



## Effectiveness of oxytocin massage for breast milk production: a literature review

Ni Luh Linda Ayuni Tania<sup>1</sup>, Titih Huriah<sup>2\*</sup>)

<sup>1</sup> Master of Nursing Student of Universitas Muhammadiyah Yogyakarta, Tamantirto Poor Bantul, Yogyakarta, Indonesia

<sup>2</sup> Department of Community Nursing, Master of Nursing, Universitas Muhammadiyah Yogyakarta, Tamantirto Poor Bantul, Yogyakarta, Indonesia

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### ABSTRACT

Riskesdas data in 2021 shows that only 52.5% or half of 2.3 million of 1-6 month babies in Indonesia who get exclusive breastfeeding. Most provinces still has low percentage of exclusive breastfeed and under the national average. One of the factors is due to the unhealthy condition of the mother and due to the lack of confidence when giving exclusive breastfeeding. Giving therapy massage that combines oxytocin with other therapies becomes a specialized intervention to assist mothers in producing exclusively breast milk. This literature reviews aimed to know the effectiveness of Oxytocin Massage for increasing Milk production. The literature review employed PRISMA method. The database used Scopus, PubMed, Science Direct, EBSCO, PROQUEST, NILITI, and Google Scholar. The key words were included Mother AND Oxytocin OR massage Oxytocin AND Breast milk AND RCT. The inclusion criteria used were RCT articles 2017 to 2022, using English and Indonesian, full text and the exclusion criteria such as reviewed, unoriginal publications including a letter to the editor, abstracts only, and books. An assessment tool of critical JBI was used to evaluate the quality of journal. The result showed that the Oxytocin Massage with or without a combination of other therapies can help mothers to have an exclusive breast milk production

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### Kata kunci:

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#### \*) corresponding author

Ni Luh Linda Ayuni Tania, S.Kep , Ns.

Master of Nursing Student of  
Universitas Muhammadiyah  
Yogyakarta

Email: lindaayuni9@gmail.com

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### ABSTRAK

Data Riskesdas tahun 2021 menunjukkan hanya 52,5% atau separuh dari 2,3 juta bayi 1-6 bulan di Indonesia yang mendapatkan ASI eksklusif. Sebagian besar provinsi masih memiliki persentase ASI eksklusif yang rendah dan di bawah rata-rata nasional. Salah satu faktornya adalah karena kondisi ibu yang tidak sehat dan kurang percaya diri saat memberikan ASI eksklusif. Pemberian terapi pijat yang mengkombinasikan oksitosin dengan terapi lain menjadi intervensi spesialis untuk membantu ibu dalam produksi ASI eksklusif. Tinjauan pustaka ini bertujuan untuk mengetahui efektivitas Pijat Oksitosin untuk meningkatkan produksi ASI. Tinjauan literatur menggunakan metode PRISMA. Basis data menggunakan Scopus, PubMed, Science Direct, EBSCO, PROQUEST, NILITI, dan Google Scholar. Kata kuncinya termasuk Ibu DAN Oksitosin ATAU Pijat Oksitosin DAN ASI DAN RCT. Kriteria inklusi yang digunakan adalah artikel RCT 2017 hingga 2022, menggunakan bahasa Inggris dan Indonesia, teks lengkap dan kriteria eksklusi seperti ulasan, publikasi tidak asli termasuk surat kepada editor, abstrak saja, dan buku. Alat penilaian JBI kritis digunakan untuk menilai kualitas jurnal. Hasil penelitian menunjukkan bahwa Pijat Oksitosin dengan atau tanpa kombinasi terapi lain dapat membantu ibu untuk menghasilkan ASI eksklusif

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## INTRODUCTION

The World Health Organization (WHO, 2018) states that giving a breastmilk (*ASI*) to babies is a very effective method for determining growth and health development as well as the infant survival. However, almost 2 out of 3 babies do not get exclusive breastfeeding for 6 months as recommended and this rate does not improve within 2 decades. (Agustie et al., 2017; Umarianti et al., 2018; Yakomina Mahulette, 2020)

The World Health Organization (2016) and UNICEF recommend that babies should get breast milk in their first 24 hours life after birth and be exclusively breastfed for the first 6 months of life. It means that there is no other food or drink which identify as solid food provided by the mother. An infant must be provided with breast milk in every 2 hours during the day and at night. Then, it is suggested to not giving a breast milk through bottles/pacifiers (Feftin Hendriyani1, 2022; Kusumawati, 2022; Muliani et al., 2018)

