

The Effect of Marmet Technique on Mother's Satisfaction in Breastfeeding

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Abstract

Background: The Marmet technique is a safe way to stimulate the breast to produce more milk. The administration of Marmet techniques to mothers who produced little to no amount of breast milk showed good results. Palms and fingers are recommended for breast milk milking due to them being practical, effective and efficient.

Purpose: To determine the effect of Marmet technique on maternal satisfaction in breastfeeding.

Method: This research applied *quasi experiment* design. There were 40 respondents, each consisting of a treatment group and a control group that met the inclusion criteria. Data were collected using questionnaires and observation sheet. The data were then analyzed using *Mann Whitney* and *Wilcoxon's Test* ($\alpha < 0.05$).

Results: Statistical test results of *Wilcoxon Signed Rank Test* in the treatment group with the value of sig (2-tailed) obtained $p = 0.000$ in which $p < 0.05$ indicates that there is a significant effect of Marmet technique on maternal satisfaction in breastfeeding. However, the control group obtained $p = 0.083$ in which $p > \alpha > 0.05$, meaning that there is no significant effect of Marmet technique on maternal satisfaction in breastfeeding.

Conclusion: The satisfaction of the mother in breastfeeding has increased after being intervened with Marmet technique.

Keywords : *Marmet technique, maternal satisfaction, breastfeeding.*

Introduction

Breastfeeding is seen to be one of the solution that may reduce infant mortality, risk of stunting, obesity, and chronic diseases. Babies who were breastfed have a fourteen times bigger chance of surviving in their first six months compared to those who are not breastfed^{1,2}. Failure in breastfeeding is mostly caused by the infants having difficulties in sucking, abnormalities of the breast, and the mother's lack of knowledge about the breastfeeding. Those failures tend to cause the mothers to stop the process of breastfeeding, and start giving formula milk as a substitute for breast milk. This is due

to the mothers' limited knowledge on breast massaging, which merely revolves around the usual method, oxytocin massage^{3,4}.

One of the factors that cause in infants is the cessation of breast milk in less than 6 months, which is considered to early, and then continued with formula feeding. The percentage of babies who are breastfed and do not experience diarrhea is higher than those who are not⁵. The production of breast milk can be increased by using several methods including oxytocin massage, Marmet technique, warm compresses, back massage, breast care, endorphins and oxytocin massage stimulation and suggestive provision, but due to the limited information in health services regarding the procedure of implementation-these methods are merely known and are rarely given by nurses^{6,7}. One way to extract milk is through Marmet technique, a combination of milking and massaging the breasts in postpartum mother. The administration of Marmet techniques to mothers who

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produced little to no amount of breast milk showed good results. The Marmet technique is a safe way to stimulate the breast to produce more milk. If Marmet technique is done effectively, the milk production will be better and thus cause more satisfaction in breastfeeding^{8,9}.

Self-satisfaction of the mother is a cognitive aspect of *subjective well-being*. Maternal self-satisfaction can be seen from two different approaches, first the *bottom-up* theory in which self-satisfaction is influenced by an individual's assessment of important domains in herself. The second is the *top-down* theory in which the self-satisfaction of the mother will affect another person's satisfaction domain. Someone who is satisfied with herself will also evaluate important domains in life more positively, although self-satisfaction in general is not only based on satisfaction with that domain alone. Mothers who are able to breastfeed their babies tend to be satisfied⁶.

Method

This study is a *quasi-experimental* research. The population in this study were breastfeeding mothers in the working area of the Ampenan Puskesmas (Community Health Center) located in six different integrated healthcare centers. The sample selection used inclusion criteria as follows: (1) Mothers who do not exclusively breastfeed (2) Have 3-6 months old babies

(3) Able to read and write. The number of samples were divided into the control group and the treatment group. Sampling was done using *probability sampling* in the method of *cluster sampling*. The independent variable in this study is the Marmet technique, while the dependent variable is maternal satisfaction in breastfeeding. Prior to the research, both groups were pre-tested. The treatment group was treated with Marmet technique (every day for 20-30 minutes) and the control group was given a counseling about breast massage (for 30 minutes) then both were assigned for a post-test and the data were analyzed using *Wilcoxon* and *Mann-Whitney* test.

Satisfaction measurements was done based on a modification of the *Breastfeeding Self Efficacy Scale - Short Form* (BSES-SF) scale. BSES-SF is a questionnaire that contains 14 items statements about mothers' confidence in breastfeeding. Validity test was carried out using *Pearson product moment (r)*. r value was calculated with the value of r table at a significance level of 5% and was declared valid. The reliability test in this research was based on *Alpha Cronbach*, in which the basis for decision making is reliable if the value of $\alpha > r$ table. Based on the questionnaire reliability test, the value of *Alpha Cronbach* for the satisfaction questionnaire was 0.687. This indicates that the questionnaire is reliable. This research has been declared "Ethically Feasible" with a Certificate of Ethical Feasibility from the Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia.

