Journal of Community Service and Society Empowerment
E-ISSN 3021-7512 P-ISSN 3021-7504
Volume 3 Issue 02, May 2025, Pp. 172-181
DOI: https://doi.org/10.59653/jcsse.v3i02.1782

Training on Oxytocin Hormone Stimulation for Family Assistance Cadres of Traditional Health Services Program (YanKesTrad) in Blang Mangat Community Health Center Area, Lhokseumawe City

Nurdahliana[1*], Meliani Sukmadewi[2] Marlina[3], Henniwati[4]
Politeknik Kesehatan Aceh, Indonesia[1]
Politeknik Kesehatan Aceh, Indonesia[2]
Politeknik Kesehatan Aceh, Indonesia[3]
Politeknik Kesehatan Aceh, Indonesia[4]
Corresponding Email: nurdahliana@poltekkesaceh.ac.id*

Abstract

This community service program aimed to improve the knowledge and practical skills of family assistance cadres on Oxytocin Hormone Stimulation (OHS) within the Traditional Health Services Program (Yankestrad) in the Blang Mangat Health Center area, Lhokseumawe City. Conducted from May 18 to May 21, 2024, the training involved 26 cadres and utilized a combination of educational, participatory, and hands-on approaches. The implementation was divided into several key phases: preparation, training execution, immediate and follow-up evaluation, and report compilation. Educational sessions included structured lectures, demonstrations of oxytocin massage techniques, and supervised hands-on practice based on standard operating procedures (SOP). A pre-test and post-test assessment design was employed to measure the knowledge improvement. The results indicated a significant increase in participants' knowledge. Prior to the training, 50% of the cadres scored in the "fair" category and 50% in the "poor" category. Following the training, 88.5% reached the "fair" level and 11.5% advanced to the "good" level, with no participants remaining in the "poor" category. These results, supported by SPSS analysis, reflect the effectiveness of the intervention in addressing knowledge gaps and equipping cadres with the competencies to support breastfeeding mothers through oxytocin stimulation techniques. The strong institutional collaboration with the Blang Mangat Health Center and Sub-District Office was instrumental in the successful implementation of the program

Keywords: Oxytocin Hormone Stimulation, Family Assistance Cadres, Traditional Health Services (Yankestrad), Oxytocin Massage, Maternal and Child Health, Health Training, Community Service

Abstrak

Program pengabdian kepada masyarakat ini bertujuan untuk meningkatkan pengetahuan dan keterampilan praktis kader pendamping keluarga tentang Stimulasi Hormon Oksitosin (K3) dalam Program Pelayanan Kesehatan Tradisional (Yankestrad) di wilayah Puskesmas Blang Mangat, Kota Lhokseumawe. Pelatihan yang dilaksanakan pada tanggal 18-21 Mei 2024 ini melibatkan 26 kader dan menggunakan pendekatan gabungan antara edukatif, partisipatif, dan praktik langsung. Pelaksanaannya dibagi menjadi beberapa tahap utama, yaitu: persiapan, pelaksanaan pelatihan, evaluasi langsung dan tindak lanjut, serta penyusunan laporan. Sesi edukasi meliputi ceramah terstruktur, demonstrasi teknik pijat oksitosin, dan praktik langsung yang diawasi berdasarkan prosedur operasi standar (SOP). Desain penilaian pra-tes dan pasca-tes digunakan untuk mengukur peningkatan pengetahuan. Hasil menunjukkan adanya peningkatan pengetahuan peserta yang signifikan. Sebelum pelatihan, 50% kader mendapat nilai kategori "cukup" dan 50% mendapat nilai kategori "kurang". Setelah pelatihan, 88,5% mencapai tingkat "cukup" dan 11,5% naik ke tingkat "baik", tanpa ada peserta yang tetap berada dalam kategori "buruk". Hasil ini, didukung oleh analisis SPSS, mencerminkan efektivitas intervensi dalam mengatasi kesenjangan pengetahuan dan membekali kader dengan kompetensi untuk mendukung ibu menyusui melalui teknik stimulasi oksitosin. Kolaborasi kelembagaan yang kuat dengan Puskesmas Blang Mangat dan Kantor Kecamatan berperan penting dalam keberhasilan pelaksanaan program