The United National Children's Foundation (UNICEF, 2019) claims that the data from 123 countries, most babies around the world have received exclusive breastfeeding during the first 2 years of life, with a coverage of 95% of babies having received breast milk. However, the percentage were varied in every country including low-income countries, middle-income countries, and high-income countries. In several countries such as Oman, Sweden and Uruguay, vast majority of the babies breastfed. In contrast, the other countries may not similar as the rates are lower than those countries. It was proved by the data of the United States where 74% of babies have ever received breast milk. In Ireland, there were only 55% of babies have been breastfed. As recommended by UNICEF and WHO, the gap of the data is higher between West and Central Africa, where 64% of babies in the poorest families are still receiving breast milk and 26% in the richest families. Then, the smallest gap between high income and low income family was found in Eastern Europe and Central Asia, where the richest and poorest families have the lowest breastfeeding rates of 23% and 31% respectively according to the UNICEF 2016 (Baljon et al., 2022; Ismail, 2019; Syakur et al., 2022). The percentage of exclusive breastfeeding in Southeast Asia showed a quite similar number. In comparison, the coverage of exclusive breastfeeding in Myanmar is 24%, in Vietnam is 27%, in the Philippines is 34%, and globally it is reported that the coverage of exclusive breastfeeding is below 40% (Nugraheni, 2021; Sarah Fadhillah, 2022).

The Ministry of Health (*Kemenkes*) in Indonesia has notes 20 provinces with a percentage of exclusive breastfeeding for babies aged 0 – 5 months of 71.58% in 2021. It proved that there is a better achievement the previous year which achieved to 69.62 %. However, several biggest provinces still achieved low percentage of exclusive breastfeeding than what national average expected. Gorontalo was recorded as a province with the lowest percentage of 52.75%. Followed by Central Kalimantan and North Sumatra of 55.98% and 57.83 %. Overall, the implementation of exclusive breastfeeding in Indonesia has only reached 20%, which totally lower than the target of 80%. The Ministry of Health (*Kemenkes*) set a target of exclusive breastfeeding treatment per the year 2014 of 80%. However, it is only 27.5 percent of mothers in Indonesia are successful in giving exclusive breastfeeding (Kusumawati, 2022; Mastiur, 2022)

There are several reasons that influence mother to not exclusively breastfeed their babies. One of them is working times or other social activities (Dewi et al., 2020); the condition of the mother (Sri Wulandari, 2020). A mother

who is in unhealthy condition, tired, lacks confidence specifically can interfere the motivation of giving an exclusive breastfeeding. Another influencing factor of exclusive breastfeeding in infants is that maternal physical factors, such as anatomical abnormalities of the breast, health problems, hormonal contraception (estrogen), less nutritious food, working mothers, smokers, and alcohol consumption (Feftin Hendriyani1, 2022).

Oxytocin massage is the most powerful solution to overcome the problems of milk production. Oxytocin massage is a kind of massage along the spine (vertebrae) to the fifth – sixth ribs and specifically to stimulate the hormones prolactin and oxytocin after giving birth (Litasari et al., 2020) This massage provides an effective effect to increase the hormone oxytocin which can reduce the emotional sides of the mother so that breast milk comes out perfectly (Dewi Susanti, 2020; Widia & Meihartati, 2018). The purpose of literature review is to determine the effect of oxytocin massage on breast milk production.

## METHODS

The procedure of literature review was used in this research. Several steps had to be taken, including formulating the research question, identifying relevant studies, evaluating the quality of selected articles, summarizing the research findings, and interpreting findings in the form of a literature review. The research question is "How does Oxytocin massage influence the smoothness of milk production?" This is based on the research objective.

### Data Sources and Traceability Strategy

The data were obtained from some databases such as Scopus, PubMed, Science Direct, EBSCO, PROQUEST, NELITI, and Google Scholar from 2017 until December 2022. In searching the journals, the keywords used were Breast milk, mother, oxytocin, RCT. The strategy for selecting qualified articles employed two criteria, inclusion and exclusion criteria. The inclusion criteria involved that the articles are categorized as original research and RCT designs. Meanwhile, the exclusions criteria included unoriginal publication such as a letter to the editor, abstracts only, and books.

