

OXYTOCIN STIMULATION USING AUDIO VISUAL ON BREAST MILK EXCRETION IN LACTATING MOTHERS DURING COVID-19 PANDEMIC

Novia Nuraini, Yudhia Fratidhina

Faculty of Health Promotion, Health Polytechnics Ministry of Health,
Jakarta III, Indonesia

ABSTRACT

Background : After giving birth, most mothers complain about the less breast milk that comes out. Therefore, it usually requires the care of oxytocin massage to stimulate breast milk production and increase the smooth expenditure of breast milk. However, the COVID-19 pandemic has changed several ways of care or health services for breastfeeding women. Treatments with direct physical contact such as oxytocin massage are not recommended. Therefore, mothers need to be given other treatments so that they can still increase the oxytocin hormone so that breast milk remains smooth. One of them is audio-visual therapy which can increase the calmness of the mother to trigger the oxytocin hormone. **Aim:** The aim of this study is to determine the implementation of oxytocin stimulation through the audio-visual method in the smooth release of breast milk in mothers during the Covid-19 pandemic.

Subject and Method : This study uses a case study type with a qualitative method. The design used in this study is *a single-case design* that only uses one unit. At this stage, the researcher started from the pre-test which aims to know how the mother feels, the intervention and counseling stage, and the post-test stage. After that, we will review how mothers feel and changes in breastfeeding frequency.

Results: The provision of health promotion, counseling, and therapy, will get the results of increasing mothers' knowledge and reducing anxiety in mothers that milk production can increase. Based on the results of the study, it can be concluded that the application of oxytocin stimulation through audio-visual can increase the smooth flow of breast milk in postpartum mothers..

Conclusion: The implementation of oxytocin stimulation through audio-visual can increase the smooth flow of breast milk in postpartum mothers.

Keywords: Breast Milk, Oxytocin Hormone, Smoothness of Breast Milk.

Correspondence:

Novia Nuraini. Faculty of Health Promotion, Health Polytechnics, Jakarta 3, Bekasi, West Java. Email: n2p_bunga@yahoo.co.id. Mobile : 081280083279.

BACKGROUND

Exclusive breastfeeding is still very low in the world. Based on data from the United Nations Children's Fund (UNICEF) in 2012 only 39% of infants under the age of 6 months were exclusively breastfed worldwide, this data also did not increase in 2015, which was 40% of the success of exclusive breastfeeding worldwide. (Kholisotin, 2018).

Nationally, the coverage of infants receiving exclusive breastfeeding in 2018 was 68.74%. (Ministry of Health, 2018). Meanwhile, Indonesia's target is 80% of the national target. One of the causes of these deaths is the lack of access to neonatal health care. The number of events includes BBLR (42%), clinical sepsis (17%), preterm birth (9.8%), severe asphyxia (4.6%), 2 hypothermia

(17%), and breastfeeding problems (16%). (Bahriyah, 2017). This is reinforced by data from Basic Health Research (Riskesdas) in 2010 which states that only 15.3 percent of infants aged less than 6 months are exclusively breastfed (Health, 2010). Su *et al.* stated that mothers who failed lactation occurred because of less breast milk production (43%), fatigue (14.3%), less weight (14.3%), flat nipples (14.3%), strong rejection from the baby (4.8%), pregnant (4.8%) and lacking support from family (4.8%). (Cho, 2015).

Physiologically, the role of breast milk is very influential in the fulfillment of nutrition and immunity for infants, and as a major pillar in the growth and development of infants at the cognitive, behavioral, and motor levels (Horta, 2018); (Nova, 2018); (Field, 2019). The benefits of breastfeeding for mothers can increase oxytocin levels which can help in the process of uterine involution during the postpartum period (Korl, 2018). Oxytocin massage has become a therapy that can lower the rate of Adrenocorticotrophic Hormone (ACTH) and that may help the secretion of hormones and prolactin to increase breast milk production (Winter, 2019).