Kata Kunci: *Stimulasi Hormon Oksitosin, Kader Pendamping Keluarga, Layanan Kesehatan Tradisional (Yankestrad), Pijat Oksitosin, Kesehatan Ibu dan Anak, Pelatihan Kesehatan, Layanan Masyarakat*

Introduction

Stunting remains one of the major public health issues faced by Indonesia. According to the 2018 Basic Health Research (Riskesdas), the prevalence of stunting among children under five in Indonesia reached 30.8%. The government has responded to this issue through various strategies, one of which involves specific nutritional interventions (Arsi et al., 2021). These include macro- and micronutrient supplementation, such as iron and folic acid tablets and vitamin A, supplementary feeding for pregnant women, exclusive breastfeeding for the first six months, age-appropriate complementary feeding, antenatal education classes, and the management of undernutrition(Adityaningrum et al., 2023; Made Rai Sudarsono et al., 2018)

However, the success rate of exclusive breastfeeding remains suboptimal. According to WHO (2016), globally, only 40% of infants receive exclusive breastfeeding during the first six months, while the Global Nutrition Target for 2025 is a minimum of 50% (WHO, 2017). In Indonesia, early introduction of complementary foods and failure to maintain exclusive breastfeeding are known to be major risk factors for childhood stunting(Hadi et al., 2021; Jayanti et al., n.d.). Low breast milk production, especially during the early postpartum days, is one of the main challenges faced by breastfeeding mothers. Physiologically, this condition is caused by persistently high levels of hormones such as progesterone, estrogen, Human Placental Lactogen (HPL), and Prolactin Inhibiting Factor (PIF), which inhibit milk

production, particularly on the second and third days after childbirth(Burton & Jauniaux, 2023; Karimova & Ismailova, 2023; Khorami-Sarvestani et al., 2024). One proven non-pharmacological intervention to enhance breast milk production and flow is oxytocin massage—a technique involving gentle massage along the spine (vertebrae) down to the fifth or sixth rib. This method aims to stimulate the release of oxytocin and prolactin hormones, which play vital roles in the lactation process (Li et al., 2021). Numerous studies have demonstrated the effectiveness of oxytocin massage(Maharrani & Nugrahini, 2022; Uvnas-Moberg et al., 2020). Research by Delima, Arni & Rosya (2016) found that oxytocin massage significantly increased breast milk production, with a p-value of 0.0003.

In the context of community empowerment, the role of health cadres is critical. These volunteers are the frontline personnel in implementing primary health programs (Uvnäs Moberg et al., 2019). As trusted figures within their communities, cadres are the first point of contact for maternal and child health issues (Danhof et al., 2023). They also play an active role in monitoring child growth and development through *Posyandu* (integrated health service posts)(Prabandari et al., 2021; Romaulina et al., 2019; Setiawan & Christiani, 2018). One of the innovations to strengthen their role is the Sustainable Family Assistance Program, which involves providing support from the premarital stage, to the reproductive age couple stage, pregnancy, postpartum, and up to early childhood (0–59 months). The expected characteristics of cadres participating in this program are embodied in the acronym SEPENUHCINTA, which stands for: *Semangat* (Spirit), *Empati* (Empathy), *Peduli* (Care), *Emosi* (Emotional Intelligence), *Nalar* (Reason), *Upaya* (Effort), *Handal* (Reliable), *Cerdas* (Intelligent), *Inisiatif dan Inovatif* (Initiative and Innovation), *Nurani* (Sincerity), *Terampil* (Skilled), and *Asa* (Hope) (BKKBN & Ministry of Health RI, 2018).

