

THE RELATIONSHIP BETWEEN MANAGEMENT EDUCATION AND LACTATION MASSAGE WITH MATERNAL BEHAVIOR IN BREASTFEEDING

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Abstract

Supplying only breast milk (ASI) in the first six months of a child's life plays a crucial role in promoting healthy development and strengthening the immune system. Nonetheless, the rate of exclusive breastfeeding in Indonesia continues to fall short of the desired target. Several contributing factors include mothers' lack of knowledge, attitudes, and skills in lactation management. One effort that can increase breastfeeding success is education about lactation management and the application of lactation massage. This study aims to identify the correlation between management education and lactation massage with maternal behavior in providing breast milk. This study uses a one-group pretest-posttest quasi-experimental design and a quantitative methodology. Using the complete sampling approach, the sample size was 30 people, and the population was made up of breastfeeding mothers. A questionnaire that evaluated moms' knowledge, attitudes, and behaviors both before and after receiving education served as the research tool. The Wilcoxon signed rank test has been used in data analysis to find significant differences between the outcomes before and after the intervention. The research results showed that before education, the majority of mothers had sufficient knowledge (50%), negative attitudes (56.7% disagreed), and balanced actions between doing and not doing lactation massage (50% each). After education, almost all respondents had good knowledge (96.7%), positive attitudes (43.3% strongly agreed), and all respondents (100%) performed lactation massage. The Wilcoxon test produced a p value = 0.000 ($p < 0.05$) which indicates a significant difference between before and after the intervention.

Keywords: *Education, Lactation Management, Lactation Massage, Maternal Behavior, Exclusive Breastfeeding*

Introduction

The national movement to increase breastfeeding is a government initiative aimed at improving maternal and child health. This program plays a crucial role in supporting successful breastfeeding and requires the active involvement of all elements of society. As key players in improving the quality of human resources in Indonesia, mothers need to increase their insight and awareness of the importance of breastfeeding. (Mariani & Rahmawati Hasanah, 2022). Based on the results of Zikrina's 2022 research, it was stated that exclusive breastfeeding plays a significant role in helping improve the baby's immune system in fighting various diseases. According to the WHO, effective exclusive breastfeeding is given up to 6 months, but the average coverage of exclusive breastfeeding in Indonesia is still below the target of 80%. In North Sumatra, the results of a survey conducted in 2022, exclusive breastfeeding reached 57.17%. (Batubara, 2024). Breastfeeding also plays a significant role in producing quality human resources and is a fundamental step to ensure the survival of babies. Lactation is a natural process that occurs in women after childbirth, where the mammary glands produce and secrete breast milk. This process plays a crucial role in supporting the nutritional and health needs of the baby during the breastfeeding period. The breastfeeding process encompasses all stages, from milk production to the baby sucking and swallowing. However, breastfeeding doesn't always go smoothly because it's not automatic; it's a skill that needs to be learned and developed. A

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mother's knowledge of lactation management is one of the crucial factors supporting the smooth running of exclusive breastfeeding (Ladyvia et al., 2024). To achieve successful breastfeeding, midwives play a crucial role as health workers responsible for providing information on lactation management. This information is the first step in helping mothers successfully breastfeed their babies, especially during the exclusive breastfeeding period of 0–6 months after delivery. Lactation management during breastfeeding encompasses various aspects, such as exclusive breastfeeding, breast milk expression, proper breastfeeding techniques, and the provision of expressed breast milk. This entire process is carried out through three main stages: during pregnancy, immediately after delivery, and throughout the breastfeeding period. The main goal is to ensure that mothers are able to provide sufficient breast milk that meets their baby's needs. (Rizky Tampubolon et al., 2023). Several factors contribute to breastfeeding failure, including a lack of maternal knowledge and skills. This is due to the lack of support from healthcare professionals in providing information and initiatives that can support mothers' success in developing positive breastfeeding behaviors (Sari et al., 2023). One way to optimize breast milk production in breastfeeding mothers is through lactation massage, which has been proven to be beneficial in facilitating successful milk production. Lactation massage is a massage technique on the neck or head, spine, back, and breasts that aims to stimulate the hormones oxytocin and prolactin. These two hormones play a crucial role in breast milk production, with prolactin stimulating milk production and oxytocin triggering contractions of the alveolar cells in the mammary glands. These contractions trigger milk to flow into small ducts in the breast and out through the nipple into the baby's mouth, known as the let-down reflex. (Putri Saudia, 2019).

