THE EFFECT OF OXYTOCIN MASSAGE ON BREASTMILK PRODUCTION POSTPARTUM MOTHERS IN PETERONGAN PHC AREA, JOMBANG, EAST JAVA, INDONESIA

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ABSTRACT

Background: Breastmilk in early life was an effective intervention in saving lives of newborns and could prevent 13-15% of 9 million deaths of children under five years old. Rate of breastfeed in the world was lack, between 20-40%. There were many breastmilk of postpartum mothers not smooth at one week postpartum and breastfeed blockage incident that required mothers breastcare each month. One effort to improve breastmilk production with early intervention in postpartum mothers by stimulating oxytocin hormone, one of them with oxytocin massage. Aim: This study conducted to evaluate effect of oxytocin massage on breastmilk production postpartum mothers. Study Design: This study utilized simple post test design. The intervention was oxytocin massage. Samples: Population of this study physiologic postpartum mothers. Sample were collected with consecutive non-probability random sampling, involving 100 total samples. Results: It was found that 72% of participants were 20-35 years old, 84% housewives, and 66% multiparas. The most important findings of study were following 58.1% postpartum mothers with oxytocin massage were significantly improved after treatment (Fisher Exact Test, p value= 0.006; OR= 3.765; CI 1.410-10.051) Conclusion: This study proved that oxytocin massage could improve breastmilk production. Oxytocin massage, massage therapy of spine in costa 5-6 to scapula would accelerate work of parasympathetic nervous system stimulates posterior pituitary to secrete oxytocin. Sustainability production of oxytocin hormone needs to be further investigated. The result can be used as basic policy of lactation management and exclusive breastfeeding promotion education programs in health services and community.

Keywords: oxytocin massage, breastfeed, breastmilk, breastfed, postpartum

INTRODUCTION

Breastmilk is a unique product given to human being by nature to fulfill all requirements of the offspring until it is mature enough to take adulthood. Its uniqueness lies in ability of mother to produce milk which will vary in quantity, quality and consistency depending on age of baby, maturity and timing of feed. It has not been possible to achieve this with any other type of milk, even with state-of-the-art modifications using most advanced technology. Exclusive breastfeeding is one of the efforts to reduce infant mortality rate, less milk production becoming one of factors mother did not breastfeed exclusively (Shankar, 2015). Breastmilk not only provides easily digestible and specifically needed amounts of nutrients, water, minerals and vitamins but also several other benefits to both mother and baby. There are some benefits for baby such as (1) Reduces infections through “priming” of baby’s immune system, specifically diarrhoea due to E coli, rotavirus, Shigella, campylobacter etc, reduces incidence of respiratory tract infection, reduces late onset sepsis in low birthweight (LBW) babies, (2) Effect on better neurodevelopment and IQ, (3) Reduces risk of sudden infant death syndrome (4) Provides analgesia for baby during painful procedures, (5) Long-term diseases like type I diabetes mellitus, hypercholesterolaemia, hypertension, obesity and asthma have been found to be less in babies who were exclusively breastfed during first 6 months (Dieterich, Felice, O’Sullivan, & Rasmussen, 2013; F. R. Hauck, Thompson, Tanabe, Moon, & Vennemann, 2011; Horta, de Mola, & Victora, 2015; Ip et al., 2007; Joan L. Luby et al., 2016; Johnston, Landers, Noble, Szucs, & Viehmann, 2012; Stuebe, 2009; Yan, Liu, Zhu, Huang, & Wang, 2014). On the other side, benefits for mother (1) Reduces postpartum bleeding, (2) Reduces
menstrual blood loss, (3) Helps with child spacing attributable to lactational amenorrhea, (4) Reduces obesity, (5) Reduces risk of breast cancer and ovarian cancer, (6) Promotes bonding between mother and baby, (7) Reduces stress response, inflammation, and postpartum depression, (8) Convenience of feeding the baby on demand irrespective of time or place, (9) Economical (Sukhee Ahn et al., 2015).

Since 2001, WHO guidelines have stated that babies should be exclusively breastfed until they are six months old – something most mothers and babies are physically able to do. In the crucial first few months, breastfed children are six times more likely to survive than children who are not breastfed. Yet globally only 36% of infants younger than six months are exclusively breastfed, and in developing countries poor feeding practices – including lack of exclusive breastfeeding until six months and failure to initiate breastfeeding in first hour–contribute to the deaths of 800,000 children under five years of age each year (Shetty, Priya, 2014).