### Data review and data drawing

The first procedure of selecting the journals, the researcher create a logic grid through PICOS in determining the keywords based on the inclusion criteria. The PICOS means as population, intervention, compare, result and study design. Further, the selected keywords were included P (Population or Problems): Postpartum Mother, I (Intervention): Giving Massage Oxytocin, C (Compare): Administration Therapy else, besides massage oxytocin, O (Result): Mother's milk production after given massage oxytocin, S (Study Design): Randomized Controlled Trial (RCT). The data were selected with the reference application " Mendeley " by entering each database folder and deleted the duplicate files. In addition, the eligible journal will be placed in a folder labelled " Potential " after the selected title and abstract. The articles in the " potential " folder will be reviewed by researchers by selecting the full-text selection that will be entered in the folder ("include for review"). The data review is done manually by reviewers based on each qualified journal. The reviewed data included several

characteristics study (author first, year publication, location, language, design research), characteristics participants (size sample, age, intervention, and control intervention), intervention program (dose training, duration), and results study.

### Data Synthesis

The process of synthesizing the data was conducted through systematic results about (milk production) from studies that relevant with the question review. The researcher describes the results of the primary study with oxytocin massage. It showed that the heterogeneity is described in all review with different criteria for the effectiveness of massage oxytocin for fluency. Based on articles that have been reviewed, researchers also found some variations of massage given with oxytocin massage.

### Evaluating the Quality

Following data synthesis, the selected articles were evaluated to determine the quality of the selected RCT papers. Critical JBI RCT was used to assess bias in all of the selected RCT papers.

### Evaluation Quality

## RESULTS

### Selection Studies

There were 2.180 selected journals from seven of big database sources, which classified as follows: Scopus: 374 articles, PubMed: 549 articles, Science Direct: 86 articles, EBSCO: 169 articles, PROQUEST: 25 articles, RESEARCH: 3 articles, and Google Scholar: 974 articles based on the predetermined keywords. The results of the title screening revealed that there were irrelevant published articles to the research topic. Those irrelevant articles were deleted from the inclusion criteria. It means there were only selected articles fulfill the requirement, with the details of Scopus: 53, PubMed: 32, Science Direct: 42, EBSCO: 12, PROQUEST: 5, RESEARCH: 2, Google Scholar: 224 or a total of 370 articles. Through the results of the abstract and full-text screening of 370 research articles, the articles that not assumed following the title of Literature Review were excluded from the list. It totally means that there were only 14 articles fulfilling the inclusion criteria. The procedure of searching and reviewing literature could be seen in Figure 1.

