

Review Article: Systematic Review, Meta-Analysis, Integrative Review, Scoping Review

THE EFFECT OF BREAST CARE AND GYMNASTICS ON MOTHERS WITH LESS BREAST MILK PRODUCTION: A LITERATURE REVIEW

Rasulina Br Peranginangin^{1*}, Mardiana Ahmad¹, Andi Nilawati Usman¹, Nur Aliya Arsyad¹

¹ Midwifery Study Program, Graduate School Hasanuddin University, Makassar, Indonesia

***Correspondence:**

Rasulina Br Peranginangin

Midwifery Study Program, Graduate School Hasanuddin University, Makassar, Indonesia
Graduate School, Hasanuddin University Makassar, Jln. Perintis Kemerdekaan KM.10
Makassar-90245

Email:

peranginanginrub20p@student.unhas.ac.id

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Abstract

Background: The low coverage of exclusive breastfeeding shows that not many mothers succeed in exclusive breastfeeding. In post-partum mothers often because the pain experienced after childbirth makes the mother lazy to breastfeed the baby; this can cause the production of breast milk to be uneventful due to lack of stimulation in the breast so that the oxytocin cycle is not smooth and causes breast milk not to come out.

Objectives: This study aimed to find out the Effect of Breast Care and Gymnastics on Mothers with Less Breast Milk Production.

Design: This research design is the study of literature by descriptive methods.

Data Sources: Search articles using the Mendeley app with a period of 2017 to 2021 by entering the keyword "breast care, breastfeeding mothers, less milk production". Articles selected based on: Inclusion Criteria that articles related to breast care in nursing mothers, year of publication 2017-2021, international Publications, articles using English, original articles, abstracts, full text, and open access. Exclusion Criteria that articles other than English and It doesn't have DOI. There were 13 articles based on inclusion criteria.

Review Methods: A systematic review method based on established criteria, then collected and made a journal summary including the researcher's name, the year of publication of the journal, the title of the study, the method, and an overview of the results or finding.

Results: The 13 articles that reviewed and met the inclusion criteria, it was concluded that breast care and gymnastics in breastfeeding mothers significantly influenced breast milk production. This is due to the presence of touch in the breast that stimulates the mammary glands.

Conclusion: Breast care and gymnastics have a significant effect on increasing milk production in breastfeeding mothers.

Keywords: *Treatment, Breast Gymnastics, Breastfeeding Mothers, Less Breast Milk, Breast Milk Production.*

INTRODUCTION

Breast milk contains many nutrients and antibody substances to protect against easily digestible and absorbed infections that are good

for the growth and development of babies; even the results of research related to the benefits of breast milk have been widely reported (Arsyad et al., 2020; Boué et al., 2018; Carrillo-Lozano

et al., 2020; Daud et al., 2019; del Ciampo & del Ciampo, 2018).

Indonesia Health Profile (2018) reported exclusive breast milk coverage of 65.16% higher than exclusive breast milk coverage in 2017 of 61.33%. Data from the Papua Provincial Health Office (2018) reported that exclusive breast milk coverage amounted to 41.4%; this figure is still far from the national target of 80% (Dinas Kesehatan Provinsi Papua, 2019).

The low coverage of exclusive breastfeeding shows that not many mothers succeed in exclusive breastfeeding. Some things that can affect failure in the breastfeeding process often occur problems such as swollen breasts, mastitis, nipples, breast milk has not come out, and improper breastfeeding techniques. In post-partum mothers often because the pain experienced after childbirth makes the mother lazy to breastfeed the baby; this can cause the production of breast milk to be uneventful due to lack of stimulation in the breast so that the oxytocin cycle is not smooth and causes breast milk not to come out (I. A. Anggraeni et al., 2016; Arsyad et al., 2020; Geraghty et al., 2013).

The impact of breast milk that is not lacer on the mother causes breast distension, mastitis, and decreased fulfillment of nutritional needs in the baby. Then in the baby affects the process of child growth and development and unfulfilled needs such as a sense of security, warmth of the mother's embrace, soft-touch (Alves et al., 2018; Engstrom et al., 2007; Widia & Meihartati, 2018)

Insufficient or little milk production due to the influence of the hormone oxytocin is less work. The hormone oxytocin stimulates smooth muscles to squeeze the milk present in the alveoli, lobes, and ducts containing breast milk that is removed through the putting. The action for producing less breast milk can be done pharmacologically or non-pharmacologically, pharmacology with the use of drugs or the use of formula specifically for nursing mothers. Non-pharmacology can be done with a diet with

balanced nutrition for nursing mothers, early mobilization, oxytocin massage, and breast care (Gustirini, 2020; Machmudah et al., 2019; Patel et al., 2013).

