

Effect of Oxytocin Massage on Breast Milk Production in Post Partum Mother at Midwifery Klinik Siti Hajar Bandar Lampung

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Article

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Abstract

Newborns need to get optimal care from birth, which is one of the ideal foods. Breast milk (ASI) is the most recommended food for babies for at least the first 6 months of life. The way to overcome the uneven production of breast milk is by doing oxytocin massage, which is one of the most appropriate solutions to accelerate and facilitate breastfeeding, namely by massaging along the spine (vertebrae) to the coastal bones will provide comfort to the mother after experiencing the delivery process so that it does not inhibit the secretion of the hormone prolactin. and oxytocin. The purpose of this study was to determine the effect of oxytocin massage on breast milk production in postpartum mothers. This research method uses quantitative methods with a pre-experimental approach using one group pretest and posttest design. The population in this study were all postpartum mothers at midwifery klinik Siti Hajar, as many as 30 people were divided into two groups, control group consisting of 15 respondents and the intervention group consisting of 15 respondents was carried out from November to December 2021. Based on the results of statistical tests using the Wilcoxon test, a p-value of 0.000 ($\alpha < 0.05$) was obtained, which means that there was a difference between the frequency of breastfeeding babies in the group given oxytocin massage and the control group. , p-value 0.000 ($\alpha < 0.05$), which means that there is a difference between the frequency of URINARY infants in the group given oxytocin massage and the control group.

Introduction

Newborns need to get optimal care from birth, which is one of the ideal foods. Breast milk (ASI) is the most recommended food for babies for at least the first 6 months of life (Anamed, 2012). Newborn babies do not need other than breast milk from their mothers. But in reality, exclusive breastfeeding is not as easy as imagined. Various obstacles can arise in exclusive breastfeeding for the first six months of a baby's life (Astutik, 2017). Breast milk production is a very

complex interaction between mechanical, nervous, and various hormones that affect the release of oxytocin (Endah, 2011).

The obstacle in giving breast milk early on the first day after giving birth is a little milk production. According to data from the World Health Organization (WHO) and UNICEF, the coverage of exclusive breastfeeding for infants under 6 months is 41% and is targeted to reach 70% by

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2030 (Global Breastfeeding Scorecard, 2018).

The main causes of infant and under-five mortality are cough and pneumonia, more than 50% of infant and toddler deaths are caused by lack of nutrition. Exclusive breastfeeding for 6 months and must be until the age of 2 years in addition to providing complementary feeding (MP ASI) is proven to be one of the effective interventions that reduce infant mortality (Sitaresmi, 2010). According to WHO, infants who are given milk other than breast milk have 17 times the risk of getting diarrhea, and 3 to 4 times more likely to get ARI than breastfed babies. Therefore, mothers need help so that the exclusive breastfeeding process is successful.

The 2030 Agenda for Sustainable Development Goals targets to reduce the neonatal mortality rate by at least 12 per 1,000 live births and death in children under 5 years of age by at least 25 per 1,000 live births. This can be achieved, one of which is by properly implementing exclusive breastfeeding (Indonesian SDGs Health Indicators, 2017).

In Indonesia, infants who received exclusive breastfeeding until the age of six months were 65.16% in 2018. Meanwhile, the percentage of exclusive breastfeeding in Lampung Province in 2018 only reached 67.01%. This figure is still below the expected target of 80% (Indonesian Health Service, 2019). In Bandar Lampung City, based on reports of exclusive breastfeeding in 2017, 59.7% (5,645 babies) decreased from the previous year which reached 74.9% (6,494 babies). This means that the achievement of exclusive breastfeeding has not reached the target of 100% (Bandar Lampung City Health Office, 2018). Exclusive breastfeeding coverage per City District in Lampung Province 2019 is 50%-70%, Way right, Central Lampung, North Lampung, West Lampung, Prengsewu, East Lampung,

Bandar Lampung, South Lampung, then for coverage >75%, Bone District Onion, West Onion Bone, Pesawaran, West Coast, Tanggamus (Health Profile of Lampung Province, 2019).

