hypnobreastfeeding and Breast Exercises.

**Table. 3** Breast Milk Production Time for Pregnant Women in the Third Trimester at Clinic Samarinda City

No	Breast Milk Production Time	Control Group		Treatment Group	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1.	Slow (>3 Days)	9	47.4	2	10.6
2.	Normal (1-3 Days)	7	36.8	7	36.8
3.	Fast (28 Weeks-42 Weeks)	3	15.8	10	52.6

Interpretation of the data in Table 3, almost half of the respondents in the control group had breast milk production time was slow (>3 days) as many as 9

people (47.4%). Meanwhile, in the treatment group, most of them had a fast breast milk production time as many as 10 people (52.6%).

**Table. 4** The Averages of Breast Milk Production (mili liters) on Pregnant Women in the Third Trimester at Clinic Samarinda City

No	Kelompok	n	Min	Max	Mean	SD
1.	Control Group	19	20	175	88.68	47.547
2.	Treatment Group	19	80	350	176.58	72.112

Interpretation of the data in Table 4, the average of breast milk production in the control group was 88.68 ml with minimum volume are 20 ml, maximum volume are 175 ml, and the standard deviation value are 47,547. Meanwhile, in the treatment

group, the average of breast milk production was 176.58 ml with minimum volume are 80 ml, maximum volume are 350 ml, and the standard deviation value are 72.112.

**Table. 5** The Effectiveness Combination of Hypnobreastfeeding and Breast Exercises on Breast Milk Production Time in Third Trimester Pregnant Women at the Clinic Samarinda City

		Breast Milk Production Time			Total	X <sup>2</sup> Count	pvalue	RR
		Slow	Normal	Fast				
<b>Combination of Hypnobreastfeeding and Breast Exercises</b>	Not Treated	9	7	3	19	8,224	0.016	5.152
	Treated	2	7	10	19			

Based on the results of statistical tests with Chi-Square, the  $\rho_{value} = 0.016$  with a 95% confidence level where the value of  $\alpha = 0.05$  and  $dk = 2$ .  $\rho_{value} (0.016) < \alpha (0.05)$  then  $H_0$  is rejected or  $H_a$  is accepted. That is, the combination of hypnobreastfeeding and breast exercises is effective on breast milk production time in

third trimester pregnant women at the Clinic Samarinda City. The relative risk (RR) is 5.152. This means that respondents who were given a combination of hypnobreastfeeding and breast exercises had a 5,152 times greater chance of expelling breast milk than those who were not treated (control group).

## DISCUSSION

### Characteristics of Third Trimester Pregnant Women at Clinic Samarinda City

Expenditure of breast milk is the release of breast milk (ASI) which is produced by humans for infant consumption and is the main source of nutrition for infants who have not been able to digest solid food. Breast milk protects the baby against infection and also stimulates the normal growth of the baby. Antibodies contained in breast milk are immunoglobulin A (IgA) along with various complement systems consisting of macrophages, lymphocytes, lactoferrins, lactoperoxidase, lysozyme, lactoglobulin, interleukin cytokines and so on<sup>7</sup>.

Age is one of the factors that can affect the timing of breast milk production, and smoothness of breast milk. Respondents in the age range of 20-35 years are adults where at this age mothers can solve problems well, one of which will seek accurate information related to exclusive breastfeeding. Mothers aged <20

years are considered to be immature both spiritually and physically so that mothers will rely on others to provide exclusive breastfeeding. Mothers >35 years old begin to experience changes in their hormonal system so that the milk production produced decreases and will become an obstacle for mothers to exclusively breastfeed. The age range of 20-35 years is a mature age where a breastfeeding mother is getting old enough, so she has a mature level of thinking in finding information and caring for her baby, especially in exclusive breastfeeding<sup>8</sup>.

Previous research has stated that age <16 years or >35 years will make pregnant women vulnerable to a complications. Age is one of the factors that affect the production of breast milk in mothers. Mothers who are less than 35 years old produce more milk than mothers who are older. However, mothers who are very young (less than 20 years old) produce less breast milk because of the level of maturity. The respondent's age range of 20-

35 years is the ideal age to go through pregnancy, childbirth, and breastfeeding so that they can optimally care for their babies. At this age, the mother is biologically mature. Maternal age > 35 years (high risk) makes the length of breastfeeding increase by 13-14 hours<sup>9</sup>.