Breast care is an attempt to stimulate the secretion of the hormone oxytocin to produce breast milk as early as possible and plays an essential role in dealing with the problem of breastfeeding. Massage techniques and nipple stimulation performed on breast care include the baby's suction effect as a trigger for breastfeeding. Indications for breast treatment are done on breasts that do not experience abnormalities and abnormalities such as swelling, blisters, and inverted nipples. This action is easy for the mother to do and does not cost money (Nilam Sari, 2015; Rahnemaie et al., 2019; Wijayanti & Setyaningsih, 2016).

Based on the background above, researchers are interested in researching literature studies related to breast care and gymnastics in mothers with less breast milk.

METHODS

Design

The design of this research is Literature Review or literature review. The nature of this study is descriptive analysis, which is the regular parsing of data obtained, then given understanding and explanation to be well understood by readers.

Search Methods

The literature review is compiled by searching research articles that have been published both nationally and internationally.

Search for scientific articles using Mendeley application by entering the keyword "breast care, breastfeeding mothers, less milk production" with the year published 2017-2021. Articles selected based on:

1. Inclusion Criteria
 - a. Articles related to breast care in nursing mothers;
 - b. Year of publication 2017-2021;
 - c. International Publications;
 - d. Articles using English; and

- e. Original articles, abstracts, full text, and open access.
2. Exclusion Criteria
 - a. Articles other than English; and
 - b. It doesn't have DOI.

Search Outcome

Article search using Mendeley application included the keyword "breast care, breastfeeding mothers, less milk production" obtained as many as 471 articles. After filtering the year of publication, namely 2017-2021, 25 articles were obtained. Furthermore, abstract filtering, full text, open-access type of research, and duplication obtained 20 articles.

The final process is to conduct journal selection based on inclusion criteria obtained by 13 journals that are *eligible* for review. Article Search Strategy can be seen in figure 1.

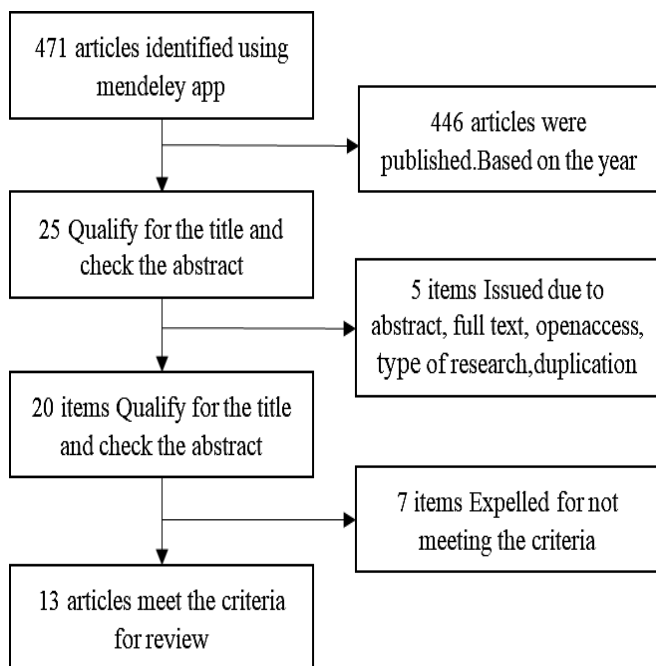


Figure 1. Article Search Strategy.

Quality Appraisal

This literature review is synthesized using narrative methods by grouping similar extraction data according to the results measured to answer the purpose. Research journals that fit the inclusion criteria are then collected and made journal summaries, including the researcher's name, the year of

publication of the journal, the title of the study, methods, and overview of results or findings.

The summary of the research journal is entered into the table under the format mentioned above. To further clarify abstract analysis and full text, the journal is read and observed. The journal summary has then analyzed the content contained in the purpose of the research and the results/findings of the study.

Analysis of the journal's contents then coded into the journal reviewed based on the outline or core of the study is done by parsing in a sentence. If it has been collected, then searched for similarities and differences in each study then discussed to conclude.

Data Abstraction

Researchers accompanied by two supervisors simultaneously review and read the full article, then discuss to agree on the decision of the article that is adjusted to the criteria of inclusion.