Blang Mangat Health Center is a designated service area of Poltekkes Kemenkes Aceh, encompassing 13 villages with 10 village midwives and 26 family planning (KB) cadres (two cadres per village). In 2023, the number of postpartum mothers in this area ranged from 20–24 per month. However, from January to April 2023, 26 babies in this region did not receive exclusive breastfeeding—an alarming figure considering the importance of breast milk in stunting prevention (Safa'ah et al., 2022). Although cadres have been actively assisting under the guidance of village midwives, no specialized training in Oxytocin Hormone Stimulation through massage has ever been provided to them.

Such training would not only enhance their competencies and credibility in the eyes of the community but also serve as a crucial component in the broader strategy to reduce stunting rates through the optimization of exclusive breastfeeding practices. Following discussions between the community service team from the Midwifery and Nursing Department of Poltekkes Kemenkes Aceh, the coordinating midwife (Bikor), and the Center for Traditional Health Services (Yankestrad), it was agreed to implement a Community Service Program on Oxytocin Hormone Stimulation Training for Family Assistance Cadres as part of the Traditional Health Services initiative.

Method

A. Steps Taken in the Implementation of the Solution

The implementation of this community service program was carefully planned through a series of systematic stages to ensure its effectiveness and the achievement of the intended objectives, particularly the improvement of knowledge and skills among community health cadres regarding oxytocin hormone stimulation (OHS). The stages of implementation are as follows:

1. Preparation Phase

   This initial phase focused on administrative and logistical readiness, as well as coordination with relevant stakeholders. Activities in this phase included:

   a. Conducting coordination meetings and obtaining official permits from partner institutions, namely Blang Mangat Health Center and the Blang Mangat Sub-District Office.
   b. Identifying and confirming the list of cadres who would participate in the training sessions.
   c. Preparing administrative documents and all necessary training materials and equipment.
   d. Scheduling the program and confirming the training venue within the working area of the Blang Mangat Health Center.
   e. Sending out invitations and notifications to all selected participants.
2. Program Implementation Phase

   This is the core phase of the community service activity, which involves a combination of educational sessions and hands-on practice. The steps are as follows:

   a. Preparation of training venue: Arranging a suitable and enclosed space that is comfortable and conducive for both educational and practical activities.
   b. Pre-test administration: Distributing a pre-test questionnaire to assess the participants' baseline knowledge of oxytocin hormone stimulation techniques.
   c. Educational session: Delivering a structured presentation on the function and benefits of oxytocin, especially in breastfeeding, and explaining the proper massage techniques to stimulate its release.
   d. Demonstration session: The instructors demonstrate the oxytocin massage technique on the back area of a mother, focusing along the spine and around the fifth/sixth rib area, based on standard operating procedures (SOP).
   e. Individual practice: Each participant is given the opportunity to perform the technique under close supervision until they can demonstrate competence in accordance with the SOP.
   f. In-session evaluation: Observations are made to assess participants' understanding and proficiency during the hands-on practice session.
   g. Post-test administration: A follow-up test is given to measure knowledge improvement after the educational and practical sessions.
3. Facilities and Equipment

To support the implementation of the program, the following materials and tools were prepared: Laptop and LCD projector for presentations, Printer and stationery (ATK), Phantom body model for massage simulation, Large and medium-sized towels, Olive oil for massage application, Washcloth, medium basin, baby powder, Hand soap, clean water, and tissue, A private and enclosed room for training sessions

4. Evaluation

   The immediate evaluation was conducted during and after the session to assess knowledge gain and skill acquisition. A follow-up evaluation will be conducted two months after the initial training to assess long-term retention and application. Evaluation indicators included:

   a. Whether the implementation followed the pre-determined plan and schedule
   b. Whether post-test scores showed an increase in knowledge compared to the pre-test
   c. Whether all participants were able to demonstrate correct and independent oxytocin stimulation techniques
   d. Whether participant attendance and engagement reached 100%

   A total of 26 cadres participated in the training session, all of whom attended and completed the program in full.