Parity is associated with the mother's experience of breastfeeding. Mothers with more than one parity will be more confident and able to overcome the obstacles that occur during the breastfeeding process (for example, how to deal with breast milk not coming out) so that the time to express breast milk in multiparous or grande multiparous mothers is faster than primiparous mothers<sup>10</sup>. Mothers who have never breastfed will have a longer time to express milk than mothers who have breastfed.

Education is an indirect variable that can affect the behavior of mothers in preparing breast milk since pregnancy. Previous research explained that the success of breastfeeding was not determined by the mother's education level but by the information obtained about prenatal care and preparation for breastfeeding. Meanwhile, work does not have a significant relationship with the timing of breastfeeding<sup>11</sup>.

### **Breast Milk Production Time and the Averages in Third Trimester Pregnant Women (Control Group and Treatment Group)**

Table 3 shows that of the 19 control group, there were 9 people (47.4%) whose breast milk production time was slow (>3 days), 7 people (36.8%) whose normal (1-3 days), and 3 people (15.8%) whose fast (28 weeks-42 weeks). Meanwhile, from the 19 treatment group there are 2 people (10.6%) whose breast milk production is slow (>3 days), 7 people (36.8%) whose normal (1-3 days), and 10 people (52.6%) whose fast (28 weeks-42 weeks).

Table 4, the average of breast milk production in the control group was 88.68 ml with minimum volume are 20 ml,

maximum volume are 175 ml, and the standard deviation value are 47,547. Meanwhile, in the treatment group, the average of breast milk production was 176.58 ml with minimum volume are 80 ml, maximum volume are 350 ml, and the standard deviation value are 72.112.

Stimulation of the hormone oxytocin can facilitate the release of breast milk. Based on the results of the study, there are several methods to help facilitate pre and postnatal milk production, including breast exercises, hypnobreastfeeding, hypnopuncture breastfeeding, oxytocin massage method, marmet technique, warm compresses, massage rolling (back), breast care, and the SPEOS method<sup>5</sup>.

Hypnobreastfeeding is a relaxation technique to help smooth the breastfeeding process, by inserting positive affirmation sentences into the mind when relaxed or in a hypnotic state. Positive affirmation sentences are expected to help the breastfeeding process. Deep and regular relaxation makes the endocrine system, blood flow, nerves and other systems in the body function better. Maintaining a positive attitude is very important during breastfeeding. Because relaxing while breastfeeding causes the endorphins hormone produced by the mother to flow to the baby through the ASI, and make the baby also feel comfortable and calm<sup>6</sup>. Some scientists speculate that hypnotherapy stimulates the brain to release neurotransmitters, chemicals found in the brain, enkephalin and endorphins that function to improve mood so that it can change the individuals acceptance of pain or other physical symptoms. Midwife therapist, can motivate and prepare for successful breastfeeding so that babies become intelligent and creative generations<sup>12</sup>.

Mother's self-confidence to breastfeed is the main factor for mothers in breastfeeding. Mothers should receive positive information about breastfeeding. Mother's readiness to breastfeed should start when the mother is pregnant. So, immediately after birth the mother is ready and can facilitate the baby to breastfeed

properly. Hypnobreastfeeding intervention during pregnancy can prepare mothers to breastfeed after the baby is born<sup>4</sup>.

Breast exercisess is a movement that can strengthen the pectoralis muscle in the breast. Pectoralis major and minor muscle strengthening therapy will stimulate the breast muscles and help improve blood flow to the breasts, especially the acini cells that will produce milk smoothly. In principle, the breast exercise movement will move the spine on the 5-6 ribs to the scapula (shoulder bone) which will accelerate the work of the parasympathetic nerves, the nerves that originate in the medulla oblongata and in the sacrum area of the spinal cord, stimulating the pituitary posterior to secrete oxytocin, oxytocin stimulates contraction of smooth muscle cells that encircle the lactiferous ducts of the mammary glands causing myoeptithelial contractility of the breast so that it can increase the emission of milk from the mammary glands<sup>13,14</sup>.