Data Analysis/ Synthesis

In the synthesis of articles, the results of the thoughts begin by analyzing articles that are relevant to the topic to be reviewed discuss articles by making search and classification based on the elements that will be reviewed from several articles that discuss the topic almost the same.

Thirteen articles were selected based on inclusion criteria that discuss the effect of breast care and gymnastics on mothers with less breast milk production.

RESULTS

From the search for articles using the Mendeley application, results can be seen in table 1 extraction result of the research.

Table 1. Extraction of Research Results.

Author/Year	Title	Type of Research and Sample	Data Analysis	Result
(W Parwati, 2017)	The Effect of Breast Acupressure and Oxylosins Massage to Improve the Breast Milk Production in Postpartum Mother	Quasi-experiment with post-test design only. 26 respondents with total sampling technique.	An independent t-test.	It is recommended that patients routinely perform acupressure and oxytocin massage
(Andriyani Kebinanan et al., 2019)	Oxytocin Massage Management to Facilitate Mother Postpartum breast milk in Pekanbaru City Murtinawita In PMB 2019	Case study methods. Sample of 1 breastfeeding mother with not smooth breast milk production.	Descriptive Analysis	After obstetric care with massage two times in one day with a 2-3 minutes before breastfeeding, get the results of the mother's breast milk expenditure becomes smooth.
(Yao et al., 2021)	A Five-step Systematic Therapy for Treating Plugged Ducts and Mastitis in Breastfeeding Women: A Case-Control Study	Retrospective studies. Sample of 922 breastfeeding women.	Descriptive statistics, including median, range, and frequency. Single sample t-test, two independent samples test, and Pearson Chi-square test	Five-step systematic therapy (FSST) consisting of laser therapy, breast pumping, breast massage, cold compresses, and education patients can relieve pain, reduce breast swelling and induration range, and for blocked ducts or mastitis varying degrees differently.
(Rahayuningsih et al., 2016)	Effect of Breast Care and Oxytocin Massage on Breast Milk Production: A study in Sukoharjo Provincial Hospital	Randomized Controlled Trial (RCT). Sample of 90 post-partum mothers.	Mann-Whitney Test.	Breast care and oxytocin massage can significantly increase breast milk production
(Arsyad, 2019)	Breast milk volume using portable double pump microcontroller Arduino Nano	Pilot study. Sample of 15 breastfeeding mothers with purposive sampling technique.	Paired t-test	Using an Arduino nano electric pump that starts the first phase, namely massage in the breast for 5-15 minutes, then continued with the secretion phase, can increase breast milk production in nursing mothers.
(Nur et al., 2021)	Status of breast care during pregnancy with milk production and disease	Analytical surveys with a cross-sectional approach.	Chi-Square	There is a relationship between breast care during pregnancy and breast milk production.

		A study sample of 82 breastfeeding mothers.			
(Amaliasari et al., 2020)	The Effect of Breast Treatment and Oxytocin Massage on the Production of Breast Milk	Quasi Experiments. Sample of 20 post-partum mothers.	Wilcoxon Signed-Rank Test dan Mann Whitney Test	Breast care and oxytocin massage effectively increase the production of breast milk mother	
(E. W. Anggraeni et al., 2020)	Analysis of the Implementation of Early Mobilization, Breast Care and Oxytocin Massage on Production ASI in Primipara Post-Partum Mother in Dongko Health Centre Trenggalek City	Associate analytical research is a one-group pre-test design model – post-test. Sample of 24 post-partum mothers.	Wilcoxon and ANOVA one-way	There is an influence of early mobilization, breast care, and oxytocin massage on breast milk expenditure in post-partum mothers.	
(Gustirini, 2020)	Combination of Breast Care and Oxytocin Massage of Breastfeeding Mothers in Infant Weight Gain	Quasi Experiments with pre-posttest control design. Sample of 60 breastfeeding mothers.	Mann Whitney	There is a combined effect of breast care and oxytocin massage on nursing mothers on the baby's weight gain.	
(Uddin & Kusika, 2019)	Combination of Pectoralis Major Muscle Massage and Endorphin Massage in Trimester III Pregnant Women for the Removal of Post-Partum ASI in Palu City	Quasi Experiments with design Static-Group Comparison. Sample of 48 breastfeeding mothers.	Mann-Whitney	A combination of central pectoral muscle massage and endorphin massage in pregnant women in the third trimester is effective against the production of breast milk in the post-partum	
(Mudrikatin & Wati, 2020)	The Effectiveness of the "Bomb" Method (Breast care, Oxytocin Massage, And Marmet Technique) On Increasing Breast Milk Production in Breastfeeding Moments Age 0-6 Months at Prambon Public Health Clinic, Nganjuk District	Experiments. Sample of 60 breastfeeding mothers.	Mann-Whitney	The "BOM" method (Breast Care, Oxytocin Massage, and Marmet Technique) is effective in aiding the production and expenditure of breast milk.	
(Rahayu et al., 2020)	Effect of the combination of Woolwich and effleurage massage on breast milk production among normal post-partum women	Experiment with pretest-posttest design non-randomized control group design.	Dependent t-test and independent t-test.	There is a significant influence of the combination of Woolwich massage and effleurage massage on breast milk production in	