According to research (Zain et al., 2021) conducted on 30 mothers, before receiving lactation massage, 14 mothers experienced insufficient breast milk production, while only 1 (6.7%) demonstrated optimal breast milk production. After the lactation massage intervention, 12 (80%) experienced adequate breast milk production and 3 (20%) experienced moderate breast milk production. Therefore, lactation massage is highly effective for increasing breast milk flow. A preliminary survey conducted by researchers at the Siti Hajar Clinic in Medan Marelan from September to October 2024 revealed that five mothers received lactation massage. During this period, mothers generally lacked sufficient knowledge about lactation management and massage. From the background and results of the initial survey conducted, the researcher was interested in examining the relationship between management education and lactation massage with maternal behavior in breastfeeding at the Siti Hajar Clinic, Medan Marelan.

Formulation of the problem

The problem formulation in this research is "Is there a Relationship between Lactation Management Education and Massage with Mothers' Behavior in Providing Breast Milk at the Siti Hajar Clinic, Medan Marelan?"

Research purposes

General purpose

This research aims to observe mothers' knowledge about lactation management and massage at the Siti Hajar Medan Marelan Clinic.

Special purpose

1. To determine the mother's knowledge before being given education on lactation management and massage.
2. To determine mothers' knowledge after receiving education on lactation management and massage.
3. To find out the mother's attitude before being given lactation management education and massage.
4. To find out the mother's attitude after receiving education on lactation management and massage.
5. To find out the actions of mothers before receiving education on lactation management and massage.
6. To find out the actions of mothers after receiving lactation management education and massage.

Benefits of research

For Educational Institutions

The results of this study are expected to serve as a reference for developing health research and inform

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future research. They are also intended to broaden the knowledge of female undergraduate midwifery students regarding the relationship between lactation management education and massage and maternal breastfeeding behavior.

For Research Locations

It is hoped that this research can provide information about the importance of lactation management and massage education on the behavior of breastfeeding mothers appropriately and become a direction for the Siti Hajar Clinic in socializing lactation management and massage education for breastfeeding mothers.

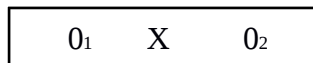
For Further Researchers

It is hoped that the findings of this research can serve as a guideline or reference for further research related to the relationship between management education and lactation massage with maternal behavior in providing breast milk.

METHOD

Types and Design of Research

This study employed a quantitative method with a quasi-experimental approach. The design used was a one-group pretest-posttest, with no control group. Initial observations (pretest) were conducted before the intervention, and then after the intervention, maternal behavior was re-observed through a posttest. The purpose of this research was to assess maternal knowledge and behavior regarding breastfeeding at the Siti Hajar Clinic in Medan Marelan.



Scheme 2.1 Research Design

Information :

- O_1 : Mother's behavior in providing breast milk before lactation massage
- X :Treatment
- O_2 : Mother's behavior in providing breast milk after lactation massage

Place and Time of ResearchResearch Site

The research location was carried out at the Siti Hajar Clinic, S.Keb.,Bdn, Gg. Melati, Paya Pasir, Medan Marelan District, Medan City, North Sumatra.

Research Time

This research will be conducted in June-July 2025

Population and Population Sample

According to Sugiyono (2020), a population is a general area that includes subjects or objects with specific characteristics determined by the researcher for study and research. The population of this study was mothers who participated in the Extension Program Unit (SAP), consisting of 30 mothers who provide breast milk at the Siti Hajar Clinic in Medan Marelan.

