Oxytocin Massage Through Bakera Culture Approach As A Method To Increase Milk Production

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   Phone number : -
ABSTRACT

The aim of this research is to develop a new method to increase breast milk production in mothers after giving birth. This research is a quasi-experimental research, with a sample size of 44 respondents. Sample selection was carried out using a random sampling technique which was divided into two groups, namely the control group and the experimental group. Data analysis in this study used the Wilcoxon test to compare breast milk production before and after treatment, as well as the Mann-Whitney test to determine differences in breast milk production between the two groups. The results of the study showed a significant increase in breast milk production in both groups, namely the Bakera + Oxytocin Massage group with a value of (0.000) and the Oxytocin Massage group with a value of (0.005). The Mann-Whitney test showed that there was a significant difference in breast milk production between the two treatment groups, with a p-value (0.000). Therefore, it can be concluded that breast milk production in postpartum mothers who were given oxytocin massage with bakera was much higher than when given only oxytocin massage.

Keywords: Oxytocin Massage; bakera; Milk production

INTRODUCTION

Breast milk (ASI) is baby food that other foods and drinks cannot replace. The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) advise the consumption of gold (Trisakti & Alifahmi, 2018) to ensure adequate nutrition for children (Mayberry & Daniel, 2016). Breast milk has a significant influence on fulfilling the baby's nutrition and immunity. It is the primary support for the baby's growth and development at the cognitive, behavioral, gross motor, and acceptable motor levels (Setini et al., 2022).

In 2020, the World Health Organization (WHO) published global data on exclusive breastfeeding rates. Despite a rise compared to the previous year, the current percentage of infants aged 0-6 months who exclusively get breastfeeding is consistently high, specifically at 44% globally. According to the World Health Organization (WHO), the exclusive breastfeeding objective for the period of 2015-2020 is set at 50%. The insufficient rate of exclusive breastfeeding will have a detrimental effect on the quality and vigor of future generations. According to global estimates for 2019, over 144 million children under the age of five are believed to suffer from stunted growth, while around 47 million are anticipated to be underweight. Additionally, approximately 38.3 million children in this age group are classified as overweight or obese. (Trisakti & Alifahmi, 2018).

Prasetyo (2009) posits that mental circumstances have an impact on the production of breast milk. These factors are influenced by psychological changes experienced by postpartum women, including emotional dissatisfaction, discomfort in the early postpartum phase, exhaustion from sleep deprivation following labor, apprehension about infant care, and concerns about losing attractiveness to their spouse (Becker, 2021a). As the level of emotional disturbance increases, the
hormone prolactin provides less stimulus for the production of breast milk (Qasim & Alawadi, 2020). This aligns with the findings of a study conducted by Rizki Amalia (2016), which demonstrates a substantial correlation between stress and the successful progression of breastfeeding in postpartum moms.

Applying muscle relaxation treatment is an effective method for mitigating postpartum maternal anxiety. Additionally, muscle relaxation can enhance focus, alleviate sleeplessness, and foster the transformation of unpleasant emotions into positive ones. The efficacy of this muscle relaxation technique in alleviating patient anxiety has been scientifically validated (Klecel & Martyniuk, 2021). Maternity spa/steam bath therapy is a type of muscular relaxation therapy specifically designed for postpartum mothers. In Indonesia, steam baths are referred to by different names. In the Minahasa language, they are called "baker," in the Batak area (Sumatra) they are known as "lookup," in the Java area they are called "lulur," in Bali they are referred to as "both," in Madura they are known as "so'oso," and in Bugis, South Sulawesi they are called "beta lotting" (Astuti et al., 2021).

According to Crinnion (2007), steam therapy has several effects on the body. It increases peripheral circulation by 5-10% while decreasing circulation to muscles, kidneys, and visceral parts. It also increases metabolic rate, oxygen consumption, and fluid discharge. Additionally, steam therapy leads to an increase in heart rate and a decrease in blood pressure. It also increases the levels of plasma cortisol, corticosteroids, growth hormone, TSH, and prolactin. Furthermore, it promotes bronchodilation, muscle relaxation, and reduces activity in the neuromuscular system. Lastly, steam therapy causes loss of water and electrolytes (such as sodium, potassium, and chloride), which compensates for the regulation of the hormone aldosterone in the kidneys. Lipolysis refers to the breakdown of fats or lipids in the body (Hall et al., 2021). Hence, researchers are intrigued by the prospect of employing the Bakera approach for postpartum women. Hence, considering the aforementioned explanation, researchers are inclined to examine this study with the aim of developing a novel approach to enhance lactation in postpartum women. This research aims to enhance midwifery care services, particularly for postpartum moms, with the objective of augmenting breast milk production.