Breast exercise makes the pectoralis major and minor muscles stimulated, resulting in vasodilation of blood vessels. Blood flow (carrier of nutrients) to the alveoli to form breast milk. The receptor endings send stimulation through the bloodstream to the brain (hypothalamus) causing the anterior pituitary gland to release the hormone prolactin (acini cells produce breast milk) and the posterior pituitary gland to release the hormone oxytocin (there is a contraction of cells to express milk)<sup>13,14</sup>.

### **The Effectiveness Combination of Hypnobreastfeeding and Breast Exercises on Breast Milk Productin Time in Third Trimester Pregnant Women at the Clinic Samarinda City**

The results of statistical tests with Chi-Square obtained  $p_{\text{value}} = 0.016$  with a 95% confidence level where  $\alpha = 0.05$  and  $dk = 2$ .  $p_{\text{value}} (0.016) < \alpha (0.05)$  then  $H_0$  is rejected or  $H_a$  is accepted. That is, the

combination of hypnobreastfeeding and breast exercises is effective on breast milk production time in third trimester pregnant women at the Clinic Samarinda City. The relative risk (RR) is 5,152. This means that respondents who were given a combination of hypnobreastfeeding and breast exercises had a 5,152 times greater chance of expelling breast milk than those who were not treated (control group).

Hypnobreastfeeding and breast exercises affect the length of expulsion breast milk, thoughts, feelings and sensations a mother will be very influential SI expulsion reflex. This hormone will cause brain cells to manage milk ducts shrivel will contract so that breast milk is pushed out of the ducts milk production and flow ready to be sucked for babies<sup>15</sup>.

This research is relevant to a previous study entitled "The Effect of Hypnobreastfeeding on Increased Milk Production in Breastfeeding Mothers of Perlis Village, Tangkahan Durian District, of North Sumatra, Indonesia". The results showed that the  $p_{\text{value}} = 0.001$ . That mean the hypnobreastfeeding group before treatment was 78.92 ml with SD 2.15 and after treatment was 93.94 ml (SD = 5.23).<sup>16</sup>

The study entitled "The Effect of Addition of Breast Gymnastics to Breast Massage on Breastfeeding Production of Postpartum Mothers in the Work Area of the Sidomulyo Health Center Pekanbaru City" obtained the results that the average milk production in the control group was 40,500 ml and in the intervention group was 61,000 ml. So that there is an effect of adding breast exercise to breast massage on the milk production of postpartum mothers in the working area of the Sidomulyo Public Health Center, Pekanbaru City<sup>13</sup>.

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## CONCLUSION

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The results of this study obtained the value of  $p_{\text{value}} = 0.016$  with a 95% confidence level where the value of  $\alpha = 0.05$  and  $dk = 2$ .  $p_{\text{value}} (0.016) < \alpha (0.05)$  then  $H_0$  is rejected or  $H_a$  is accepted. It mean, the

combination of hypnobreastfeeding and breast exercises is effective on the breast milk production time in third trimester pregnant women at the Clinic Samarinda City. The relative risk (RR) is 5,152. This

means that respondents who were given a combination of hypnobreastfeeding and breast exercises had a 5,152 times greater chance of expelling breast milk than those who were not treated (control group).

Researchers suggest that health workers can provide training on

hypnobreastfeeding and breast exercises to pregnant women whose breast milk has not come out (from 28-36 weeks of gestation), training can be done from 36 weeks of gestation.