Sample

According to Sugiyono (2020), a sample is a subset of the population and its characteristics. In this research, the sample consisted of 30 mothers who breastfed and participated in the Extension Program Unit (SAP) for lactation management education and massage. Total sampling was used, a sampling technique where the entire population meeting the inclusion criteria is used as the research sample.

The following are the characteristics of inclusion and exclusion in research:

a. Characteristics of Inclusion

Inclusion characteristics are the general characteristics of research subjects from the population to be reached and observed.

1. Mothers who want to do lactation massage

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- 2 Physically healthy
- 3 Mother's willingness to participate
- b. Characteristics of Exclusion
Exclusionary characteristics are characteristics that do not comply with the inclusion provisions and must be removed because they do not meet the requirements.
 - 1 Mothers who do not want to do lactation massage
 - 2 Mothers with special conditions
 - 3 Mothers who refuse to participate

Primary Data Collection Method

Sugiyono (2022), primary data is a source of information that provides data directly to researchers or provide data based on respondent observations.

Secondary Data

Sugiyono (2022) defines secondary data as an indirect source of information that provides data for researchers. Data is obtained from sources that can support the research. For example, researchers collected data from healthcare workers at the Siti Hajar Clinic in Medan Marelan.

Measurement Aspects

Aspects of the relationship between knowledge and maternal behavior in providing breast milk at the Siti Hajar Clinic, Medan Marelan.

Variables	Operational Definition	Parameter	Measuring instrument	Data Scale	Measurement Results
Independent Variables					
Lactation Management Education	The process of conveying information about breastfeeding management such as techniques, time, and benefits of breast milk	Providing education about lactation management	SAP (Extension Program Unit)	Ordinal	Before It's Done After It's Done
Lactation Massage	Massage method applied to several areas of the body, especially on the breasts to facilitate breast milk production	Providing lactation massage intervention	SOP Sheet	Ordinal	Before It's Done After It's Done
Dependent Variable					
Mother's behavior in providing breast milk	Mother's behavior includes the timing of breastfeeding according to the baby's needs,	and breastfeeding techniques	Evaluatematernal behavior in providing breast milk after intervention		

Data Processing and Data Analysis Techniques Data Processing and Data Analysis Techniques

The data processed by computerization is as follows:

- a. Editing (data processing)
We collect and process the results of the questionnaire survey from respondents. Any errors or deficiencies that occur during data collection will be corrected through re-examination and re-examination.
- b. Coding Sheet (creating a sheet)code
A code table or card is a column-shaped tool for manually collecting data. The code table contains the number of respondents and question numbers.
- c. Data Entry (entering data)
Enter data by filling in the code columns or tables based on the answers to each question.
- d. Tabulation
Tabulation is the activity of creating data tables that are in accordance with research objectives.

Data analysis

1. Univariate Analysis

Univariate analysis was carried out to describe the characteristics of respondents by using frequency and percentage distributions for each independent variable and dependent variable.

2 Bivariate Analysis

Bivariate analysis was used to obtain information regarding the correlation between independent variables, namely whether there was a relationship between management education and lactation message with maternal behavior in providing breast milk at the Siti Hajar Marelan Clinic, by using the Wilcoxon test with a score of $P < 0.05$.

Result and Discussion

Univariate Analysis

Univariate analysis processes a single variable to describe the general characteristics of the phenomenon under study, including descriptive statistics. This method is simple and can be applied to both numerical and nonnumeric data, such as prevalence, ratios, or percentages. Measures of central tendency, such as the mean, median, mode, quartiles, percentiles, and deciles, are used to indicate the center of the distribution. Measures of dispersion, such as the range, variance, standard deviation, and coefficient of variation, measure the spread of the data. The results can be presented in tables, graphs, diagrams, curves (to show skewness), or descriptive analysis.