METHOD

This study employs a quantitative research strategy utilizing a quasi-experimental approach. This study aims to investigate the impact of bakery culture on enhancing lactation in postpartum women. This study employs a quantitative methodology, utilizing a quasi-experimental design with pretest and posttest measures in both the control and experimental groups. Grouping was carried out randomly, meaning that the grouping of individuals of the control and experimental groups was done out randomly. Both groups underwent a pretest, after which the experimental group received the bakera intervention and oxytocin massage, whereas the control group received the oxytocin massage intervention. Subsequently, a posttest was conducted on both groups.

The variables in this study comprise independent factors and dependent variables. The independent variable in this study is a factor that has the ability to influence breast milk production, specifically with regards to its increase. The dependent variable, in the context of this study, refers to the variable that is impacted or dependant upon other factors. In this particular study, the dependent variable is specifically related to breast milk supply. The study encompassed the entire population of postpartum mothers. The research employed a purposive sampling technique. There were a total of 22 postpartum mothers in each group. The research utilizes both primary and secondary data. Primary data, such as data collected before and after a test, is directly gathered from the individuals being surveyed. The secondary data consists of information obtained from postpartum mothers recorded in the mother's KIA book. Bivariate analysis was conducted utilizing the Wilcoxon test to
evaluate the pretest and posttest breast milk production within each group. Additionally, the Mann-Whitney test was employed to examine the impact of Oxytocin + bakery massage and the effect of oxytocin massage on posttest breast milk production. Interpreting the data by examining the appropriate p-value, which should be more than 0.05.

RESULTS AND DISCUSSION

Respondent Description

The study encompassed the demographic variables of the respondents, namely the age, education, occupation, and parity of the mothers. The findings indicate that the age distribution in the treatment group ranged from 26 to 30 years old, with a total of 12 individuals (54.6%). In contrast, the control group consisted predominantly of individuals aged 20-25, with a total of 11 participants (50%). The majority of the respondents' highest level of education was high school. The intervention group consisted of 13 individuals, accounting for 59% of the total, whereas the control group comprised 15 individuals, representing 68.2% of the total. The mother's occupation was predominantly that of a homemaker. In the treatment group, there were 15 individuals (68.2%), whereas in the control group, there were 17 individuals (77.3%). The majority of participants were multiparous. Specifically, in the treatment group, there were 17 individuals (77.3%), whereas in the control group, there were 14 individuals (63.6%).

Description of Research Variables

This study examines the production of breast milk as a variable that is measured both before and after therapy. Frequency distribution testing was conducted in each group to assess the results.

<table>
<thead>
<tr>
<th>No</th>
<th>Breast milk production</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>Lots</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2</td>
<td>Enough</td>
<td>8</td>
<td>36.4%</td>
</tr>
<tr>
<td>3</td>
<td>Not enough</td>
<td>14</td>
<td>63.6%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 1. Description of breast milk production in the Bakera + Oxytocin Massage Group

Source: Processed Research Data (2023)

The pretest analysis revealed that the group of postpartum moms who received Bakera + Oxytocin Massage before treatment had the lowest breast milk production, with just 14 individuals (63.6%) showing significant levels of milk production. Subsequently, following the treatment, it was observed that 18 (81.8%) postpartum moms had a substantial production of breast milk.

<table>
<thead>
<tr>
<th>No</th>
<th>Breast milk production</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>Lots</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2</td>
<td>Enough</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>3</td>
<td>Not enough</td>
<td>16</td>
<td>72.7%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2. Description of breast milk production in the Oxytocin Massage Group

Source: Processed Research Data (2023)

The findings from the assessment of breast milk production in the group that received Oxytocin massage prior to treatment (pretest) revealed that 16 out of 22 (72.7%) postpartum moms
experienced a decrease in milk supply. Subsequently, following the treatment, 12 out of the total postpartum moms (equivalent to 54.5%) exhibited an adequate level of breast milk production.

**Wilcoxon Test**

The Wilcoxon test is employed to assess if there are disparities in the treatment administered to each group in terms of breast milk supply, based on the subsequent outcomes.

<table>
<thead>
<tr>
<th>No</th>
<th>Breast milk production</th>
<th>n</th>
<th>%</th>
<th>Z</th>
<th>Sig.</th>
<th>Note.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lots</td>
<td>18</td>
<td>81.8%</td>
<td>-4.137</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>2</td>
<td>Enough</td>
<td>4</td>
<td>18.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Not enough</td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Wilcoxon Test Results in the Bakera + Oxytocin Massage Group
Source: Processed Research Data (2023)

The Wilcoxon test was conducted to compare breast milk production before and after treatment in the Bakera + Oxytocin Massage group. The test yielded a Z value of -4.137 and a significance value of 0.000. The results indicate a significance value of less than 0.05 (sig < 0.05), hence confirming a substantial rise in breast milk production within the Bakera + Oxytocin Massage group.