Problems in breastfeeding include breast milk does not come out or at least the production of breast milk. This is due to the influence of the oxytocin hormone that is less work because of the lack of stimulation of baby suction that activates the work of the hormone oxytocin. (Fikawati, 2015). One of the actions that need to be taken to maximize the

quality and quantity of breast milk, namely oxytocin massage. The oxytocin massage technique is the act of massage on the spine (vertebra) ranging from the seventh cervical to the 5th-6th ribs which will accelerate the work of the parasympathetic nerves to send commands to the back of the brain to produce oxytocin (Morhenn, 2012). Breast milk has a higher rate of cognitive development than formula-fed. (Nova, 2018). The more the mother is calm, confident in breast-feeding, and sure to give the best for her baby the hormones prolactin and oxytocin are increasingly produced (Anggita, 2018).

With the existence of the COVID-19 pandemic (Coronavirus disease 2019), midwives can not directly carry out the oxytocin stimulation therapy, then they need other methods such as audio-visual media to stimulate the release of breast milk. ((WHO), 2020) The government through the Ministry of Health took further steps by creating Antenatal, Childbirth, Postpartum and Newborn Service Guidelines in the Era of New Habit Adaptation. Currently, the majority of areas in Jabodetabek are red zone status, therefore based on post-copy service guidelines based on red zones on post-partum 2, 3, and 4 visits along with neonatal visits 2 and 3, conducted through communication media or online, both for monitoring and education. In necessary, home visits can be made by health workers preceded by appointments and implement health protocols, both health workers and mothers and families. (MOH, 2020).

Making the body healthier by thinking positively can also be done with the help of musical stimulation. With positive or supportive pressure, known as eustress, the brain can be emotionally involved and allow maximum neural activity (Supradewi, 2010). According to Lozanov, the rhythm, beats, and harmony of music affect human physiology, especially brain waves and heartbeats, in addition to generating feelings and memories (De Porter et al., 2001 in the journal Ratna Supradewi 2010)

Music therapy is an organized auditory stimulation, which consists of melody, rhythm, and harmony. Interventions using music therapy can change the threshold of the brain under stress to be more physiologically adaptive and effective. All types of music can be recommended for use as therapy. The type of music that can be used is the type of classical music. Classical music used as a reference is the work of Mozart (Setyoadi, 2011).

By research psychiatry, the University of England where classical music heard in cows can increase milk production this is due to reduced stress from cows to increase the hormone of milk production (oxytocin) (Hartati Dwi, 2011).

In line with Sri Maria (2017) that counseling with video methods is more effective than counseling leaflet methods in increasing maternal knowledge about breast care in the postpartum period. This data proves that the increase in respondents' yearly will be influenced by the help of media that makes it easier for respondents to understand the material provided.

SUBJECTS AND METHOD

1. Study Design

The method used to find out the result of the implementation of oxytocin stimulation on the smooth release of breast milk in postpartum mothers during the Covid-19 pandemic in this patient was a case study method. In this research, the researcher uses a single case experimental design. Researchers will conduct online research with respondents in the area of Rt 01 Rw 07 Kel. Surgery District. Sawangan Depok City. Researching in the period from March 1, 2021, to March 10, 2021.

2. Population and Sample

The population in this study were postpartum mothers in the area of Rt 01 Rw 07 Kel. Surgery District. Sawangan Depok City. The sample used in this study was postpartum mothers, where development was followed every day for 10 days either online or online. Respondents amounted to 1 person, namely Mrs. S, who is currently undergoing the puerperium.

3. Study Variable

The dependent variable is the smooth release of breast milk for postpartum mothers during the Covid-19 pandemic. The independent variable is oxytocin stimulation through the audio-visual method.

4. Study Instrument

The tools and materials used in this research are as follows:

- a. The informed consent sheet, the postpartum mother's assessment form, and the questionnaire sheet. The informed consent sheet is used as a document of consent to become a respondent. The assess-

ment form is used when conducting in-depth interviews to determine the condition of the respondents. Questionnaire sheets were used in the pre-test and post-test of the study as an indicator of the mother's condition.