		A sample of 30 breastfeeding mothers.		ordinary post-partum women.
(Sihotang et al., 2020)	The effectiveness difference between breast massage and oxytocin massage towards the smoothness of breast milk production at Matahari room of Undata public hospital central Sulawesi Province	Experiment with pretest-posttest design. Sample of 20 post-partum mothers.	Unpaired T-test	There is a significant influence, so it is expected that the application of breast care and oxytocin massage in mothers on the first day will increase breast milk production. This treatment can be done in the morning and evening for 30 minutes to produce productive breast milk.

DISCUSSION

Breast care is an attempt to stimulate the secretion of the hormone oxytocin to produce breast milk as early as possible and plays an essential role in dealing with the problem of breastfeeding. Massage and stimulation techniques are performed on the breast baby sucking to trigger the release of breast milk (Gustirini, 2020; Lestari et al., 2019).

The purpose of the literature study is to determine the effect of breast care and gymnastics on mothers with less breast milk to increase breast milk production. Of the 13 articles that rereviewed and met the inclusion criteria, it was concluded that breast care and gymnastics in breastfeeding mothers significantly influenced breast milk production. And it should be done as early as possible before entering the labor phase.

The best way to guarantee the release of breast milk is to make sure that the breast is empty every time breastfeeding, as emptying the breast at any given time stimulates the breast glands to produce more breast milk.

Breast care effectively increases the production of breast milk in mothers breastfeeding. Stimulation factors can be in baby suction and physical care, namely breast *care* and oxytocin massage. Breast care on the first day of the post-partum period can smooth blood flow in the breast. Then it can reduce intraductal pressure caused by breast milk collected in the ducts lactiferous then

withdrawal in the nipple can flex and open the duct lactiferous, making it easier for the baby to suck breast milk (Nurdella Artalia Utami et al., 2019; Sembiring, 2020; Widiastuti & Widiani, 2020; Wijayanti & Setiyaningsih, 2016).

Nipple withdrawal can also stimulate sensory nerve endings around the nipple, so this stimulation is continued to the hypothalamus through the spinal medulla and mesencephalon. The hypothalamus will suppress the production of factors that inhibit prolactin secretion and will instead stimulate the production of factors that spur prolactin secretion. The driving factor of prolactin secretion will stimulate the anterior hypophysis to produce prolactin. This prolactin hormone will further stimulate alveoli cells to make milk.

The above theory suggests that breast care can have a significant effect on increasing milk production in nursing mothers. This is because breast treatment will stimulate the mammary glands and find abnormalities in the breast so that good effort can be made to overcome them.

CONCLUSION

Breast care and gymnastics have a significant effect on increasing breast milk production in nursing mothers. Doing breast treatment will stimulate the mammary glands and find out breast abnormalities so that efforts can be made to overcome them.

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DECLARATION OF CONFLICTING INTEREST

This comprehensive summary or systematic review is independent writing, so there is no conflict of interest.

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AUTHOR CONTRIBUTION

Rasulina Br Peranginangin: Designing studies, collecting and analyzing articles, and contributing to the completion of literature reviews

Mardiana Ahmad: Contribution as a supervisor guide and discuss the final results of the review literature manuscript

Andi Nilawati Usman: Contribution as a supervisor involved in planning and supervision in the completion of the literature review.

Nur Aliya Arsyad: Contribution to the completion of literature reviews.

ORCID

Rasulina Br Peranginangin

None.

Mardiana Ahmad

<https://orcid.org/0000-0002-0798-0457>

Andi Nilawati Usman

<https://orcid.org/0000-0002-1136-1704>

Nur Aliya Arsyad

<https://orcid.org/0000-0003-1987-8780>

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