UNICEF asserts that formula-fed babies have the possibility of malnutrition in the first month of birth and the probability of formula-fed babies experiencing malnutrition is 25 times higher than babies who are exclusively breastfed (Roesli, 2013). Malnutrition that occurs early in life can result in Growth Faltering (failure to thrive) so that the baby will grow into a child that is shorter than normal. In addition, malnutrition can also affect cognitive development, infant morbidity, and mortality. Good nutrition will speed up recovery and breast milk does not come out as a condition of not producing breast milk or at least producing breast milk.

Various problems in the breastfeeding process such as lack of knowledge about exclusive breastfeeding, sore nipples, sore nipples, mastitis, insufficient breast milk syndrome, working mothers, psychological conditions of breastfeeding mothers, mother psychology occur because mothers experience anxiety, anxiety is an emotional response to an assessment that describes worry, anxiety, fear, restlessness accompanied by physical complaints can also affect breast milk production (Suprijati, 2014). The non-smooth expulsion of breast milk after childbirth can be caused by a lack of stimulation of the hormone oxytocin which plays a very important role in the smooth flow of breast milk, there are two things, namely affecting production and expenditure. Breast milk production is influenced by the hormone prolactin while expenditure is influenced by the hormone oxytocin (Wiji, R.N. 2013).

The way to overcome the non-smooth milk production is by doing oxytocin massage. Oxytocin massage is one of the most appropriate solutions to accelerate



and facilitate breastfeeding, namely by massaging along the spine (vertebrae) to the costae bones. This massage will provide comfort to the mother after experiencing the delivery process so that it does not inhibit the secretion of the hormones prolactin and oxytocin (Roesli, 2014). The hormone will come out through the stimulation of massage on the mother's spine, doing a massage on the spine the mother will feel calm, relaxed, increase the pain threshold and love her baby, so that the oxytocin hormone will come out and milk will come out quickly (Marmi, 2012).

The results of research by Helmi Apreliasari, Rismawati (2019) on the effect of oxytocin massage on increasing breast milk production at Aura Homecare Salatiga City September 2019, that this study showed the results of further statistical tests using the Wilcoxon Signed Ranks Test, the value = 0.030 ($p < 0.05$) which means that there is an effect of oxytocin massage on milk production. This is in accordance with the theory that explains that oxytocin massage greatly affects milk production because the physiological effect of oxytocin massage stimulates the anterior and posterior pituitary to secrete the hormone oxytocin.

The results of researchers Juwariyah, Yetty Dwi Fara, Ade Tyas Mayasari, Abdullah (2020) about the effect of oxytocin massage on increasing breast milk production in postpartum mothers, showed that the results of the study were known from 13 respondents in the treatment group, the average milk output was ml and 13 respondents did not do it. the oxytocin massage action averaged 11.7 ml of milk production, the results of the independent t-test analysis obtained a significant value = 0.000 < α (0.05). The conclusion is that there is an effect of oxytocin massage on increasing milk production. Oxytocin massage is carried out with a duration of 15-20 minutes, preferably before breastfeeding or expressing breast milk, so to get the optimal and good amount of breast milk,

oxytocin massage should be carried out 2 times a day (Sari, 2016).

Based on the results of a survey conducted by researchers at midwifery clinic Siti Hajar in September 2021. Then I conducted direct interviews with the midwife Siti Hajar, from these interviews, it was obtained that 20 50% of postpartum mothers or about 10 postpartum mothers complained that their babies often did not have enough milk. cry. While the other 10 mothers had normal milk production, this made the mother worried and confused when the baby cried so the mother chose to give formula milk to meet the needs of her baby, the breastfeeding mother had not received information about the importance of exclusive breastfeeding and oxytocin massage to help increase milk production.

Based on the phenomena and problems above, the researchers are interested in conducting research on "The Effect of Oxytocin Massage on Breast Milk Production in Post Partum Mothers" so that the authors hope to increase knowledge and mothers and families in handling breast milk production problems with oxytocin massage so that mothers are more comfortable and produce breast milk. can increase. Based on the above background, it can be formulated the problem in this study is "Is there any effect of oxytocin massage on breast milk production in postpartum mothers at midwifery clinic Siti Hajar in 2021" The general purpose of this study was to determine the effect of oxytocin massage on breast milk production in postpartum mothers

Methods

This study uses a quantitative method with a pre-experimental approach using one group pretest and posttest design. The population in this study were all postpartum mothers at midwifery clinic Siti Hajar, SST as many as 30 people were divided into two groups, namely the control group consisting of 15



respondents. and the intervention group consisting of 15 respondents was carried out from November to December 2021.