Results

Characteristics of Respondents

The table below explains the respondents characteristic.

Table 1. Characteristics of Respondents

| General Data | Category | F | F |
|--------------|--------------------|----|----|
| Age | 21-24 | 11 | 13 |
| | 25-28 | 18 | 15 |
| | 29-31 | 9 | 10 |
| | 32-35 | 2 | 2 |
| | Total | 40 | 40 |
| Education | Junior High School | 20 | 22 |
| | High School | 16 | 14 |
| | University | 4 | 4 |
| | Total | 40 | 40 |

Cont... Table 1. Characteristics of Respondents

| | | | |
|-----------------------|----------------------------|----|----|
| Occupation | Civil Servant | 3 | 2 |
| | Private Employee | 2 | 4 |
| | Self-Employed/Entrepreneur | 18 | 18 |
| | Housewife | 12 | 9 |
| | Other | 5 | 7 |
| | Total | 40 | 40 |
| Number of Child | 1st | 13 | 7 |
| | 2nd | 20 | 18 |
| | 3rd | 7 | 11 |
| | 4th or more | 0 | 4 |
| | Total | 40 | 40 |
| Sex | Male | 19 | 22 |
| | Female | 21 | 18 |
| | Total | 40 | 40 |
| Child's Age | 3 months old | 7 | 7 |
| | 4 months old | 7 | 10 |
| | 5 months old | 15 | 15 |
| | 6 months old | 11 | 8 |
| | Total | 40 | 40 |
| History of Childbirth | Normal | 40 | 33 |
| | C-Section | 0 | 3 |
| | Total | 40 | 40 |

Maternal Satisfaction of Breastfeeding Mothers in the Treatment Group Prior to the Introduction of Marmet Technique

Breastfeeding mothers in the treatment group were proven to be dissatisfied in all components of satisfaction in the questionnaire prior to the introduction of Marmet technique.

Table 2: Maternal Satisfaction of Breastfeeding

| Satisfaction Component | Number of Respondent (%) | | | Total (%) |
|---|--------------------------|-----------|----------------|-----------|
| | Dissatisfied | Satisfied | Very Satisfied | |
| Duration of breastfeeding | 72.5 | 27.5 | 0.0 | 100 |
| Breastfeeding adjustment | 72.5 | 27.5 | 0.0 | 100 |
| Mother's dissatisfaction | 82.5 | 17.5 | 0.0 | 100 |
| Breastfeeding satisfaction | 80.0 | 20.0 | 0.0 | 100 |
| Time management dissatisfaction | 70.0 | 30.0 | 0.0 | 100 |
| Breastfeeding experience dissatisfaction | 67.5 | 32.5 | 0.0 | 100 |
| Breastfeeding with family satisfaction | 77.5 | 22.5 | 0.0 | 100 |
| Satisfaction due to the will to breastfeed the child | 80.0 | 20.0 | 0.0 | 100 |
| Satisfaction in breastfeeding the baby while he/she is crying | 85.5 | 15.5 | 0.0 | 100 |
| Satisfaction due to breastfeeding in general | 87.5 | 12.5 | 0.0 | 100 |
| Satisfaction due to the baby sucking properly | 87.5 | 12.5 | 0.0 | 100 |
| Satisfaction due to exclusive breastfeeding | 95.0 | 5.0 | 0.0 | 100 |
| Satisfaction after being able to breastfeed | 95.0 | 5.0 | 0.0 | 100 |
| Satisfaction due to the baby receiving enough milk | 100.0 | 27.5 | 0.0 | 100 |

Table 3: Maternal Satisfaction of Breastfeeding Mothers in the Control Group Prior to the Introduction of Marmet Technique