- b. Educational Media is used to implement Oxytocin Stimulation on the Smooth Expenditure of Breast Milk in Postpartum Mothers during the Covid-19 Pandemic. The media used is a video that has been considered and adjusted to the needs.
- c. Online media, used to monitor care. Because it's still in a COVID-19 pandemic situation, the online media used are WhatsApp video calls and zoom meetings.

5. Analysis Data

Primary data were obtained directly from the sample as research subjects using data collection instruments in the form of in-depth interviews before being given health education interventions about postpartum exercise. This interview is about knowledge about the postpartum period and information about breastfeeding as well as the demographics of the respondents in the form of age, education level, questions about whether the respondent has been given health education about breastfeeding from health workers and husband and family support during the postpartum period. So that it can assess the social conditions of the respondents and knowledge of postpartum mothers. The researcher carried out the research phase starting from the in-depth interview stage, the inter-

vention implementation stage, and evaluation.

RESULTS

This study was only conducted on one respondent, namely postpartum mothers with a 30-day-old baby. Researchers conducted an assessment and monitoring as much as 5 times using online media.

1. Characteristics of Respondents

Mrs. S is 34 years old from the Betawi tribe, she is Muslim, lives with her husband in Bedahan, Sawangan, Depok City with the last education of junior high school and daily activities of housewives.

Mrs. S. is the wife of Mr. T who is 40 years old is from the Betawi tribe with his last high school education and daily activities as a Private Employee in Jakarta. Mrs. S and Mr. T have three children. One boy was born in 2005 and the twins' of a boy and a girl were born on March 20, 2021.

After marriage, Mrs. S lived with her husband in Bedahan Depok. According to Mrs. S, the relationship with her husband was well established, married at the age of 18 years, and directly came to live with her husband in Kp. Perigi Beahan. Mrs. S said that she felt that her breast milk production was not smooth and she felt that breast milk did not meet the needs of her twins. She has a strong desire to keep breastfeeding her twins so she needs help to be able to facilitate the production and expenditure of her breast milk. The lack of comfort in her is caused by still adapting to the condition of the body after childbirth,

considering the distance with the first birth is far adrift.

2. Interview Before Foster Care

At an online meeting on April 19, 2021, Mrs. S told about the current condition of both the surrounding environment and the condition of her body and psyche. She has also never been informed about the stimulation of the hormone oxytocin that can increase the smooth production of breast milk. In this case, researchers get the results of knowledge before being given care through questionnaires that have been made by researchers and researchers explain how to fill out questionnaires. She filled out a questionnaire with online mentoring by researchers and obtained information about Mrs. S before being given education and care.

Mrs. S was able to answer all the questions asked without any significant difficulties. Based on The Story of Mrs. S, the conditions and problems experienced by her are currently by the criteria of respondents that the author needs. So, the author can continue the research on her. Success Rate After Being Given Relaxation Videos and Positive Affirmation Words

3. In measuring success rates after being given relaxation videos and positive affirmation words, researchers used the same questionnaire to measure The Success Rate of Mrs. S. After being given care. Mrs. S filled out a questionnaire and obtained results after being given care.

Mrs. S managed to go through several phases of upbringing to be

able to answer the questionnaire given by the researcher with answers that were by what was expected by the researchers. Therefore, researchers fall into the category of good. The production and distribution of Breast Milk Mrs. S have improved and meets the needs of her twins. Application of Relaxation Video Care and Positive Affirmation Words in Mrs. S

4. The treatment of the relaxation video and positive affirmation words on Mrs. S was carried out in a span of 5 days with 5 meetings online, namely April 19, 2021, to April 23, 2021

a. First Meeting

At the time of the first meeting, researchers conducted informed consent and conducted interviews and observations about the general state and characteristics of respondents and an initial assessment of the mother's condition. At this meeting, the researchers also gave pretests to Mrs. S to obtain the data needed for the next study. The activity went good and the respondents responded well

c. Second Meeting: Providing Education About Breastfeeding

At the second meeting, researchers explained the process of breastfeeding and breast milk production to Mrs. S. In this meeting, Mrs. S understood that the process of milk production involves the oxytocin hormone which is produced through the hypothalamus part of the brain. This oxytocin hormone can be produced more when the body feels comfortable, calm, and relaxed.

d. Third Meeting: Giving Relaxation Videos to Stimulate The Production of Oxytocin Hormone.