<table>
<thead>
<tr>
<th>No</th>
<th>Breast milk production</th>
<th>n</th>
<th>%</th>
<th>Z</th>
<th>Sig.</th>
<th>Note.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Banyak</td>
<td>1</td>
<td>4.5%</td>
<td>-2.828</td>
<td>0.005</td>
<td>Significant</td>
</tr>
<tr>
<td>2</td>
<td>Cukup</td>
<td>12</td>
<td>54.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Kurang</td>
<td>9</td>
<td>40.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Wilcoxon Test Results in the Oxytocin Massage Group
Source: Processed Research Data (2023)

The Wilcoxon test was conducted to compare breast milk production before and after treatment in the Oxytocin Massage group. The test yielded a Z value of -2.828 and a significance value of 0.005. The results indicate a significance level below 0.05 (sig < 0.05), thereby confirming a substantial rise in breast milk production within the Oxytocin Massage group.

**Mann Whitney test**

The Mann-Whitney test is employed to ascertain whether there exist disparities in breast milk production among each group, based on the provided outcomes.

<table>
<thead>
<tr>
<th>No</th>
<th>Breast milk production</th>
<th>Bakera + Massage</th>
<th>Oxytocin Massage</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lots</td>
<td>18 18.1%</td>
<td>1 4.5%</td>
<td>-5.179</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>Enough</td>
<td>4 18.2%</td>
<td>12 54.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Not enough</td>
<td>0 0.0%</td>
<td>9 40.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22 100%</td>
<td>22 100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6. Mann-Whitney Test Results
Source: Processed Research Data (2023)

The Mann-Whitney test was used to examine the disparity in breast milk production between the Bakera + Oxytocin Massage group and the Oxytocin Massage group following treatment (posttest). The test yielded a Z value of -5.179 and a significant value of 0.000. The results indicate a significance value below 0.05 (sig < 0.05), indicating a substantial disparity in breast milk production between the Bakera + Oxytocin Massage group and the Oxytocin Massage group following treatment (post-test).

Breast milk (ASI) is a body fluid secreted by the mother’s breast glands that begins to be produced during pregnancy. It contains nutrients and energy that are good for the baby as natural food from...
the mother (Serrano Drozdowskyj et al., 2020). WHO recommends exclusive breastfeeding for 6 months (Dinsdale, 2022). Nevertheless, throughout the execution of breastfeeding, numerous impediments frequently arise, including diminished lactation, engorged breasts, mastitis, milk duct obstruction (static), inverted nipples, tender nipples, and surplus breast milk (de Boer et al., 2011). The primary cause for mothers to discontinue nursing is inadequate lactation. This leads to the cessation of exclusive breastfeeding, resulting in adverse effects on the infant's growth and development (Germonpré et al., 2021).

One of the factors causing poor breastfeeding is the emergence of feelings of anxiety and excessive stress in the mother (Becker, 2021b). This is proven by previous research which revealed that breast milk production is related to the shape and condition of the nipples, family support, and anxiety experienced by the mother (Widiastuti et al., 2017). Mothers who breastfeed their babies with poor psychological conditions, such as stress, can increase the production of the hormone adrenaline. This results in vasoconstriction in the alveolar blood vessels so that only a tiny amount of Oxytocin can reach the myopathies of the mammary glands (Horta et al., 2018). Postpartum mothers who feel stressed will feel that their breasts appear enlarged and painful as a result of the milk being collected in the breasts and not being able to come out due to the mother's poor letdown reflex. This letdown reflex is in the form of stimulation of the hormone oxytocin; the alveoli cells in the breast glands contract, which causes milk to come out and flow in the ducts in the breast until drops of milk come out from the mother's nipple into the baby's mouth (Executive Summary, 2023).

Mitigating maternal distress or psychological unease can be achieved by the practice of oxytocin massage. Prior studies have demonstrated that oxytocin massage has the potential to enhance the well-being of postpartum women and stimulate the production of breast milk (Sri Wilis et al., 2017). Oxytocin massage can stimulate the peripheral nervous system, increasing the excitability and conduction of nerve impulses. Oxytocin massage can reduce muscle tension and provide a therapeutic effect that can cause a feeling of comfort and relaxation so that the mother can express breast milk smoothly. Midwives and family can do oxytocin massage, but it is more recommended for husbands because if the husband does the massage, the mother will feel more relaxed, happy, and comfortable, and can increase feelings of love for her partner (Sampouw, 2018a). According to Hockenberry in 2000, oxytocin massage can be applied twice daily, namely in the morning and evening, for three minutes. Oxytocin massage will be more effective when combined with other methods (Tabukan et al., 2018).