The World Health Organization (WHO) recommends exclusive breastfeeding as an important strategy for reducing child deaths, particularly in developing countries. Exclusive breastfeeding is defined as feeding the child nothing but breast milk for the first six months (no foods or liquids including water). After 6 months, breastfeeding is still encouraged, along with the introduction of other foods and liquids. It is also recommended that mothers feed their newborns colostrum, as the first feed immediately after birth. Exclusive breastfeeding confers a number of protective benefits for children and mothers. For example, a longer duration of breastfeeding promotes sensory and cognitive development, protects infants against infectious and chronic diseases, and reduces infant mortality resulting from childhood illnesses such as diarrhea and pneumonia (American Academy of Pediatrics, 2012; Horta, Bahl, Martines, & Victora, 2007).

Coverage of exclusive breastfeeding was targeted by Ministry of Health RI to reach 80%. The target is very difficult to achieve. Studies showed that exclusive breastfeeding rate in Indonesia are very low. The Indonesian Demographic and Health Survey had collected data on infant feeding practice for each of the children born in five years preceding the survey. A great majority of children ever had breastfeeding (96-97%), and more than half started within first day. The median duration of breastfeeding was estimated at 23.9 months. Among infants under 4 months, 53% were exclusively breastfed, and the median duration of exclusive breastfeeding was 1.7 months (Fikawati & Syafiq, 2009).

Lactation management is all that needed to support successful breastfeeding so baby can be fed properly. The goal of management is to increase the use of exclusive breastfeeding until the baby is 6 months old, with affection facilities. lactation Management begins during pregnancy (antenatal), immediately after birth (prenatal) and the postpartum period (postnatal).

Breastmilk in early life was an effective intervention in saving lives of newborns and could prevent 13-15% of 9 million deaths of children under five years old. Rate of breastfeed in world was lack, between 20–40%. There were many breastmilk of postpartum mothers not smooth at one week postpartum and breastfeed blockage incident that required mothers breastfeeding each month. One effort to improve breastmilk production with early intervention in postpartum mothers by stimulating oxytocin hormone. Efforts to facilitate breastfeeding can be done by massage oxytocin (Resty, 2014).

Multiprofessional team must support and encourage exclusive breast feeding in almost all patients, and motivate mother keep breast feeding for at least 6 months (F. Teixeira et al., 2015). This study conducted to evaluate effect of oxytocin massage on breastmilk production postpartum mothers.

RESEARCH METHOD

This research is question experiment with consecutive non probability randomized. The intervention was oxytocin massage. After treatment, evaluate effect of oxytocin massage on breastmilk production postpartum mothers.

Population of this study physiologic postpartum mothers. Sample were collected with consecutive non-probability random sampling, involving 100 total samples (n control= 50). It was conducted in four Midwife Clinic (MC) of Peterongan Public Health Centre Area (Umi Salamah MC, Devi MC, Sanik MC, Ega MC), with inclusion criteria (1) First day post partum mother (2) Babies who are not fed milk formula at the time of study (3) Good suction reflexes (4) Weight of baby ≥ 2,500 g (5) Mother and baby treated in one room (rooming in) (6) Mother did not smoke (7)
Condition of mother and baby healthy (8) The shape of the nipple both normal breast. Exclusion criteria of study (1) Babies born died (2) Mother had a high fever (3) Breast abnormalities

Closed-questionaire needs to measure oxytocin massage on breastmilk production postpartum mothers which is filled with researcher and enumerator.

Fisher Exact Test were used to compare data after oxytocin massage treated. How hypotesis concluded thus are used with comparing p value (probability) with α value on confidence interval 95% (α = 0.05). Zero hypotesis (Ho) denied or alternative hypotesis (Ha) accepted if p value smaller than α value (p < 0.05).

RESULT
It was found that 72% of participants were 20-35 years old, 84% housewives, and 66% multiparas.