In the third meeting, researchers continued their upbringing by providing a relaxation video for mothers to use as a stimulant for the hormone oxytocin. Researchers say that this video is expected to be watched every time you want to breastfeed.

e. Fourth meeting: Continued Giving Of Relaxation Videos.

In the fourth meeting, continued giving videos to the mother for the mother to use as a stimulant of the oxytocin hormone. In this phase, researchers also told Mrs. S to watch a video whenever she wants to breastfeed

f. Fifth meeting

In the fifth meeting, researchers conducted a review of the results of the care, evaluation and filled out a post-test questionnaire. At this meeting, researchers obtained the results of Mrs. S successfully increasing the production and distribution of breast milk in the breastfeeding process. Mrs. S admitted, this happens after you get stimulation through videos that have been given by researchers. Respondents said they felt happier with their current condition because they were able to meet the needs of breast milk for their babies.

DISCUSSION

In the first meeting was informed consent to obtain the availability of Mrs. S to do of studies that researchers have prepared. In addition, researchers conducted interviews and observations about the general condition and characteristics

of Mrs. S and the initial assessment of maternal conditions. Mrs. S said she is currently feeling uncomfortable and feels her breastfeeding production is not smooth and she feels that breast milk does not meet the needs of her twins. She has a strong desire to keep breastfeeding her twins so she needs help to be able to facilitate the production and expenditure of her breast milk. The lack of comfort in Mrs. S is caused by still adapting to the condition of the body after childbirth, considering the distance with the first birth is far. At this meeting, researchers also gave pre-tests to mothers to obtain the data needed for the next study. The activities at the first meeting went good and the respondent responded well.

In the second meeting, the researchers conducted an explanation of the breastfeeding process. In this meeting, researchers explained the process of milk production, things that affect the production and smoothness of breast milk expenditure, things that can increase breast milk production, and that affect the smooth process of breast milk production. Mrs. S understands that the process of milk production involves the oxytocin hormone which is produced through the hypothalamus part of the brain. This oxytocin hormone can be produced more when the body feels comfortable, calm, and relaxed. This is in line with the objectives of this study so that mothers are increasingly excited to carry out this care process.

In the third meeting, the researchers continued their upbringing by providing a relaxation

video that had been prepared for Mathor to use in the process of stimulating the oxytocin hormone. Videos containing images that can cool the eyes, relaxation music, and positive affirmation words that are expected to suggest the mother be in a comfortable condition, calm to stimulate the hypothalamus in producing the hormone oxytocin to make the mother excited to give breast milk to her babies. Researchers tell her that this video is to watch every time you want to breastfeed her baby. This means that in one day Mrs. Swatches the video 8 times by Mrs. S's statement in the Pre-test that is breastfeeding her baby as much as 8 times a day.

In the fourth meeting, the researchers continued the upbringing by providing a relaxation video to Mrs. S. Researchers also monitored the implementation of watching videos on her to make sure the video was watched every time she wanted to breastfeed. Continued giving videos to her to use as a stimulant hormone oxytocin. In this meeting, Mrs. S said she began to feel comfortable, and could already breastfeed her babies better.

At the fifth meeting, researchers conducted a review of the results of the care, evaluation, and filled out a post-test questionnaire. In this meeting, researchers obtained the results of Mrs. S successfully increasing the production and distribution of breast milk in the breastfeeding process. She admitted, this happens after getting stimulation through videos that have been given by researchers. She said she felt happier with their current condition because they were able to

meet the needs of breast milk for their babies.

According to the theory expressed by Yuka et al (2019), the lack of breast milk expenditure can be caused by a lack of stimulation of the protein and oxytocin hormones, which is very instrumental in the smooth production of breast milk, other factors that affect the production of breast milk such as imperfect baby suction or very small milk will make the production of the oxytocin and prolactin hormone continue to decrease and breast milk will stop. In addition, the production of breast milk is strongly influenced by psychiatric factors, mothers who are always in a state of distress, sadness, lack of self, and various forms of emotional tension will decrease the volume of breast milk will not even occur breast milk production. To produce good milk must be in a calm state.