5. Report Preparation

   After completing all stages of the program, the community service team compiles a comprehensive report, which includes:

   a. Background and objectives of the program
   b. Description of the implementation methods
   c. Results of pre-test and post-test
   d. Photo documentation and activity records
   e. Evaluation results and recommendations for improvement
   f. Follow-up action plans, if necessary

B. Main Contribution

The primary contribution of this community service activity is the improvement of knowledge and practical skills among cadres at the Blang Mangat Health Center, specifically regarding Oxytocin Hormone Stimulation (OHS). Through a structured training and hands-on practice, this program aims to empower community health cadres with the competencies necessary to support postpartum mothers in optimizing breast milk production through effective stimulation techniques.

C. Time, Location, and Target Participants

This activity was conducted from May 18 to May 21, 2024, in the working area of the Blang Mangat Health Center, Lhokseumawe City. The target participants were 26 Family Planning (KB) and Posyandu cadres from various villages within the Blang Mangat area. The

program also includes a follow-up monitoring and evaluation (MONEV) activity, scheduled to take place in early October 2024, to assess the long-term impact and sustainability of the training outcomes.

D. Approach Used

The implementation of this community service program adopted a multifaceted approach combining educational, participatory, and hands-on methods. First, lectures and discussions were conducted to deliver interactive presentations on oxytocin hormone stimulation (OHS), allowing participants to actively engage through questions and dialogue. Second, live demonstrations were carried out by facilitators to show the proper massage techniques in real-time, providing a clear visual reference for participants. Third, tutorials and direct assistance were given during practice sessions, with instructors guiding each cadre individually to ensure proper execution of the technique. Lastly, simulation and repeated practice were emphasized, enabling participants to refine their skills until they could perform the OHS procedure independently and in accordance with the standard operating procedure (SOP).

E. Community and Institutional Partnership Participation

The success of this community service program was significantly supported by the active involvement of both institutional and community partners. The Blang Mangat Sub-District Office played an essential role by facilitating administrative permits and providing the physical venue for the training sessions. Simultaneously, the Blang Mangat Health Center contributed by coordinating the selection and mobilization of community health cadres, as well as ensuring smooth implementation through on-site assistance and collaboration. The collective commitment of these institutions was instrumental in supporting logistics, maintaining coordination, and ensuring the effective execution of the program activities.

Figure 1. The community service activity began with the presentation of a souvenir

F. Program Evaluation Step

A structured and comprehensive evaluation process was implemented to measure the effectiveness and impact of the program. The first step involved verifying that all activities were executed in line with the pre-established schedule and guidelines. Next, knowledge improvement among participants was assessed by comparing results from pre-test and post-test evaluations. In addition, practical assessments were conducted to observe whether the cadres could correctly and independently perform the oxytocin stimulation technique after training. Participant attendance was also recorded, with 100% turnout serving as an indicator of strong engagement and interest. Finally, a follow-up evaluation is scheduled two months after the program's completion to assess long-term knowledge retention, skill application, and overall sustainability of the intervention.

Result and Discussion

Table 1. Frequency Distribution of Pre-Test Knowledge Scores of the Cadres

No	Category	Frequency (F)	Percentage (%)
1	Fair	13	50.0%
2	Poor	13	50.0%
	Total	26	100%

As shown in Table 4.1, the pre-test results indicate that out of 26 participating cadres, 13 individuals (50%) demonstrated a fair level of knowledge, while the remaining 13 (50%) were in the poor category. These results suggest that prior to the training session, none of the participants possessed a good understanding of oxytocin hormone stimulation. The overall knowledge level among the participants was evenly distributed between the fair and poor categories, highlighting the need for targeted educational intervention.

Table 2. Frequency Distribution of Post-Test Knowledge Scores of the Cadres

No	Category	Frequency (F)	Percentage (%)
1	Fair	23	88.5%
2	Good	3	11.5%
	Total	26	100%

According to Table 4.2, the post-test results show a significant improvement in participants' knowledge following the training. A majority of the cadres (23 individuals or 88.5%) reached the fair category, while 3 participants (11.5%) advanced to the good category. Notably, none of the participants remained in the poor category, in contrast to the pre-test results. The statistical analysis conducted using SPSS software supports this improvement, demonstrating a significant difference between pre-test and post-test scores. Before the training, no cadre exhibited good knowledge, and half of the participants had poor understanding. After the training, all participants improved to at least a fair level, with some achieving a good level of comprehension. This outcome reflects the effectiveness of the community service program in enhancing the knowledge of cadres regarding oxytocin hormone stimulation. The structured training, which included lectures, demonstrations, and hands-on

practice, successfully addressed the knowledge gaps and empowered the cadres with practical skills relevant to supporting breastfeeding mothers.