<table>
<thead>
<tr>
<th>Table 1. Distribution postpartum mother</th>
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<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>&lt;20 years</td>
</tr>
<tr>
<td>20-35 years</td>
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<tr>
<td>&gt;35 years</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Elementary-Junior High School</td>
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<tr>
<td>Senior High School</td>
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<tr>
<td>Academy/Collage</td>
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<tr>
<td>Activity</td>
</tr>
<tr>
<td>Working</td>
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<tr>
<td>Housewife</td>
</tr>
<tr>
<td>Parity</td>
</tr>
<tr>
<td>Primipara</td>
</tr>
<tr>
<td>Multipara</td>
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<tr>
<td>Grandemultipara</td>
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<tr>
<td>Gestational age</td>
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<tr>
<td>Premature</td>
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<tr>
<td>Aterm</td>
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<tr>
<td>Postdate</td>
</tr>
<tr>
<td>Infants birth weight</td>
</tr>
<tr>
<td>&lt;2500 g</td>
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<tr>
<td>≥2500 g</td>
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</tbody>
</table>

*Totals 100 mothers

<table>
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<tr>
<th>Table 2. Distribution breastmilk production</th>
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<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>The main indicators of infant</td>
</tr>
<tr>
<td>Weight gain</td>
</tr>
<tr>
<td>Stagnant or &lt;200g</td>
</tr>
<tr>
<td>200g</td>
</tr>
<tr>
<td>&gt;200g</td>
</tr>
<tr>
<td>Other indicators of infant</td>
</tr>
<tr>
<td>Duration of feeding</td>
</tr>
<tr>
<td>&lt;20 minutes</td>
</tr>
<tr>
<td>20-30 minutes</td>
</tr>
<tr>
<td>&gt;20 minutes</td>
</tr>
<tr>
<td>Frequency of feeding</td>
</tr>
<tr>
<td>&lt;8 times/24 hours</td>
</tr>
<tr>
<td>8-12 times/24 hours</td>
</tr>
<tr>
<td>&gt;8 times/24 hours</td>
</tr>
<tr>
<td>Frequency of urinary</td>
</tr>
<tr>
<td>&lt;6 times/24 hours</td>
</tr>
<tr>
<td>6-8 times/24 hours</td>
</tr>
</tbody>
</table>
The postpartum mothers 74% had smooth breastmilk production. It appears from the main indicators on infant breastmilk production (weight gain) and other indicators (duration of feeding, frequency of feeding, urinary, and sleep).

### Table 3. Breastmilk production after oxytocin massage

<table>
<thead>
<tr>
<th>Breastmilk production after oxytocin massage</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smooth breastmilk production</td>
<td>74</td>
<td>74</td>
</tr>
<tr>
<td>Not smooth breastmilk production</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 4. Differences breastmilk production between control and intervention group

<table>
<thead>
<tr>
<th>Breastmilk production</th>
<th>Control</th>
<th>Interventation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Smooth breastmilk production</td>
<td>31</td>
<td>41.9</td>
</tr>
<tr>
<td>Not smooth breastmilk production</td>
<td>19</td>
<td>73.1</td>
</tr>
<tr>
<td>Total score</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>CI</td>
<td>1.410</td>
<td>10.051</td>
</tr>
<tr>
<td>OR</td>
<td>3.765</td>
<td>3.765</td>
</tr>
<tr>
<td>Fisher exact test</td>
<td>P= 0.006 (p &lt; 0.05)</td>
<td></td>
</tr>
</tbody>
</table>
The most important findings of study were following 58.1% postpartum mothers with oxytocin massage were significantly improved after treatment (Fisher Exact Test, p value= 0.006; OR= 3.765; CI 1.410-10.051)

DISCUSSION
Oxytocin massage one of treatment help postpartum mothers to improve breastmilk production with early intervention by stimulating oxytocin hormone. Massage therapy of spine in costa 5-6 to scapula would accelerate work of parasympathetic nervous system stimulates posterior pituitary to secrete oxytocin.

Before treatment midwife give health education about lactation, exclusive breastfeeding, mother’s confidence related to come out breastmilk at least, baby loving, husband support, how to increased breastmilk, how to prevent from scuffed nipple, duration of exclusive breastfeeding, bonding definition, attachment breastfeeding, success effort of breastfeeding, oxytocin massage techniques, breastmilk storage, breastfed durability in the refrigerator, breastfed durability in separate freezer and not separated freezer,room temperature and type of milker.

Steps of oxytocin massage, open clothes, wear towel, pour hands with baby oil, massage of spine in costa 5-6 to scapula 2-3 minutes, wipe mother’s back with towel (warm water-cold water alternately).

Sustainability production of oxytocin hormone needs to be further investigated. The result can be used as basic policy of lactation management and exclusive breastfeeding promotion education programs in health services and community.

CONCLUSION
This study proved that oxytocin massage could improve breastmilk production. However, the sustainability of the change breastmilk production needs to be further investigated. The result can be used as the basic policy of lactation management and exclusive breastfeeding promotion education programs in the community

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Disclosure
The authors report no conflicts of interest in this work.

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