Table 1: Frequency Distribution of Respondents Based on Mother's Age, Mother's Education, Mother's Occupation, Age of Baby, First Child

Characteristics	Frequency	Percentage %
Mother's Age		
21-25 Years	18	60.0
26-30 Years	9	30.0
31-35 Years	3	10.0
Total (N)	30	100.0
Education		
JUNIOR HIGH SCHOOL	4	13.3
SENIOR HIGH SCHOOL	24	80.0
College	2	6.7
Total (N)	30	100.0

Work

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Not Working	20	66.7
Work	10	33.3
WFH/Online	0	0.0
Total (N)	30	100.0
Baby Age		
Neonates (0-28 Days)	4	13.3
1-6 Months	26	86.7
7-12 Months	0	0.0
Total (N)	30	100.0
What order do you come in your family-		
I-II	18	60.0
III-IV	11	36.7
>V	1	3.3
Total (N)	30	100.0

Based on maternal age, the majority were in the 21–25 age group, amounting to 18 people (60%), then 26–30 years old amounted to 9 people (30%), and the lowest was 31–35 years old, there were 3 people (10%). From the level of education, the majority of mothers had a high school education of 24 mothers (80%), followed by junior high school with 4 mothers (13.3%), and the lowest with a college education of 2 mothers (6.7%). When viewed from employment, the majority of mothers were unemployed, amounting to 20 mothers (66.7%), while those who worked were 10 mothers (33.3%), and none worked online. Based on the age of the baby, the majority were aged 1–6 months, namely 26 people (86.7%), then neonates (0–28 days) amounted to 4 people (13.3%), and there were no babies in the 7–12 months age group. Judging from the order of children, the majority were the 1st–2nd children, amounting to 18 people (60%), followed by the 3rd–4th children, amounting to 11 people (36.7%), and the lowest was the 5th child, amounting to 1 person (3.3%).

Table 2: Frequency Distribution of Respondents Based on Knowledge Before Being Given Lactation Management and Massage Education at Siti Hajar Clinic in 2025

Pengetahuan	Frekuensi	Persentase %
Baik	5	16.7
Cukup	15	50.0
Kurang	10	33.3
Total (N)	30	100.0

Before being given education on lactation management and massage, the majority of respondents had sufficient insight, namely 15 mothers (50%), while those with poor insight were 10 mothers (33.3%), and only 5 mothers (16.7%) had good insight.

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Table 3: Frequency Distribution of Respondents Based on Knowledge After Being Given Lactation Management and Massage Education at the Siti Hajar Clinic in 2025

Pengetahuan	Frekuensi	Persentase %
Baik	29	96.7
Cukup	1	3.3
Kurang	0	0.0
Total (N)	30	100.0

After being given education, the majority of respondents had knowledge in the good category, namely 29 people (96.7%), only 1 mother (3.3%) had sufficient insight, and none had insufficient insight.

Table 4: Frequency Distribution of Respondents Based on Attitudes Before Being Given Lactation Management and Massage Education at the Siti Hajar Clinic in 2025

Attitude	Frequency	Percentage %
Strongly Agree (15-11)	0	0.0
Agree (10-6)	13	43.3
Disagree (5-0)	17	56.7
Total (N)	30	100.0

Before receiving education, the majority of respondents disagreed, namely 17 mothers (56.7%), while those who agreed were 13 mothers (43.3%), and no respondents strongly agreed.

Table 5: Frequency Distribution of Respondents Based on Attitude After Being Given Lactation Management and Massage Education at the Clinic Siti Hajar in 2025

Attitude	Frequency	Percentage %
Strongly Agree (15-11)	13	43.3
Agree (10-6)	8	26.7
Disagree (5-0)	9	30.0
Total (N)	30	100.0

After being given education, the majority of respondents had an attitude of strongly agreeing, namely 13 mothers (43.3%), followed by those who agreed, amounting to 8 people (26.7%), and those who disagreed, amounting to 9 people (30%).

Table 6: Frequency Distribution of Respondents Based on Actions Before Being Given Lactation Management and Massage Education at the Clinic Siti Hajar in 2025

Tindakan	Frekuensi	Persentase %
Dilakukan	15	50.0
Tak Dilakukan	15	50.0
Total (N)	30	100.0

Before being given education, respondents' actions were evenly divided between those who did it, namely 15 people (50%) and those who did not do it, namely 15 people (50%).