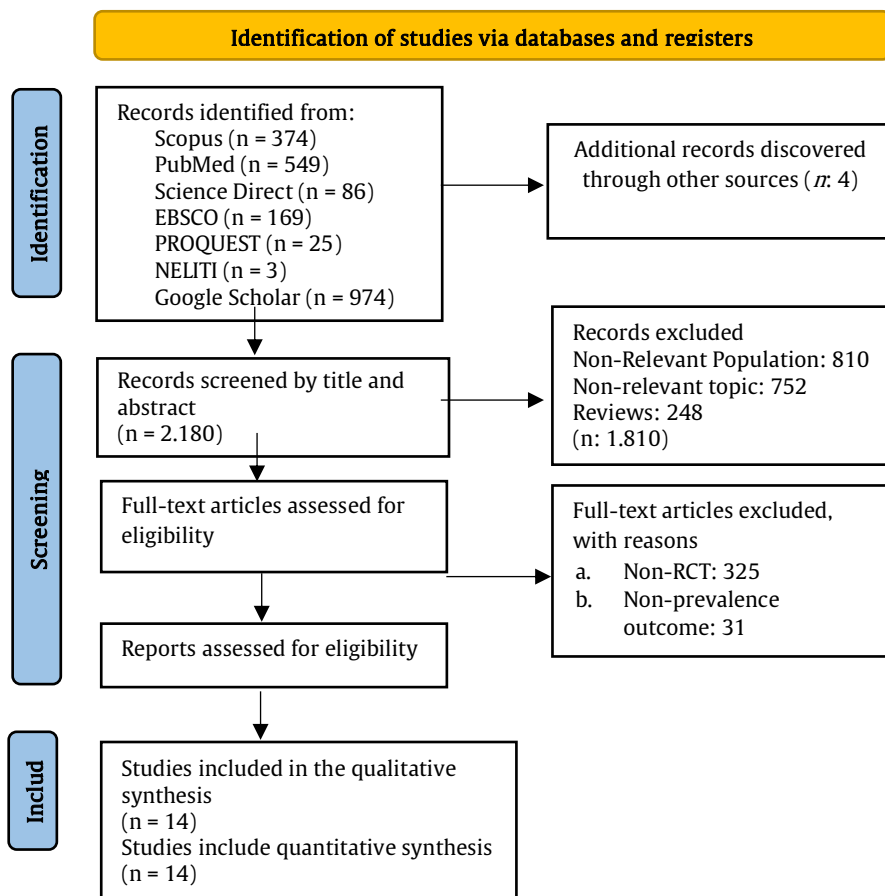


Figure 1: Flowchart based on PRISMA statement

**Table 1. Characteristics Studies**

Author	Country, language, Research design	Respondents	Group Intervention	Group Control	Dose Training	Duration	Research result
(Dewi Susanti, 2020)	Indonesia, Study Experiment Pseudo	A sample of 80 postpartum mothers. The sampling technique was taken by consecutive sampling with the inclusion criteria of postpartum mothers on the 1st day (1-6 hours postpartum), willingness to form informed consent and healthy condition of mother and baby	The experimental group got the SPEOS method (Stimulation Endorphin Oxytocin Massage and Suggestive massage which is done for 10 minutes	This study used a checklist observation sheet. In the control group, it was measured 2 times using expressed breast milk. The second measurement was carried out 15 minutes after the first measurement.	10 minutes of intervention with the second measurement was performed 15 minutes after the first measurement. 10 – 15 minutes	10 – 15 minutes	Based on the results of the study, it was given SPEOS (Stimulation Endorphin Oxytocin and Suggestive Massage ) (Mean = 19.55; SD = 17.50), while the increase in milk production in the post-control group was not given SPEOS (Mean = 14.18; SD = 17.37). Whitney's statistical test showed an increase in milk production in postpartum mothers with the SPEOS intervention with a mean rank of 46.55 compared to the control group with a mean rank of 34.45 and was statistically significant (p=0.018)
(Rusmini , 2022)	Indonesia, RCT	Of all postpartum mothers who experienced vaginal delivery in 2021 166 people. The number of samples in the study was 70 postpartum mothers who fit the inclusion criteria based on the calculation of the solving formula	This study divided the subjects into two research groups randomly (random allocation), namely the treatment group and the control group. Subjects in the treatment group were given little finger acupressure at 2 hours postpartum.	The control group was given oxytocin massage at 2 hours postpartum. Both of these groups were given education regarding the timing of good discharge and the adequacy of breast milk.	Health education and giving acupressure which is useful to help expel breast milk so that it is more optimal.	2 hours	Effect of little finger acupressure and oxytocin massage on the adequacy of breast milk and milk output p-value = 0.000 and p-value = 0.016 (p-value ≤ 0.05; so that H0 is rejected, which means there is a significant effect between little finger acupressure and oxytocin massage on the adequacy of breast milk and milk output in postpartum mothers.
(Ishmael, 2019)	Indonesia, study case-control	40 mothers breastfeed immediately after giving birth	Randomly assigned to two groups, case group, and control group. Each group consisted of 20 women who were homogeneous in terms of age and multiparity. The case group received 10 IU oxytocin during the third stage of labour.	The control group did not give an intervention	The amount of milk is determined by pumping 2 hours and 1 week after delivery	1 week	The results of this study indicate that although the case group was given 10 IU of oxytocin during the third stage of labour, they did not differ from the control group who received nothing, concerning their normal amount of milk for 2 hours.
(Pratama ningtyas et al., 2020)	Indonesia, the study compares 2 paired samples and two samples with	16 respondents	the experimental group was given oxytocin massage using lemongrass oil aromatherapy. Before being given treatment, respondents were observed first.	The control group were 8 people which given normal massage oxytocin	Treatment was given once a day for 3 days every afternoon. After the treatment was carried out, a second observation was carried out.	3 days	Based on the Mc Nemar test in the group given oxytocin massage using Lemongrass aromatherapy oil, an $\chi^2$ count of 4.167 was obtained. Because the value of $\chi^2$ count > $\chi^2$ table (3.841), this shows that there is an effect of oxytocin massage using lemongrass aromatherapy oil on milk production.
(Agustie et al.,	Indonesia, RCT	Mothers aged 20-35 years as many as 32	The intervention group consisted of 16 people who	A total of 16 people in the group control	The intervention was carried out twice a day	15 minutes	The mean difference in prolactin hormone levels in the control group was 17.82