| Satisfaction Component | Number of Respondent (%) | | | Total (%) |
|---|--------------------------|-----------|----------------|-----------|
| | Dissatisfied | Satisfied | Very Satisfied | |
| Duration of breastfeeding | 100.0 | 0.0 | 0.0 | 100 |
| Breastfeeding adjustment | 100.0 | 0.0 | 0.0 | 100 |
| Mother's Dissatisfaction | 95.0 | 5.0 | 0.0 | 100 |
| Breastfeeding satisfaction | 90.0 | 10.0 | 0.0 | 100 |
| Time management dissatisfaction | 75.0 | 25.0 | 0.0 | 100 |
| Breastfeeding experience dissatisfaction | 70.0 | 30.0 | 0.0 | 100 |
| Breastfeeding with family satisfaction | 70.0 | 30.0 | 0.0 | 100 |
| Satisfaction due to the will to breastfeed the child | 57.5 | 42.5 | 0.0 | 100 |
| Satisfaction in breastfeeding the baby while he/she is crying | 62.5 | 37.5 | 0.0 | 100 |
| Satisfaction due to breastfeeding in general | 82.5 | 17.5 | 0.0 | 100 |
| Satisfaction due to the baby sucking properly | 92.5 | 7.5 | 0.0 | 100 |
| Satisfaction due to exclusive breastfeeding | 85.0 | 15.0 | 0.0 | 100 |
| Satisfaction after being able to breastfeed | 77.5 | 22.5 | 0.0 | 100 |
| Satisfaction due to the baby receiving enough milk | 80.0 | 20.0 | 0.0 | 100 |

Maternal Satisfaction of Breastfeeding Mothers in the Treatment Group Prior to the Introduction of Marmet Technique

After the application of Marmet technique, breastfeeding mothers in the treatment group were 100% satisfied.

Table 4: Maternal Satisfaction of Breastfeeding Mothers

| Satisfaction Component | Number of Respondent (%) | | | Total (%) |
|---|--------------------------|-----------|----------------|-----------|
| | Dissatisfied | Satisfied | Very Satisfied | |
| Duration of breastfeeding | 0.0 | 100.0 | 0.0 | 100 |
| Breastfeeding adjustment | 0.0 | 100.0 | 0.0 | 100 |
| Mother's Dissatisfaction | 0.0 | 97.5 | 2.5 | 100 |
| Breastfeeding satisfaction | 0.0 | 97.5 | 2.5 | 100 |
| Time management dissatisfaction | 0.0 | 100.0 | 0.0 | 100 |
| Breastfeeding experience dissatisfaction | 0.0 | 97.5 | 2.5 | 100 |
| Breastfeeding with family satisfaction | 0.0 | 97.5 | 2.5 | 100 |
| Satisfaction due to the will to breastfeed the child | 0.0 | 97.5 | 2.5 | 100 |
| Satisfaction in breastfeeding the baby while he/she is crying | 0.0 | 100.0 | 0.0 | 100 |
| Satisfaction due to breastfeeding in general | 0.0 | 90.0 | 10.0 | 100 |
| Satisfaction due to the baby sucking properly | 0.0 | 100.0 | 0.0 | 100 |
| Satisfaction due to exclusive breastfeeding | 0.0 | 95.0 | 5.0 | 100 |
| Satisfaction after being able to breastfeed | 0.0 | 92.5 | 7.5 | 100 |
| Satisfaction due to the baby receiving enough milk | 0.0 | 87.5 | 12.5 | 100 |

Table 5: Maternal Satisfaction of Breastfeeding Mothers in the Control Group After the Introduction of Marmet Technique

| Satisfaction Component | Number of Respondent (%) | | | Total (%) |
|---|--------------------------|-----------|----------------|-----------|
| | Dissatisfied | Satisfied | Very Satisfied | |
| Duration of breastfeeding | 100.0 | 0.0 | 0.0 | 100 |
| Breastfeeding adjustment | 100.0 | 0.0 | 0.0 | 100 |
| Mother's Dissatisfaction | 95.0 | 5.0 | 0.0 | 100 |
| Breastfeeding satisfaction | 90.0 | 10.0 | 0.0 | 100 |
| Time management dissatisfaction | 75.0 | 25.0 | 0.0 | 100 |
| Breastfeeding experience dissatisfaction | 70.0 | 30.0 | 0.0 | 100 |
| Breastfeeding with family satisfaction | 70.0 | 30.0 | 0.0 | 100 |
| Satisfaction due to the will to breastfeed the child | 57.5 | 42.5 | 0.0 | 100 |
| Satisfaction in breastfeeding the baby while he/she is crying | 62.5 | 37.5 | 0.0 | 100 |
| Satisfaction due to breastfeeding in general | 82.5 | 17.5 | 0.0 | 100 |
| Satisfaction due to the baby sucking properly | 92.5 | 7.5 | 0.0 | 100 |
| Satisfaction due to exclusive breastfeeding | 85.0 | 15.0 | 0.0 | 100 |
| Satisfaction after being able to breastfeed | 77.5 | 22.5 | 0.0 | 100 |
| Satisfaction due to the baby receiving enough milk | 72.5 | 27.5 | 0.0 | 100 |

Differences in the Satisfaction of Breastfeeding Mothers in the Treatment and Control Groups Before and After the Application of Marmet Technique