Table 7: Frequency Distribution of Respondents Based on Actions After Being Given Lactation Management and Massage Education at the Clinic Siti Hajar in 2025

Tindakan	Frekuensi	Persentase %
Dilakukan	30	100.0
Tidak Dilakukan	0	0.0
Total (N)	30	100.0

After being given education, all respondents took action, namely 30 mothers (100%), and none did not do it.

Bivariate Results

The results of the bivariate test in the research entitled "The Relationship between Knowledge of Lactation Management and Massage with Mothers' Behavior in Providing Breast Milk at the Siti Hajar Clinic in 2025", in the data are as follows.

Table 8: Results of the Willcoxon Test of the Relationship Before and After Providing Lactation Management Education and Massage with Mothers' Behavior in Providing Breastfeeding at the Siti Hajar Clinic in Medan in 2025

		N	Mean Rank	Sum of Ranks
Pengetahuan Sesudah- Pengetahuan Sebelum	Negative Ranks	0	,00	,00
	Positive Ranks	25	13,00	325,00
	Ties	5		
	Total	30		
Sikap Sesudah- Sikap Sebelum	Negative Ranks	0	,00	,00
	Positive Ranks	21	11,00	231,00
	Ties	9		
	Total	30		
Tindakan Sesudah- Tindakan Sebelum	Negative Ranks	0	,00	,00
	Positive Ranks	15	8,00	120,00
	Ties	15		
	Total	30		

The Wilcoxon test results show that in the knowledge variable, 25 respondents experienced an increase (positive ranks) after being given education, while no respondents experienced a decrease (negative ranks), and 5 respondents remained the same (ties). In the attitude variable, 21 respondents experienced an increase, none experienced a decrease, and 9 respondents experienced no change. Meanwhile, in the action variable, 15 respondents experienced an increase, none experienced a decrease, and 15 respondents experienced no change.

Table 9: Results of the Asymp. Sig. (2-tailed) Statistical Test of the Relationship Before and After Providing Lactation Management Education and Massage with Mothers' Behavior in Providing Breastfeeding at the Siti Hajar Clinic in Medan in 2025

	Pengetahuan Sesudah- Pengetahuan Sebelum	Sikap Sesudah- Sikap Sebelum	Tindakan Sesudah- Tindakan Sebelum
Z	-4,540	-4,583	-3,873
Asymp. Sig. (2-tailed)	,000	,000	,000

The Asymp. Sig. (2-tailed) value was 0.000 ($p < 0.05$) for all variables, indicating a significant difference before and after education. Thus, lactation management and massage education were proven to be effective in improving mothers' actions, attitudes, and knowledge regarding breastfeeding at the Siti Hajar Medan Clinic in 2025.

DISCUSSION

Knowledge Before Providing Lactation Management and Massage Education, at the Siti Hajar Clinic Medan in 2025.

Research findings showed that before receiving education, the majority of mothers (15 mothers) had sufficient knowledge. Ten (33.3%) were still considered inadequate, while only five (16.7%) had good knowledge. This finding aligns with Nisa's 2021 research in Depok. (Nisa, 2021) In her study, before lactation massage, most mothers experienced difficulties, but after the intervention, 71.4% of respondents experienced a significant increase in breast milk production. This finding aligns with Herlina and Riska Aprilia Wardani's 2022 research in Mojokerto. (Herlina & Wardani, 2022) In their research, after 78% of mothers given lactation massage experienced an increase in breast milk production, while 22% experienced no change. This finding is in line with Agustia and Camelia's 2025 research in Baturaja. (Agustia & Camelia, 2025) In their research, the combination of oxytocin massage and lactation massage optimized breast milk production in 85% of respondents, while the lactation massage group alone was only effective in 60% of respondents. This finding is in line with Katmini and Nazilatul Maulinda Sholichah's 2023 research in Kediri. (Katmini & Sholichah, 2023) In their research, lactation massage was proven effective in optimizing breast milk flow in 72% of postpartum mothers who received the intervention.

Knowledge After being given Lactation Management and Massage Education, at the Siti Hajar Clinic Medan in 2025.