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### REFERENCES

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1. Arianti, V. (2017). *Hubungan Hypnobreastfeeding dengan Produksi ASI di Klinik Sumiariani Medan Tahun 2017*. Medan: Politeknik Kesehatan Medan
2. UNICEF. (2021). *Global Breastfeeding Collective; Breastfeeding Scorecard* di <https://www.globalbreastfeedingcollective.org/global-breastfeeding-scorecard> (diakses 06 Mei)
3. Safitri, Y., Minsarnawati. (2012). *Perilaku yang Menghambat Pemberian ASI Eksklusif pada Ibu di Wilayah Kerja Puskesmas Cibeber Tahun 2009*. Jurnal Kesehatan Reproduksi. Volume 3 Nomor 3, Pp 161-169
4. Karnasih, I., Sugijati., Kiswati. (2014). *Pengaruh Hipnobreastfeeding terhadap Produksi ASI (Laporan Penelitian RISBINAKES)*. Malang : Poltekkes Kemenkes Malang
5. Mas'adah., Rusmini. (2015). *Teknik Meningkatkan dan Memperlancar Produksi ASI pada Ibu Post Sectio Caesaria*. Jurnal Kesehatan Prima. Volumr 9 Nomor 2, Pp 1495-1505
6. Kusmiyati, Y., Wahyuningsih, H.P. (2014). *Pengaruh Hypnobreostfeeding terhadap Kecemasan dan Waktu Pengeluaran Air Susu Ibu pada Ibu Post Partum Primipara di Yogyakarta*. Jurnal Teknologi Kesehatan. Volume 10 Nomor 2, Pp 123-127
7. Masrurroh, N., Andriani, R. A. D. (2018). *Effect of Hypno Breastfeeding On Colostrum Ejection Onset In Primiparous Mothers*. In Proceeding the 4th International Conference On Public Health. Universitas Sebelas Maret Surakarta
8. Afriyani, R., Savitri, I., & Sa'adah, N. (2018). *Pengaruh Pemberian ASI Eksklusif di BPM Maimunah Palembang*. Jurnal Kesehatan, 9(2), 331. <https://doi.org/10.26630/jk.v9i2.640>.
9. Syukur, N. A., & Purwanti, S. (2020). *Penatalaksanaan IMD pada Ibu Postpartum Sectio Caesarea Mempengaruhi Status Gizi dan Kecepatan Produksi ASI*. Jurnal Bidan Cerdas, 2(2), 112–120. <https://doi.org/10.33860/jbc.v2i2.68>
10. Gobel, H. Van, Masni, & Arsin, A. A. (2012). *Determinan Pemberian Asi Eksklusif di Wilayah Kerja Puskesmas Mongolato Kecamatan Telaga Kabupaten Gorontalo*. Masyarakat Epidemiologi Indonesia, 1(3)(36), 201–202.
11. Gemilang, S.W., (2020). *Hubungan Usia, Pendidikan dan Pekerjaan dengan Pemberian ASI Eksklusif*. Program Studi Kesehatan Masyarakat, Fakultas Ilmu Kesehatan, Universitas



- Muhammadiyah Surakarta, Surakarta, 2(1), 1–22.
12. Purnamasari, I. (2019). *Pengaruh Hypnobreastfeeding terhadap Kelancaran ASI pada Ibu Post Partum di Wilayah Puskesmas Ibrahim Adjie Bandung. Skripsi.* Bandung: Universitas Bhakti Kencana
  13. Alyensi, F., Sartika, Y., Juliana, A. (2019). *Pengaruh Penambahan Senam Payudara pada Massage Payudara terhadap Produksi ASI Ibu Nifas di Wilayah Kerja Puskesmas Sidomulyo Kota Pekanbaru.* Jurnal Ibu dan Anak. Volume 7, Nomor 1, Pp 46-54
  14. Intarti, W. D., Savitri, N.P.H. (2015). *Efektifitas Penambahan Terapi Penguatan Otot Pectoralis Mayor dan Minor pada Masase Payudara terhadap Produksi ASI Ibu Nifas.* Jurnal Ilmiah Kebidanan, Volume 6 Nomor 1, Pp 1-11
  15. Wahyuni, E.S., Sinambela, M., & Sriyati. (2020). *Pengaruh Kombinasi Hypnobreastfeeding dan Pijat Oksitosin terhadap Produksi ASI Ibu Post Partum di Klinik Pratama Fitri Asih Desa Sigara Gara Kecamatan Patumbak Kabupaten Deli Serdang.* Jurnal Pionir LPPM Universitas Asahan, 7(3), 102-107
  16. Hutabarat, J., Sihombing, K.P. 2021. *The Effect of Hypnobreastfeeding on Increased Milk Production in Breastfeeding Mothers of Perlis Village, Tangkahan Durian District, of North Sumatera, Indonesia.* Global Journal of Health Science. Volume 13, Nomor 3, Pp 112-123