2017)		people	received oxytocin massages with 10% lavender essential oil and 90% sunflower oil. Researchers and enumerators who had been trained prior to the intervention carried out the intervention.	were not given intervention.	combined with breast care in the morning and evening sessions, for 15 minutes for each treatment. While the control group only received breast care twice per day.		ng/ml while the mean difference in prolactin hormone levels in the intervention group was 132.13 ng/ml. There were statistically significant differences between the intervention and control groups in prolactin levels (p-value 0.000), breast milk volume (p-value 0.000), baby weight (p-value 0.000), frequency of urination (p-value 0.017), defecation frequency (p-value 0.002), and baby's sleep duration (p-value 0.000)
(Umarianti et al., 2018)	Indonesia, RCT	The population used was all postpartum mothers. Members of the sample were all postpartum mothers on the first day of observation until the seventh postpartum day as many as 30 people.	As many as 15 people in the intervention group are given the BOM (Breastcare, Oxytocin Massage, and Marmet Technique) method for producing exclusive breastfeeding so that it can be used to stimulate cheap, effective, and safe breast milk production as well as to provide comfort for postpartum patients.	In group control no given intervention	Postpartum mothers at PKD Shifa in a preliminary study of 5 (five) postpartum mothers, did not know how to increase milk production using "BOM" through structured interviews.	24 hours after giving birth to	The results obtained from 30 samples were a p-value of 0.000 <0.05 so that it could be concluded that there was a significant difference between the two groups, where the BOM (Breastcare, Oxytocin, and Marmet Technique) method was very effective on breast milk production.
(Yakomina Mahulett e, 2020)	Indonesia, RCT	Post-SC mothers from March to May 2021 were 44 respondents	Intervention group: post-SC mothers received oxytocin massage	The control group only get breast care.	Random sampling if on the same day, there were mothers after CS, there were two mothers after SC, one received oxytocin massage and the other took care of animals. Oxytocin massage and breast care for post-SC mothers 2 times a day in the morning and evening for 3 days. from day 1 to day 3 in 10 minutes	1 – 3 days	The results showed that the average weight gain on day 3 of the oxytocin massage group was 85 grams and 256 grams on day 7 of the massage. While the average child's weight gain on day 3 in the Maternal Care group was 52 grams, and on day 7 the child's average weight gain was 155 grams. Based on the results of the bivariate test, showed that oxytocin massage had a more significant effect on the milk production of post-SC mothers (p-value: 0.000)
(Dağlı & Çelik, 2022)	Turkey, RCT	73 Post partum mothers	In this study, researchers worked with 43 mothers for three consecutive days. One session is held each day. The intervention group session was carried out on the first day, the oxytocin massage session was carried out on the second day, and the music session was carried out on the third day.	Group control as many as 30 mothers do not give intervention	Intervention gave with a duration of 30 minutes per day	3 days	The mother's anxiety score decreased during the oxytocin massage and music intervention, and the amount of milk secretion increased (p < 0.05). Music and oxytocin massage has a positive effect on increasing breast milk and reducing maternal anxiety.

(Muliani et al., 2018)	Indonesia, RCT	Maternity mothers as many as 16 respondents	The experimental group of 8 people received a combination of breast care and oxytocin massage	The control group, which included up to eight people, received only breast care interventions. Both groups were then observed, and the results of the experimental group's observations were compared to those of the control group.	Breast care and oxytocin massage after 2 hours postpartum and observations are carried out every day for 3 days according to the period of colostrum discharge	3 days	The research results obtained a significance value of 0.004 with the mean number of the combination group being 4.49 cc and the control group being 3.23 cc. The mean difference between the two groups was 1.26 cc. The conclusion of this study is that the combination of breast care and oxytocin massage is effective for milk production in postpartum mothers. Based on the results of this study, it is suggested to develop services by providing combination interventions for postpartum mothers to help increase breastfeeding
(Doko et al., 2019)	Indonesia, RCT	Mother not using hormonal contraception, age 15-35 years, gestational age at term (37-42 weeks totalling 40 people	The intervention group was given oxytocin massage by the husband, Massage along both sides of the mother's spine using both palms, with the thumbs pointing forward. Cervical spine area. Search the area with the bones most prominent, the name is processus spinosus/cervical vertebrae 7. The action of oxytocin massage therapy by the husband was taught to the husband by the researcher/ enumerators in accordance with the Standard Operating Procedure (SOP) that had been made previously and the respondents were given a re-evaluation after being taught oxytocin massage by the researcher. Meanwhile, the control group was given breast care which was carried out by the respondents themselves and monitored by researchers/enumerators	The Control Group, which received no intervention, was tested using the Mann Whitney U test to determine the significance and difference between before and after intervention.	The intervention group was given oxytocin massage by the husband twice a day in the morning and evening for 15 minutes until the 14th day. Breast care is carried out 2x a day in the morning and evening for 15 minutes until the 14th day in accordance with the Standard Operating Procedure (SOP) that has been made before and the respondent is given a re-evaluation after being taught breast care by researchers/enumerators	14 days	The results of the study, giving oxytocin massage by the husband affected the increase in breast milk production (ASI) with an indicator of the baby's weight ( $p < 0.05$ )