After being given education, almost all mothers had good knowledge, namely 29 people (96.7%), while only 1 person (3.3%) was still in the sufficient category, and none were lacking. This finding aligns with Arifarahmi and Melda Amalia's 2024 study in Padang. (Arifarahmi & Amalia, 2024) In their study, lactation massage education with pandan leaf aromatherapy increased maternal knowledge, with 90% of respondents categorized as good after the intervention. This finding aligns with Dewi Ariani, Respati Suryanto Drajat, and Kumboyono's 2025 study in Malang. (Ariani et al., 2025) In their study, relactation and oxytocin massage interventions increased maternal self-efficacy, with 88% of respondents experiencing increased breastfeeding confidence after the intervention. This finding aligns with Herlina and Wardani's 2022 study in Mojokerto. (Herlina & Wardani, 2022) In their study, after education on lactation massage, 80% of mothers showed a significant increase in knowledge compared to before the education. Attitude Before Lactation Management and Massage Education at the Siti Hajar Clinic in Medan in 2025 The research findings showed that before education, the majority of mothers had a disapproving attitude, namely 17 people (56.7%), while 13 people (43.3%) said they agreed, and none strongly agreed. This finding is in line with the research of Purwandari et al. in 2024 in Manado. (Purwandari et al., 2024) In their study, before the intervention of oxytocin massage and infant massage, 60% of mothers were still doubtful about the effectiveness of lactation massage in increasing breast milk supply. This finding is in line with the research

of Dewi Ariani et al. in 2025 in Malang. (Ariani et al., 2025) In their study, before being given relactation intervention and oxytocin massage, 55% of mothers showed negative attitudes towards breastfeeding. This finding is in line with the research of Romadhoni in 2023 in Surakarta. (Romadhoni et al., 2023) In their study, before the massage, 65% of mothers felt that their breast milk supply was not smooth and were less confident in doing lactation massage.

Attitude After Being Given Lactation Management and Massage Education, at the Siti Hajar Clinic Medan in 2025

After receiving education, 13 (43.3%) mothers strongly agreed, 8 (26.7%) agreed, and 9 (30%) disagreed. This finding aligns with Agustia and Camelia's 2025 research in Baturaja. (Agustia & Camelia, 2025) In their research, after the lactation massage and oxytocin intervention, 82% of mothers showed a positive attitude towards exclusive breastfeeding. This finding aligns with Arifarahmi and Amalia's 2024 research in Padang. (Arifarahmi & Amalia, 2024) In their research, after lactation massage education, 85% of mothers stated that they agreed and supported the practice of lactation massage. This finding aligns with Herlina and Wardani's 2022 research in Mojokerto. (Herlina & Wardani, 2022) In their research, mothers' attitudes changed to be more positive after the intervention, with 70% of respondents more confident in the smooth flow of breast milk. Actions Before Providing Lactation Management and Massage Education, at the Siti Hajar Clinic Medan in 2025

The results showed that before the education, mothers' actions were evenly distributed, with 15 (50%) performing lactation massage and 15 (50%) not. This finding aligns with Nisa's 2021 study in Depok. (Nisa, 2021) In her study, before the intervention, 62% of mothers had never performed lactation massage despite experiencing breastfeeding difficulties. This finding aligns with Romadhoni's 2023 study in Surakarta. (Romadhoni et al., 2023) In her study, only 40% of mothers received lactation massage before education, while the rest did not. This finding aligns with Katmini and Sholichah's 2023 study in Kediri. (Katmini & Sholichah, 2023) In their study, 45% of respondents practiced lactation massage before education, while the rest did not do it regularly.

Actions After Providing Lactation Management and Massage Education at Siti Hajar Clinic Medan in 2025

After education was provided, all mothers, or 100%, performed lactation massage. This finding aligns with Agustia and Camelia's 2025 study in Baturaja. (Agustia & Camelia, 2025) In their study, after the intervention, 95% of mothers performed lactation massage regularly to increase breast milk production. This finding aligns with Romadhoni's 2023 research in Surakarta. (Romadhoni et al., 2023) In their study, after education, 92% of respondents actively performed lactation massage with the correct technique. This finding aligns with Katmini and Sholichah's 2023 study in Kediri. (Katmini & Sholichah, 2023) In their study, lactation massage education improved mothers' skills, with 88% of respondents performing massage regularly after the intervention.