Figure 2. Group photo at the end of the community service activity

Conclusion

Based on the results of the community service activity, it can be concluded that the level of knowledge among cadres regarding oxytocin hormone stimulation significantly improved after the training. Initially, the pre-test results showed an equal distribution, with 50% of the 26 participants categorized as having "fair" knowledge and the other 50% as "poor". After the training, post-test scores demonstrated a substantial increase in knowledge, with 88.5% of the participants categorized as having "fair" knowledge and 11.5% achieving the "good" category. However, despite this improvement in theoretical understanding, none of the cadres had successfully applied the knowledge by encouraging postpartum mothers to receive oxytocin stimulation. This indicates a gap between knowledge acquisition and practical implementation in the field In light of these findings, it is recommended that village midwives take a more active role in supporting cadres during the post-training phase, particularly in encouraging them to apply the oxytocin massage technique within their communities. Midwives can help guide and supervise cadres in real-world settings to build their confidence and strengthen community trust. Furthermore, it is also suggested that cadres receive additional training focused on communication skills, interpersonal approaches, and practical strategies to build rapport with postpartum mothers. Such ongoing support will not only reinforce the cadres' competence but also contribute to broader efforts in improving maternal health and preventing stunting through the promotion of exclusive breastfeeding.

References

Adityaningrum, A., Arsad, N., Jusuf, H., Statistika, D., Matematika, J., Matematika dan Ilmu Pengetahuan Alam, F., Negeri Gorontalo, U., Kesehatan Masyarakat, J., & Olahraga dan Kesehatan, F. (2023). FAKTOR PENYEBAB STUNTING DI INDONESIA: ANALISIS DATA SEKUNDER DATA SSGI TAHUN 2021. *Jambura Journal of Epidemiology*, *2*(1), 1–10. https://doi.org/10.56796/JJE.V2I1.21542

Arsi, R., Rejeki, S., & Zulfa, A. (2021). METODE SPEOS (STIMULASI PIJAT ENDORPHIN, OKSITOSIN, DAN SUGESTIF) DALAM MENINGKATKAN PRODUKSI ASI IBU POST PARTUM. *Jurnal Ilmu Keperawatan Maternitas*, *4*(1). https://doi.org/10.32584/jikm.v4i1.752

Burton, G. J., & Jauniaux, E. (2023). The human placenta: new perspectives on its formation and function during early pregnancy. *Proceedings of the Royal Society B*, *290*(1997). https://doi.org/10.1098/RSPB.2023.0191

Danhof, H. A., Lee, J., Thapa, A., Britton, R. A., & Di Rienzi, S. C. (2023). Microbial stimulation of oxytocin release from the intestinal epithelium via secretin signaling. *Gut Microbes*, *15*(2). https://doi.org/10.1080/19490976.2023.2256043

Hadi, H., Fatimatasari, F., Irwanti, W., Kusuma, C., Alfiana, R. D., Ischaq Nabil Asshiddiqi, M., Nugroho, S., Lewis, E. C., & Gittelsohn, J. (2021). Exclusive Breastfeeding Protects Young Children from Stunting in a Low-Income Population: A Study from Eastern Indonesia. *Nutrients 2021, Vol. 13, Page 4264*, *13*(12), 4264. https://doi.org/10.3390/NU13124264

Jayanti, R., Yanuaringsih, G. P., Olivia, N., Jundapri, K., Ariandini, S., & Munir, R. (n.d.). Determinants of Stunting in Indonesian Toddlers. *Indian Journal of Forensic Medicine & Toxicology*, *15*(3).