(Feftin Hendriyani 1, 2022)	Indonesia, RCT	Post-partum women in Bangkalan Regency. The sample consists of 30 people	The intervention group of 15 people received only oxytocin and herbal Bejja Madura massages.	The control group consisted of 15 people who were only given normal massage oxytocin.	Treatment for group 1 was oxytocin massage, 15 people in treatment group 2 received combination of Jamu Bejja and oxytocin massage and 15 people in the control group. Selection of the sample using simple random sampling. Group 1 was given an oxytocin massage intervention from the first day of the puerperium to the 7th day of the puerperium with a minimum administration time of 15 minutes 2 times a day, and was carried out by a trained family (husband) and health workers. Group 2 was given the same treatment as group 1 with the addition of a combination of Jamu Bejja from the first day of the puerperium at a dose of 2 times per day, 5 items each. The control group was only given standard care during the postpartum period.	15 minutes	Based on the results, there were differences in the effect of the combination of oxytocin massage and Bejja Madura herbs on milk production and uterine involution with $\bar{y} < 0.01$ . The mean score in the oxytocin combination group of Jamu Bejja Madura and the massage was higher than the mean score in the oxytocin massage group and the control group. Conclusion: The combination of oxytocin massage and Bejja Madura herbal medicine is more effective than the massage and control groups.
(Suryani ngsih, 2019)	Indonesia, RCT	28 postpartum mothers at BPS Rtn, Mlajah, Bangkalan Indonesia,	14 Mothers were included in group intervention given a combination of oxytocin massage and breast care	The control group 14 mothers _ given breast care treatment	Group combination massage oxytocin given intervention for 3 days	3 days	Based on the results, it is evident that the average ranking in the combined oxytocin massage and breast care group is higher than the average ranking in the breast care treatment group. The average value in the breast care treatment group was higher than the oxytocin massage group average and the oxytocin massage group average was higher than the control group. However, there was no difference in milk expenditure in each group ( $p$ -value $> 0.05$ )
(Wulandari et al., 2020)	Indonesia, RCT	The sample used was 80 respondents	40 intervention groups were administered a combination of massage oxytocin and music therapy	The control group did not give an intervention	After informed consent was given by the researcher and research partners, the researcher	3 days	Studies show that the combination of oxytocin massage and music therapy in milk production ( $p=0.000$ ) and the efficacy of breastfeeding alone ( $p=0.000$ ) affects

					explained and demonstrated the research technique to the respondents. After the intervention, the researcher evaluated the respondents and their families for the intervention observed by the researcher and fellow researchers. After the assessment, the researcher left the observation sheet for intervention measurement. The researcher explained that it was carried out 6 times in 3 days.		the treatment group. There is a significant difference between the treatment and control groups in breast production (p=0.000) and self-nursing efficacy (p=0.000)
(Aini YN, 2017)	Indonesia, RCT	In this study, 40 respondents were recruited using simple random sampling, with 20 respondents placed in the treatment and control groups.	The intervention group as many as 20 people are given a combination of oxytocin massage and hypno-breastfeeding this is done for 30 minutes and done 2 times a day, in morning and evening sessions	The control group in this study consisted of 20 women receiving postpartum exercise from day 1 to day 6 postpartum which was carried out twice a day in the morning and evening.	The control group in this study received postpartum exercise from day 1 to day 6 postpartum which was carried out twice a day in the morning and evening.	6 days	There was a significant decrease in uterine involution in the experimental group and the control group after the intervention with a p-value of 0.000 (<0.05), and it was seen that uterine involution in the experimental group (6.05) was faster than with uterine involution in the control group (7.00). The findings also indicated that the prolactin levels in the group experimental (273.53) were higher than prolactin levels in the control group (209.37) Conclusion: There is a statistically significant effect of the combination of oxytocin massage and hypno-breastfeeding on uterine involution and prolactin levels in postpartum women. The combination of oxytocin massage and hypno-breastfeeding is expected to be used in considerations and references in providing postnatal midwifery care