Next, music therapy is proven to be a relaxing therapy. Because the waves of music can affect the brain system that will suppress the function of the hypothalamic, pituitary, and adrenal gland shafts to inhibit the production of stress hormones so that it can affect the production of oxytocin and prolactin hormones to the maximum and can affect the production of breast milk to be more. (Dewi, 2016).

With the stimulation of relaxation music that processes in the body and affects the brain, it can finally make the mother calm when watching the relaxation video that researchers present. From the above explanation, maternal psychiatric factors greatly affect the amount of production and the level of smoothness of breast milk.

Therefore, music can be used as a therapy to increase pleasure hormones and stress-releasing hormones, namely the hormone oxytocin once therapy to increase the production and smoothness of breast milk.

According to the results of research by Sri Maria (2017) that counseling with video methods is more effective than an extension of leaflet methods. This data proves that the increase in respondents' yearly will be influenced by the help of media that makes it easier for respondents to understand the material provided. In the research that the author did, this is in line with the theory. Mrs. S prefers and feels comfortable when doing educational sessions, counseling, and therapy through video media. Therefore, the research conducted by the author can obtain appropriate results because all theories that become the basis by the results of the research conducted. Mother feels relaxation therapy with videos that contain music, greatly helps the mother become more comfortable and calm so that it has a direct impact on increasing the smoothness of breast milk production with relaxation video notes that Mrs, S watch as much as 8 times a day or every she wants to breastfeed. With this, the video presented can stimulate the oxytocin hormone in mothers which is characterized by an increase in the frequency of breastfeeding which was originally 8 times a day to 10 times a day after 16 times watching the video in a period of 2 days.

Based on differentiation with the theory above, the study fits the initial hypothesis that therapy using

relaxation videos containing soothing images of the eyes, calm music, and positive affirmation words, can increase the hormone oxytocin to stimulate the production and expenditure of breast milk in nursing mothers.

Audiovisuals can have an effect on a person. By going through a video that has been made specifically to provide stimulation to mothers according to the problem as a medium in providing care. So that the relaxation method to obtain the production of the hormone oxytocin can not only be stimulated through oxytocin massage but can also be stimulated through audiovisuals.

REFERENCE

Bahriyah F, Putri M, Jaelani AK (2017). Hubungan pekerja ibu terhadap pemberian ASI eksklusif pada bayi. *Jurnal Endurance Universitas Nasional Riau*. 2(2). <https://doi.org/10.22216/jen.v2i2.1699>.

Dewi V, Sunarsih T (2016). *Asuhan Kebidanan Pada Ibu Nifas*. Jakarta: Salemba Medika.

Field T (2019). Social touch, CT touch and massage therapy: A narrative review. *Developmental Review*. 51: 123-145. <https://doi.org/10.1016/j.dr.2019.01.002>.

Fikawati S (2015). *Gizi Ibu dan Bayi*. Jakarta : PT Rajagrafindo Persada.

Hartati DEK (2011). Influence of classical music therapy on the length of phase I childbirth in women giving birth primigravida in BPS Kulon Progo, Daaerah Special Province of

Yogyakarta. Psychiater University of England.

Horta BL, de Sousa, BA, de Mola, CL (2018). Breastfeeding and neurodevelopmental outcomes. *Curr Opin Clin Nutr Metab Care.* 21(3): 174-178. <https://doi.org/10.1097/mco.0000000000000453>.

Indrayani T, PH A (2019). Pengaruh Pijat Oksitosin dan Pijat Payudara terhadap Produksi ASI Ibu Postpartum di RB Citra Lestari Kecamatan Bojonggede Kota Bogor Tahun 2018. *J Quality Women's Health.* 2(1): 65-73. Retrieved from <https://jqwh.org/index.php/JQWH/article/view/30>.