Results and Discussion

Univariate analysis

Table 1 Amount of Breast Milk Production Before Oxytocin Massage is Done to Post Partum Mothers at midwifery klinik Siti Hajar Bandar Lampung

Breastfeeding Intervention	F	(%)	Breastfeeding Control	F	(%)
Smooth	0	0	Smooth	1	6,7
Not smooth	15	100	Not smooth	14	93,3
Total	15	100	Total	15	100
URINARY Intervention	F	(%)	URINARY Control	F	(%)
Smooth	0	0	Smooth	0	0
Not smooth	15	100	Not smooth	15	100
Total	15	100	Total	15	100

From table.1 above, it can be seen that the smooth production of breast milk before being given oxytocin massage seen from the frequency of breastfeeding in the intervention group with the non-fluent category as many as 15 respondents (100%) and the smooth category as many as 0 respondents (0%), for the frequency of urinary not smooth as much as 15 respondents (100%) and smooth 0 respondents (0%). Meanwhile, in the control group, the frequency of breastfeeding with the non-current category was 14 respondents (93.3%) and the current category was 1 respondent (6.7%), for the highest frequency of urinary was not smooth as many as 15 respondents (100%) and smooth 0 respondents (0%). This is because it is influenced by the psychological condition of the mother and the food she consumes and the lack of mothers getting an education so that the amount of breast milk is large. Therefore, mothers should not feel excessive stress and anxiety. This situation greatly affects the amount of breast milk in the first week when breastfeeding a baby (Deddy Muchtadi, 2010).

Fikawati (2015) shows breast milk is the best food for babies in the first 6 months of life. All nutritional needs, namely protein, carbohydrates, fat, vitamins, and minerals are fulfilled from breast milk. Early breast milk contains immune

substances from the mother that can protect babies from diseases that cause infant mortality around the world such as diarrhea, and pneumonia. In adulthood, it is proven that breastfed babies have a lower risk of degenerative diseases, such as high blood pressure, type 2 diabetes, and obesity. Since 2001, WHO has recommended that infants receive exclusive breastfeeding until the age of 6 months.

The success of breastfeeding mothers is largely determined by a comfortable environment and support from their husbands or families during the breastfeeding process. Meanwhile, the inability of mothers to give breast milk to babies is influenced by several things, such as mental and psychological factors of breastfeeding mothers, which greatly affect the breastfeeding process and the smooth production of breast milk. Feelings of stress, pressure, and discomfort experienced by a mother can hinder the amount of milk that comes out.

According to researchers, breast milk production as seen from the baby's weight is the stage of the mother's success in providing nutrition to her child, the baby's weight as seen from the increase is used to catch up with growth in the first 3 months of life. Where, after 6 months, the baby will get MPASI which will be the end of exclusive



breastfeeding. All of this can be seen from the average increase in baby weight which reaches 150-200 grams per week (Nurhasanah, 2016). If the mother has problems with the smooth flow of breast milk which can cause breast milk to not run smoothly, the mother is said to be unsuccessful in providing adequate nutrition to the baby. Therefore, there is a need for market techniques and oxytocin massage to maximize the smooth production of breast milk in order to catch up with the baby's growth in the first 3 months.

According to research conducted by Magdalena et al (2020), it was found that there was a difference in breast milk production before being given an oxytocin massage intervention and after being given an oxytocin massage intervention. The frequency of breastfeeding was not good, there were 16 respondents before being given oxytocin massage, and none of the mothers had a good breastfeeding frequency, while at the urinary frequency there were 16 respondents with a good urinary frequency and no respondent with a good urinary frequency. Then after the oxytocin massage intervention, from 16 respondents the frequency of breastfeeding was good ($\geq 8-12$ times a day) there were 9 respondents and the frequency of breastfeeding was not good ($< 8-12$ times a day) there were 7 respondents while the frequency of urinary was good ($\geq 6-8$ times a day) there are 9 respondents and the frequency of urinary is not good ($< 6-8$ times a day) there are 7 respondents, the volume of breast milk in the control group and the intervention group before and after treatment then the results are recorded on a checklist sheet, Dalam (Seragih, 2015).