**Evaluation Quality**

**Table 2. Assessment Results Quality with JBI**

Author	Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point	Point 9	Point	Point 11	Point 12	Point	Results
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								8	10		13		
(Dewi Susanti, 2020)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Rusmini1, 2022)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Ishmael, 2019)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Dewi Susanti, 2020)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Agustie et al., 2017)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Umarianti et al., 2018)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Yakomina Mahulette, 2020)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Dağlı & Çelik, 2022)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Muliani et al., 2018)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
Doko et al., 2019)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Feftin Hendriyani 1, 2022)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Suryaningsih1, 2019)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Wulandariet al., 2020)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including
(Aini YN, 2017)	Yes	Not	Yes	Not	Not	Not	Yes	Yes	Yes	Yes	Yes	Yes	Including

Based on Table 2, it showed that there are 14 articles categorized as “very good” qualification and fulfil the inclusion criteria for this Literature Review. Even though those 14 articles do not fulfill all requirement of inclusion criteria, all aspects of the articles including researcher, respondent, assistant researcher or results analysis research have a good qualification based on JBI evaluation

## Characteristics Studies

### Participant

The participant was fourteen journals which relating to postpartum mother. Those journals were selected through cluster method in order to limit the wide discussion. The participants were included rural and urban. 14 articles were found consisting of 13 articles from Indonesia and 1 article from Turkey.

## RESULTS

Based on the fourteen selected journals that were reviewed, nine journals provided intervention oxytocin massage combined with therapy, while the remaining five journals provided intervention oxytocin massage alone. Oxytocin massage combined with other therapies includes a combination of massage oxytocin with Lemongrass oil (Pratamaningtyas et al., 2020), a combination of massage oxytocin with lavender essential oil of 10% and 90% oil of sun flower (Agustie et al., 2017), a combination of oxytocin massage with marble technique (Umarianti et al., 2018), a combination of oxytocin massage with (Aini YN, 2017).

The results of combination between oxytocin massage with other therapies show that the combination oxytocin with lemongrass oil can increase the milk production (Pratamaningtyas et al., 2020). A combination of massage oxytocin with oil lavender essential 10% and 90% sun flower oil can increase the hormone prolactin, increase baby weight, increase the frequent bowel movements of the babies, and increase the duration of sleep on the baby (Agustie et al., 2017). The combination oxytocin massage with marble technique is very effective for increasing milk production (Umarianti et al., 2018). A combination of massage oxytocin with music therapy has positive influence to the breast milk production and decrease anxiety for the mother postpartum (Dağlı & Çelik, 2022; Sri Wulandari, 2020). A combination of oxytocin massage with breast care is effective in increasing milk production in postpartum mothers (Muliani et al., 2018; Suryaningsih1, 2019). Further, the combination of oxytocin massage with an effective herbal Bejja Jammu for increasing the milk production in postpartum mothers (Feftin Hendriyani1, 2022). And the last combination of oxytocin massage with Hypnobreastfeeding gives meaningful influence to enhance the uterine involution and the enlargement hormone prolactin as well as increase milk production (Aini YN, 2017). Based on those results of the five journals, it revealed that the intervention oxytocin massage without combination show the same result which is increased milk production in postpartum mothers (Dewi Susanti, 2020; Doko et al., 2019; Ismail, 2019; Rusmini, 2022; Yakomina Mahulette, 2020).