Jin CS, Cho HK, Lee HS, Lee K (2010). Factor related to success in relation J Korean Soc Neonatol. 17: 232-8. <http://dx.doi.org/10.5385/jksn.2010.17.2.232>

Kementerian Kesehatan RI (2020). Pedoman Pelayanan Antenatal, Persalinan, Nifas dan Bayi Baru Lahir di Era Adaptasi Kebiasaan Baru. Jakarta: Kemenkes Direktorat Kesehatan keluarga Direktorat Jenderal Kesehatan Masyarakat.

Kementerian Kesehatan RI (2018). Peraturan Pemerintah Republik Indonesia Nomor 33 Tahun 2012 Tentang Pemberian Air Susu Ibu Eksklusif. Jakarta : Kemenkes RI.

Kementerian Kesehatan RI (2010). Laporan Riskesdes. Jakarta : Badan Litbang Kesehatan.

Khusnul, HDE (2011). Pengaruh Terapi Musik Klasik Terhadap Lama Fase Kala I Persalinan Pada Ibu Bersalin Primigravida Di BPS Kulon Progo, Provinsi Daaerah Istimewa Yogyakarta. Yogyakarta : Psychiater Universitas Inggris.

Kholisotin, Munir Z, Astutik LY (2019). Pengaruh Pijat Oksitosin Terhadap Pengeluaran ASI Pada Ibu Post Partum Primipara Di RSIA Sri Kandi IBI. *Jurnal Keperawatan Profesional.* 7(2). <https://doi.org/10.33650/jkp.v7i2.598>.

Krol, KM, Monakhov M, Lai PS, Ebstein RP, Heinrichs M, Grossmann T (2018). Genetic Variation in the Maternal Oxytocin System Affects Cortisol Responsiveness to Breastfeeding in Infants and Mothers. *Adaptive Human Behavior and Physiology.* 4: 248-263. <https://doi.org/10.1007/s40750-018-0090-7>.

Morhenn V, Beavin LE, Zak PJ (2012). Massage increases oxytocin and reduces adrenocorticotropin hormone in humans. *Altern Ther Health Med.* 18(6): 11-8. PMID: 23251939.

Nova M, Afriyanti O (2018). Hubungan berat badan, asi eksklusif, MP-ASI dan asupan Energi dengan stunting pada balita usia 24-59 bulan Di puskesmas lubuk buaya. *Jurnal Perintis Kesehatan.* 5(1): 39-45 . <https://doi.org/10.33653/jkp.v5i1.92>.

Setyoadi (2011). Terapi Musik Klasik dan Aplikasi. Yogyakarta : Galang Press.

Sri M (2017). Perbandingan penyuluhan metode video dengan leaflet terhadap peningkatan pengetahuan ibu tentang pera-

watan payudara pada masa nifas di klinik Bidan, Langkat Tahun 2017, Skripsi Politeknik Kesehatan Kemenkes Medan.

Supradewi R (2010). Otak, musik, dan proses belajar. Buletin Psikologi Fakultas Psikologi Universitas Gadjah Mada. 18(2): 58 - 68.

Winter J, Jurek B (2019). The interplay between oxytocin and the CRF system: regulation of the stress response', Cell and tissue research. Cell Tissue Res. 375(1):85-91. doi: 10.1007/s0441-018-2866-2.

(WHO) World Health Organization (2020). Pekan Menyusui Dunia: UNICEF dan WHO menyerukan Pemerintah dan Pemangku Kepentingan agar mendukung semua ibu menyusui di Indonesia selama COVID-19. <https://www.who.int/indonesia/news/detail/03-08-2020-pekan-menyusui-dunia-unicef-dan-who-menyerukan-pemerintah-dan-pemangku-kepentingan-agar-mendukung-semua-ibu-menyusui-di-indonesia-selama-covid-19>.

Yuka O, Utari DL, Winda A (2019) Pengaruh Implementasi Pijat Oksitosin Terhadap Pengeluaran ASI Pada Ibu Nifas Di Klinik "S" Simpang Marbau. Journal Helvetia. 2(3). <https://doi.org/10.33085/jbk.v2i3.4453>.