Table 6: Statistical Test Results

| Category | Treatment | | | | Control | | | |
|---------------------------|---------------------|-----|-----------|-----|---------------------|-----|----------|-----|
| | Pretest | | Post test | | Pretest | | Posttest | |
| | f | % | F | % | f | % | f | % |
| Dissatisfied | 40 | 100 | 0 | 0 | 40 | 100 | 40 | 100 |
| Satisfied | 0 | 0 | 40 | 100 | 0 | 0 | 0 | 0 |
| Very Satisfied | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Σ | 40 | 100 | 40 | 100 | 40 | 100 | 40 | 100 |
| Wilcoxon Signed Rank Test | p : 0.000 α≤0.05 | | | | p : 0.083 α≥0.05 | | | |
| Mann Whitney U Test | p : 0.000 α≤0.05 | | | | | | | |

Discussion

Based on the results of the study, it can be from the *pretest* that prior to the intervention in the form of a Marmet technique, the respondents in the treatment group expressed that they were dissatisfied in every category. The majority of the respondents, or 18 respondents (45%), are either self-employed or entrepreneurs. Working mothers tend to be less focused on caring for babies and their families, causing satisfaction in breastfeeding to be reduced as well compared to mothers who are not working. Most mothers, in breastfeeding their first child, were more focused with their work in order to help their husbands in meeting their daily needs. Thus, their children were entrusted to distant relatives or neighbors and provided with formula milk^{10,11}.

The *pretest* that prior to the intervention of Marmet technique, the respondents in the control group expressed that they were dissatisfied in every category. Most respondents were mothers with second children as much as 18 respondents (45%). Mothers with two or more children already have an experience in breastfeeding and caring for their babies compared to mothers who just gave birth the their first children or only have with one child. This is due to mothers not yet developing experience in taking care of their first children, especially in breastfeeding¹². As seen from the *posttest* that after the intervention in the form of a Marmet technique,

the respondents in the treatment group expressed that they were satisfied in every category. The majority of respondents in this study were in the 21-35 year age group, also known as the productive age. Age is one of the physiological factors that can directly influence the process of breastfeeding¹³.

The *posttest* that after the intervention of Marmet technique, the respondents in the control group expressed that they were dissatisfied in every category. The results of the study show that the maternal satisfaction in breastfeeding in the control group was influenced by the respondents' education levels. A total of 22 respondents (55%) graduated from elementary school or junior high school. Education is one of the factors that indirectly affects the satisfaction of mothers in breastfeeding since it is related to their socio-cultural background. This factor has a correlation towards the mother's ability to receive information that will later affect the process of breastfeeding. A mother who has an adequate knowledge will have an increased satisfaction in breastfeeding.

Statistical test results of *Wilcoxon Signed Rank Test* showed a significant increase in the satisfaction scores in breastfeeding. The total of respondents who experienced an increase in the satisfaction scores in the treatment group were 40 respondents. There are 9 respondents whose satisfaction in breastfeeding increased to the category

of very satisfied. While respondents whose satisfaction increased to the satisfied category were 31 respondents. The satisfaction of the mother in breastfeeding with the intervention of the Marmet technique is influenced by the technique of massaging and milking the breasts. The recommended milking technique is to use hands, palms, and fingers because it is practical, effective and efficient compared to using a pump. The process include *emassaging*, *stroking*, and *shaking* the breast in order to stimulate the milk reflex¹⁵.

The satisfaction of the mothers after the application of the Marmet technique was seen to increase drastically, especially in respondents in the treatment group. Respondents who applied the Marmet technique felt more satisfied in breastfeeding their baby. Respondents felt the impact of the intervention gradually and experienced an increase in satisfaction, such as satisfaction of the mother for successfully breastfeeding her baby, and satisfaction because the baby had received enough milk. The referred respondents were breastfeeding mothers in the treatment group who applied Marmet technique routinely and were monitored by researchers. The researcher also explained to the respondent that if there were complaints of pain in the application of Marmet technique, it was advisable to temporarily stop the technique and take immediate action such as compressing the painful area. This is done to immediately solve the problem that may arise and the evaluation process can continues to run according to a predetermined schedule, the flow of milk that increased production may meet the needs of the baby, and the use of formula milk can be reduced as early as possible.

Conclusion

Satisfaction in the treatment group after the intervention was seen to increase compared to the control group. Marmet technique can increase the satisfaction of mothers in breastfeeding due to the stimulation of the breast muscles from the massage and milking that is done to trigger the milk reflex, causing the mother to feel satisfied because the production of breast milk is increasing.

Ethical Clearance: Taken from Faculty of Nursing Universitas Airlangga, Surabaya ethic committee

Source of Funding: This research was founded by author.

Conflict of Interest: None

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