(Maryanti, 2011). Other things to watch out for if your baby has Within 24 hours the baby urinates less than 3 times, Urine color becomes pale, there is blood in the urine, Every time the baby pees it looks like it hurts to suck.

To maintain high milk production, you can get used to breastfeeding every 2-3 hours, eight times a day to maintain milk production, Kabir and Tasnim (2009) explained that oktani massage can increase the baby's ability to suck, so that the more often the baby suckles, the more production will increase. ASI Hockenberry (2002) states that oxytocin massage will be effective if it is done twice a day, in the morning and evening. Lutfiana (2017) states that oxytocin massage is carried out 2 times a day in the morning and evening before bathing and 30 minutes before breastfeeding in order to get maximum results. Sari's research (2015) states that oxytocin massage is carried out in the morning and evening with a duration of 15-20 minutes, this massage is not always done by health workers but can be done by a husband or other trained family. Research conducted by Hartiningtyaswato (2015) states that oxytocin massage is effectively carried out twice a day in the morning and evening on the first and second postpartum days because on the second day the breast milk has not been produced enough. The same research was also conducted by Magdalena, et al (2020). Stating that oxytocin massage can facilitate the release of breast milk production, this is in line with this study which carried out oxytocin massage 2 times a day, in the morning and evening so that the more often the baby suckles, the more milk production will increase.

Table 2 Total Breast Milk Production After Oxytocin Massage for Post Partum Mothers at MIDWIFERY KLINIC Siti Hajar Bandar Lampung

Breastfeeding Intervention	F	(%)	Breasfeeding Control	F	(%)
Smooth	15	100	Smooth	5	33,3
Not smooth	0	0	Not smooth	10	66,7
Total	15	100	Total	15	100



Breastfeeding Intervention	F	(%)	Breasfeeding Control	F	(%)
URINARY Intervention	F	(%)	URINARY Control	F	(%)
Smooth	15	100	Smooth	2	13,3
Not smooth	0	0	Not smooth	13	86,7
Total	15	100	Total	15	100

From table 2, it can be seen that the smooth production of breast milk after being given oxytocin massage seen from the frequency of breastfeeding in the intervention group with a smooth category as many as 15 respondents (100%) and a non-fluent category as many as 0 respondents (0%), for a smooth urinary frequency as many as 15 respondents (100%) and not smooth 0 respondents (0%). With the conclusion that in the intervention group, the overall breastfeeding mother experienced significant breastfeeding fluency. While in the control group, the frequency of breastfeeding was not smooth as many as 10 respondents (66.7%) and the current category was 5 respondents (33.3%), for the frequency of urinary was not smooth as many as 13 respondents (86.7%) and smooth 2 respondents (13.3%). With the conclusion that in the overall control group, breastfeeding mothers did not experience a significant amount of breastfeeding, which was indicated by the high frequency of urinary and breastfeeding that was not smooth.

Newborns who get enough breast milk if the frequency of breastfeeding is smooth (> 8-12 times) and the frequency of breastfeeding is not smooth (< 8-12 times), then the frequency of urination is smooth (> 6-8 times) and the frequency of urination is not fluent (<6-8 times). In accordance with Roesli's theory, (2012) states that the more babies breastfeed, the better milk production will be. Usually, babies breastfeed 8-12 times a day, in a study by Mardianingsih (2010) stated that babies who get enough breast milk can be seen from the frequency of babies urinating 6-8 times in 24 hours.

Oxytocin massage is considered more effective in increasing milk production because oxytocin massage is a massage that can stimulate the release of the oxytocin hormone and the work of the oxytocin hormone is influenced by the mother's thoughts and feelings, thus oxytocin massage is said to be successful if the mother feels calm and comfortable when the mother is given oxytocin massage. When the oxytocin hormone comes out, it will help expel breast milk. While oxytocin stimulates the release of milk from the breast through the contraction of myopic cells in the alveoli and ducts (Purnama, 2014). If the stimulation of oxytocin production from the pituitary is reduced, milk production will also be inhibited. Some conditions such as maternal stress, confusion, fear, and anxiety in the mother can inhibit the letdown reflex (Rusdiarti, 2014).