Another method that can be used to reduce or reduce postpartum maternal anxiety is by applying muscle relaxation therapy (Solt, 2016). In Indonesia, there are various muscle relaxation therapies for pregnant and postpartum women, such as breast spas, prenatal massage, and maternity spas. Spa treatments in the field of health services aim to promote and avoid health issues by offering both physical and psychological care, with the ultimate goal of achieving tranquility and comfort for the mother. The breast spa technique is designed to enhance blood circulation and prevent obstruction of milk ducts, consequently promoting milk supply, ensuring hygiene, and addressing inverted or flat nipples (Rhomadona & Primihastuti, 2017). This text presents the findings of a study conducted by Sri Wilis and colleagues titled "The impact of breast spas on the efficient production of breast milk in postpartum mothers." The study reveals that breast spas have a positive effect on the smooth production of breast milk in postpartum mothers (Germannpré et al., 2021). Other research also reveals that Mother Spa can reduce complaints experienced by mothers in the third trimester. The profound effect of carrying out pregnancy massage is on the pregnant woman's physiological or somatic and emotional reactions to stress (Becker, 2021b).

In North Sulawesi, there is a method known as "Bakera," which is believed to be able to restore the health of postpartum mothers. Bakera is an ancestral practice originating from North Sulawesi, involving the use of plant-based or herbal remedies in the form of a steam bath. This activity is
specifically performed on mothers following childbirth or during the postpartum period (Widiastuti et al., 2017). The types of medicinal plants used are traditional plants in the form of ginger (goraka) whose tubers are used, kaffir lime leaves (Lemon Swangi), stems from lemongrass leaves (Salimbata), leaves from Luli (Kedem), leaves from the balance plant (Saketa) and the fruit of cloves (Randayani Lubis, 2019). Research conducted by Luas in 2019 revealed that the Bakera Spa on postpartum mothers makes the body fresher, cleanses the reproductive organs, and can speed up the wound healing process. Research conducted by Rambi Gansalangi (2020) shows that Mepapagu (Bakera) effectively treats health problems. This is because the ingredients used for Bakera have good benefits for the body’s immunity, reduce pain, and provide a calming, relaxing effect (Rahayu & Keperawatan Dharma Husada Kediri, 2018). Research conducted by Bora (2019) revealed an influence of the Sahu tribe's Bakera on changes in the vital signs and emotions of postpartum mothers.

The research conducted by Mangamba and the team in 2020 explained that traditional bakery medicine consists of several types: hot water steam bakery, smoked steam bakery, and drinking concoctions. The function of each type of bakery is that hot water steam bakery can help reduce pain in the vagina and stomach, increase breast milk, treat headaches, improve blood circulation and spine and waist pain (Sampouw, 2018b). The benefits of smoke steam bakery support the treatment of hot water steam bakery; the steam produced helps heal vaginal wounds, restores stamina, and facilitates and increases the quality of breast milk. As for drinking potions, they function to clean dirty blood, restore the body's immunity after giving birth, strengthen the womb, stimulate blood stimulation and increase breast milk, help maintain immunity, relieve pain, and increase appetite (Yayu et al., 2015). In research conducted by De Boer, H. J et al. in 2011, it was proven that steam baths using herbs can help mothers recover after childbirth and relieve headaches. Apart from that, steam baths are also used to treat fever in postpartum mothers, stimulate the release of the lactogen hormone, reduce secondary postpartum bleeding, accelerate perineal wound healing, and help uterine contractions (Tabukan et al., 2018).

CONCLUSIONS AND SUGGESTIONS

According to the findings of conducted research, it is evident that the Bakera + oxytocin massage group experienced a notable rise in breast milk production. Furthermore, there was a significant disparity in breast milk production between the Bakera + oxytocin massage group and the oxytocin massage group after the treatment. Both the Bakera + Oxytocin Massage group and the oxytocin massage group experienced a substantial rise in breast milk production. The Bakera + Oxytocin Massage group had a value of (0.000), while the oxytocin massage group had a value of (0.005). The Mann-Whitney test revealed a statistically significant disparity in breast milk output between the two treatment groups, with a p-value of (0.000). Therefore, it can be inferred that the production of breast milk in postpartum mothers who received oxytocin massage combined with bakery supplementation exhibited a greater rise compared to those who simply received oxytocin massage.

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Conflict of Interest Statement
There is no conflict of interest in this study.
REFERENCES