Karimova, S. F., & Ismailova, G. O. (2023). Chemical Composition of Human and Mammalian Milk (A Review). *Russian Journal of Bioorganic Chemistry*, *49*(6), 1263–1278. https://doi.org/10.1134/S1068162023060079/METRICS

Khorami-Sarvestani, S., Vanaki, N., Shojaeian, S., Zarnani, K., Stensballe, A., Jeddi-Tehrani, M., & Zarnani, A. H. (2024). Placenta: an old organ with new functions. *Frontiers in Immunology*, *15*, 1385762. https://doi.org/10.3389/FIMMU.2024.1385762/XML/NLM

Li, X. H., Matsuura, T., Xue, M., Chen, Q. Y., Liu, R. H., Lu, J. S., Shi, W., Fan, K., Zhou, Z., Miao, Z., Yang, J., Wei, S., Wei, F., Chen, T., & Zhuo, M. (2021). Oxytocin in the anterior cingulate cortex attenuates neuropathic pain and emotional anxiety by inhibiting presynaptic long-term potentiation. *Cell Reports*, *36*(3). https://doi.org/10.1016/j.celrep.2021.109411

Made Rai Sudarsono, I., sostinengari, Y., & Gizi Poltekkes Kemenkes Kendari, J. (2018). Analisis Data Hasil Pemantauan Status Gizi dari Faktor Determinan Kejadian Stunting pada Balita. *Health Information : Jurnal Penelitian*, *10*(1), 42–50. https://doi.org/10.36990/hijp.v10i1.123

Maharrani, T., & Nugrahini, E. Y. (2022). Combination Early Initiation of Breastfeeding and Oxytocin Massage Increase Prolactin Levels. *Health Notions*, *6*(01), 41–44. https://doi.org/10.33846/HN60107

Prabandari, F., Sumarni, S., Suryati, S., Putri, N. A., Erika, E., & Septianingsih, S. (2021). Efforts to Improve Integrated Services Post (POSYANDU) Cadre Skills in Stunting Detection Through Cadre Training. *ABDIMAS: Jurnal Pengabdian Masyarakat*, *4*(2), 999–1003. https://doi.org/10.35568/ABDIMAS.V4I2.1545

Romaulina, M. A., Masyitoh, M., Sitohang, A., Susanti, F., Hayuningtyas, S., & Fazriah, Y. (2019). The Role of the Integrated Health Post in Health Care Provision for Children under Five. *The International Conference on Public Health Proceeding*, *4*(01), 331–331. https://doi.org/10.26911/THEICPH.2019.03.54

Safa'ah, N., Pitaloka, D., & Ryandini, T. P. (2022). PELATIHAN OXYTOCIN MASSAGE BAGI PENDAMPING IBU NIFAS. *ABDIMASNU: Jurnal Pengabdian Kepada Masyarakat*, *2*(2). https://doi.org/10.47710/abdimasnu.v2i2.149

Setiawan, A., & Christiani, Y. (2018). Integrated Health Post for Child Health (Posyandu) As A Community-Based Program in Indonesia: An Exploratory Study. *Jurnal Keperawatan Indonesia*, *21*(3), 150–158. https://doi.org/10.7454/JKI.V21I3.600

Uvnas-Moberg, K., Ekstrom-Bergstrom, A., Buckley, S., Massarotti, C., Pajalic, Z., Luegmair, K., Kotlowska, A., Lengler, L., Olza, I., Grylka-Baeschlin, S., Leahy-Warren, P., Hadjigeorgiu, E., Villarmea, S., & Dencker, A. (2020). Maternal plasma levels of oxytocin during breastfeeding—A systematic review. *PLOS ONE*, *15*(8), e0235806. https://doi.org/10.1371/JOURNAL.PONE.0235806

Uvnäs Moberg, K., Handlin, L., Kendall-Tackett, K., & Petersson, M. (2019). Oxytocin is a principal hormone that exerts part of its effects by active fragments. *Medical Hypotheses*, *133*. https://doi.org/10.1016/j.mehy.2019.109394