The Results of the Wilcoxon Test of the Relationship Before and After Providing Lactation Management Education and Massage with Mothers' Behavior in Providing Breast Milk at the Siti Hajar Clinic in Medan in 2025

The results of the Wilcoxon test showed that knowledge increased in 25 people (83.3%), remained the same in 5 people (16.7%), and there was no decrease. Attitudes increased in 21 respondents (70%) and remained the same in 9 people (30%). improved in 15 respondents (50%) and remained the same in 15 people (50%). This finding aligns with Agustia and Camelia's 2025 study in Baturaja. (Agustia & Camelia, 2025) In their study, lactation massage and oxytocin intervention improved maternal behavior, with 84% of respondents experiencing significant improvement. This finding aligns with Herlina and Wardani's 2022 study in Mojokerto. (Herlina & Wardani, 2022) In their study, lactation massage significantly increased breast milk production, as indicated by $p < 0.05$. This finding is in line with Purwandari's research et al. in 2024 in Manado. (Purwandari et al., 2024) In their study, the combination of oxytocin massage and infant massage was effective, with 80% of respondents showing improved breastfeeding behavior. This finding aligns with the 2023 study by Monica Kartini and Berlian Nurtyashesti in Semarang. (Kartini & Kusumadewi, 2023) In their study, lactation massage was shown to significantly increase breast milk production with a p score < 0.05 after the intervention.

Asymp. Sig. (2-tailed) Statistical Test Results of the Relationship Before Providing Lactation Management Education and Massage with Mothers' Behavior in Providing Breastfeeding at the Siti Hajar Clinic in Medan in 2025

Further statistical tests showed an Asymp. Sig. (2-tailed) score of 0.000 ($p < 0.05$) for all variables, indicating a significant difference before and after education. This finding aligns with Nisa's 2021 study in Depok. (Nisa, 2021) In her study, a p -value < 0.05 indicates lactation massage is effective in increasing breast milk production. This finding aligns with Agustia and Camelia's 2025 study in Baturaja. (Agustia & Camelia, 2025) In their study, there was a significant difference, with 87% of respondents experiencing significant changes after the intervention. This finding aligns with Herlina and Wardani's 2022 study in Mojokerto. (Herlina & Wardani, 2022) In their study, a p -value < 0.05 proves that 75% of respondents experienced an increase in knowledge and practice. This finding aligns with Katmini and Sholichah's 2023 study in Kediri. (Katmini & Sholichah, 2023) In their research, the results of statistical tests showed that 80% of mothers experienced a significant increase in breast milk production after lactation massage intervention.

CONCLUSION

From research at the Siti Hajar Clinic in Medan in 2025:

1. Before education, the majority of mothers had sufficient knowledge (50%), 33.3% had insufficient knowledge, and 16.7% had good knowledge. After education, 96.7% of respondents had good knowledge.
2. Before education, mothers' attitudes towards lactation massage were initially negative (56.7% disagreed), but after education it increased significantly, with 43.3% strongly agreeing, 26.7% agreeing, and 30% still disagreeing.
3. Before education, mothers' initial actions were evenly divided (50% did lactation massage), but after education all respondents (100%) did it.
4. The Wilcoxon test showed a significant difference ($p = 0.000 < 0.05$) before and after education, proving the effectiveness of education in improving mothers' knowledge, attitudes, and behavior.

SUGGESTION

1. For Educational Institutions
Strengthening the curriculum and practice of lactation management and massage so that students are ready to become educators in the community.
2. For Research Locations
Implementing continuous education through counseling, mother classes, and direct practice to maintain positive maternal behavior.
3. For Future Researchers
Conduct research with larger samples, diverse locations, and add other variables such as family, social, and cultural support for more comprehensive results.

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