A sign of a good letdown reflex is the presence of drops of milk from the breast before the baby begins to get milk from the mother's breast where the milk drips even though the baby is not breastfeeding. In order for the letdown reflex to occur properly, it is necessary to stimulate the release of the hormone oxytocin, namely by stimulating the point above the nipple, the exact point on the nipple and the point below the nipple, and the point on the back that is in line with the breast. One way to stimulate the release of oxytocin is by doing massage which can also increase the comfort of the mother (Ariani, 2010).

The results of Mardila's research (2015) state that one of the factors that influence breast milk production is the psychological factor of the mother where when the mother feels comfortable and



relaxed, the release of the hormone oxytocin can take place properly. Oxytocin is also known as the “love hormone” because it helps mothers love their babies and calm them down. Oxytocin also has important psychological effects and has been shown to influence maternal behavior in experimental animals. While in humans, oxytocin will induce calm and reduce stress (Lowdermilk, 2011).

Factors that affect the smooth flow of breast milk while breastfeeding include the frequency of breastfeeding mothers, avoiding formula milk, and the psychological influence of mothers while breastfeeding. The criteria for smooth breastfeeding can be seen from the characteristics of a baby who is adequately breastfed, among others, the baby will look satisfied after feeding, the baby will fall asleep and not cry, the baby looks healthy and there is an average

weight gain of 500 grams per month while the ideal frequency of breastfeeding is 8-12 times in 24 hours and 10 to 20 minutes for each breast, with the interval between breastfeeding and the next feeding between one and a half to 2 hours. But often there are long ones, maybe up to half an hour. This condition depends on the strength of the baby to suck, the speed of swallowing, and the comfort of the baby when breastfeeding. When full, the baby will release the mother's nipple. The frequency of breastfeeding also depends on the amount of milk and the baby's appetite. Recent research has shown that babies who suckle slowly get as much milk as babies who suckle quickly. When a mother whose baby is suckling slowly and stops feeding before the baby is finished, the baby may not be getting the energy-rich final milk it needs to grow properly.

Bivariate Analysis

Table 4.3 Differences in Breast Milk Production Before and After Oxytocin Massage Against Post Partum Mothers at MIDWIFERY KLINIC Siti Hajar Bandar Lampung

Variable	n	Mean	SD	SE	P-Value
Postes Breastfeeding Intervention	15	10,47	1,767	0,456	0,000
Postes Breastfeeding Control	15	6,80	1,207	0,312	
Postes URINARY Intervention	15	8,60	1,056	0,273	0,000
Postes URINARY Control	15	5,93	1,100	0,284	

From table 4.3, it can be seen that the difference in breast milk production seen from the frequency of breastfeeding and urinary in the intervention and control groups, breastfeeding in the intervention group was 10.47 while the control group was 6.80. urinary in the intervention group was 8.60 and the control group was 5.93. The results of statistical tests using the Wilcoxon test obtained a p-value of 0.000 ($\alpha < 0.05$) which means that there is a difference between the frequency of breastfeeding infants in the group given oxytocin massage and the control group, p-value 0.000 ($\alpha < 0.05$) which means that there is a difference between the frequency of urinary infants in the group

given oxytocin massage and the control group. Based on the value of breast milk production before and after oxytocin massage, most of the respondents expressing breast milk were not smooth while after oxytocin massage, most of the respondents expressed breast milk smoothly so that it can be concluded that there is an effect of oxytocin massage on breast milk production in postpartum mothers at midwifery clinic Siti Hajar, SST Bandar Lampung.

Oxytocin massage is considered more effective in increasing milk production because oxytocin massage is a massage that can stimulate the release of the



oxytocin hormone and the work of the oxytocin hormone is influenced by the mother's thoughts and feelings, thus oxytocin massage is said to be successful if the mother feels calm and comfortable when the mother is given oxytocin massage. When the oxytocin hormone comes out, it will help expel breast milk. While oxytocin stimulates the release of milk from the breast through the contraction of myopic cells in the alveoli and ducts (Purnama, 2014). If the stimulation of oxytocin production from the pituitary is reduced, milk production will also be inhibited. Some conditions such as maternal stress, confusion, fear, and anxiety in the mother can inhibit the letdown reflex (Rusdiarti, 2014).