Moreover, based on fourteen articles show that the breastfeeding is one of the behaviours that encourage mothers in reducing stress and improving parenting behaviour towards their babies. Besides, it also provide on benefit for breastfeeding specifically maintain a good mood. One of methods that can increase the comfort of breastfeeding and increase the milk production is oxytocin massage. Oxytocin massage is one of the right solutions to speed up and facilitate the production and release of breast milk, namely massaging along the spine (vertebrae). This massage will provide a feeling of comfortable feeling and relax to the mother after experiencing the birth process so

that it does not inhibit the secretion of the hormones prolactin and oxytocin. The oxytocin massage can be conducted immediately after the mother gives birth to her baby with a duration of 2-3 minutes. The frequency of giving massage is 2 times a day. This message does not have conducting directly by nurse or specialist but it also can be done by their husband or other family members. The nurse teach families are able to help mothers do oxytocin massage as the technique is quite easy to do and does not need a certain tool (Agustie et al., 2017; Aini YN, 2017; Dağlı & Çelik, 2022; Dewi Susanti, 2020; Doko et al., 2019; Feftin Hendriyani1, 2022; Ismail, 2019; Muliani et al., 2018; Pratamaningtyas et al., 2020; Rusmini, 2022; Sri Wulandari, 2020; Suryaningsih1, 2019; Umarianti et al., 2018; Yakomina Mahulette, 2020)

## DISCUSSION

Relating the results of the review, it proved that there are two methods in giving oxytocin massage with combination or without combination of other therapy. Based on the results of previous study conducted by (Astuti et al., 2021), giving intervention oxytocin massage with lemongrass oil can influence the enhancement of milk production and stimulation of circulation blood, lower the pressure of blood, the content of magnesium. Besides, the potassium of lemongrass is beneficial to arrange muscles, heart and nerves function so that helpful for increasing milk production and delivery relaxation in breastfeeding mothers. In line with this statement, research finding by (Wahyuni, 2022) also stated that citronella / *Cymbopogon citratus* (lemongrass) produces aromatherapy oil which has several functions as an antidepressant, namely suppressing and eliminating depression or stress. Those functions give positive effect for relaxation in both the body and mind of postpartum Mother. A study from (Ramadhan, Ricky & Zettira, 2017) mentioned that Lavender flower (*Lavandula angustifolia*) has a sedative effect as it has the main active ingredient, such as linalool (C<sub>10</sub>H<sub>18</sub>O). The mechanism of lavender flower aromatherapy (*Lavandula angustifolia*) which containing of linalool help stimulating the brain, namely the raphe nucleus. It will secrete serotonin that aid people to sleep. Aromatherapy lavender are able to decrease the blood pressure in hypertension (Purnama Dewi & Astuti, 2022).

Besides those findings, the results of reviewing the selected journals indicated that the marble technique with breast massage could increase the smoothness of exclusive breastmilk (AS) (Widiastuti et al., 2017). In addition, it launched therapeutic milk production as well as minimizing the anxiety during the third semester pregnancy (Widiastuti et al., 2017). The finding from (Admin et al., 2019) claimed that a music therapy could increase relaxation and provide them a comfort feeling for the mother maternity. The journal from (Elvina, 2020) proved that breast care process has several advantages i.e. (1) increase breast milk production; (2) increase attitude and knowledge of post partum Mother in apply therapy for launched milk production. An oxytocin massage combined with hypnobreastfeeding could increase breast milk production. It is affected by the process of hypnobreastfeeding is beneficial for controlling emotions and relaxing the mind of post partum Mother. As a result, they are able to produce good milk effectively (Nurbaiti & Gustina, 2022).

## Implications for Future Research

The Oxytocin Massage is more effective for launching milk production in postpartum mothers, as observed in the review. Some aspects of Oxytocin Massage used to know the right combination of giving therapy massage oxytocin in postpartum mothers. The research design have a number weakness methodological, including lack of concealment allocation, blindness appraiser, and analysis intention treatment. From the twelve selected journal, the appraiser is not blind, which can be causing subjectivity and bias. Consequently, the findings of this RCT must be interpreted carefully.

## Survey Limitations

This Literature Review notes several limitations of the research. The majority of journal used were originating from Indonesia, and the same topic are rarely conducted in in another country. It impacted to the limitation of the results with a wide perspective.

## CONCLUSION

Based on the results of the literature review, it could be seen that there are fourteen journals, in which nine journals show that oxytocin massage combined with other therapies not only effective increase breast milk production but also improve hormone prolactin, increase the baby's weight, increase the defecation frequency in babies, increase duration sleep baby, increase hormone prolactin and lower anxiety for the mother maternity. Meanwhile five journals reveals that the intervention massage oxytocin without combination can improve the breastmilk production.

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