A sign of a good letdown reflex is the presence of drops of milk from the breast before the baby begins to get milk from the mother's breast where the milk drips even though the baby is not breastfeeding. In order for the letdown reflex to occur properly, it is necessary to stimulate the release of the hormone oxytocin, namely by stimulating the point above the nipple, the exact point on the nipple and the point below the nipple, and the point on the back that is in line with the breast. One way to stimulate the release of oxytocin is by doing massage which can also increase the comfort of the mother (Ariani, 2010).

In line with the theory put forward by Magdalena, et al (2020) The Effect of Oxytocin Massage on Breast Milk Production of Breastfeeding Mothers in the Work Area of the Sidomulyo Health Center Outpatient Pekan Baru. One of the main obstacles for a mother in breastfeeding is that milk production is not smooth. The way that can be done to facilitate milk production is to do oxytocin massage. Oxytocin massage is one solution to overcome the inability to produce breast milk. Oxytocin massage is a massage along the spine (vertebrae) to the fifth-sixth costae bone and is an attempt to stimulate the hormones

prolactin and oxytocin after childbirth (Yohmi & Roesli, 2009).

In this study, there were differences in the smoothness of milk production as seen from the frequency of breastfeeding and urination in the intervention and control groups, breastfeeding in the intervention group was 10.47 while the control group was 6.80. URINARY in the intervention group was 8.60 and the control group was 5.93.

In the opinion of researchers, each baby has a unique feeding pattern, not the same as one another, some babies usually suck a little or only briefly but with frequent frequency. Some babies also suckle longer but with less frequency. The suction of children has an important role in the production of breast milk because it has an influence on the release of the hormone pituitary. The child's sucking will stimulate the smooth muscles in the breasts. To contract which then stimulates the surrounding nervous system and transmits these stimuli to the brain. The brain will instruct the back of the pituitary gland to secrete more pituitary, which will affect the strength of the contractions of the smooth muscles of the breasts and uterus. Smooth muscle contractions in the breasts are useful for the formation of breast milk, while smooth muscle contractions in the uterus are useful for accelerating involution.

In accordance with the opinion of Yohmi and Roseli (2009; Juwita, 2020) Oxytocin massage is massage along the spine to the fifth-sixth costae bone and is an attempt to stimulate the hormones prolactin and oxytocin after childbirth. Oxytocin massage which is often done in order to increase the non-smooth milk production is oxytocin.

The smoothness of breast milk production can be measured by using the indicators of the smoothness of breast milk seen from the indicators of mothers and babies. Where indicators in infants include: frequency of urination (where



the baby has sufficient milk production then in 24 hours the baby will urinate at least 6 times), characteristics of urination (clear yellow color), frequency of bowel movements (baby elimination pattern depends on the intake that the baby gets, babies who drink breast milk, generally the pattern of defecation/chapter 2-5 times per day), the color of the defecation (the resulting defecation is golden yellow), the characteristics of the defecation (not too watery and not too thick), sleep duration (for 2 to 3 days). hours), the baby's weight gain. And the indicators for the mother include: breasts are tense because they are filled with milk, the mother is relaxed, the let-down reflex is good, the frequency of breastfeeding is >8 times a day, the mother uses both breasts alternately, the attachment position is correct, the nipple is not blistered, the mother breastfeeds the baby without a schedule, the mother looks flushed breast because the breast is full, the breast is empty after the baby suckles until it is full and falls asleep and the baby seems to suck strongly with a slow rhythm.

According to the assumptions of the researchers, the results of the study showed that there was an effect of oxytocin massage on breast milk production. This is because oxytocin massage is an action performed on nursing mothers in the form of massage or massage on the mother's back to increase the release of the hormone oxytocin. The oxytocin massage performed will provide comfort to the mother so that it will provide comfort for the breastfed baby. Physiologically this increases the oxytocin hormone that is sent to the brain so that the oxytocin hormone is released and flows into the blood, then enters the mother's breast causing the muscles around the alveoli to contract and make milk flow in the breast milk ducts. The hormone oxytocin also makes the milk ducts wider, making the milk flow more easily.

Suggestion

The results of the research can be useful, add sources of information, and be applied to nursing mothers at home and can be disseminated to other communities so as to increase public knowledge about oxytocin massage.

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