# The Clinical Characteristics Analysis of Midwives' Continuous Encouragement and Support during Labor in Primiparas

**Jia Liu***
*Department of Obstetrics and Gynecology, General Hospital of Western Theater Command of PLA, Chengdu, Sichuan, China.*
**Corresponding Authors.*

**Abstract: This study aimed to assess the effectiveness of personalized doula support provided by midwives during labor in first-time mothers. A total of 40 primiparas who gave birth at Gêrzê County People's Hospital between July 2023 and July 2024 were selected as the research subjects. They were randomly divided into two groups of 20. The control group received standard labor interventions, while the observation group was additionally provided with continuous encouragement and support throughout labor. The two groups were compared in terms of delivery methods, labor duration, childbirth self-efficacy, markers of inflammation and stress, and maternal and neonatal outcomes. The observation group had a significantly higher vaginal delivery rate than the control group ($P < 0.05$). Moreover, the duration of the first, second, and third stages of labor was significantly shorter in the observation group compared to the control group ($P < 0.05$). The overall incidence of adverse maternal and neonatal outcomes was also significantly lower in the observation group ($P < 0.05$). Continuous encouragement and support from midwives during labor have notable benefits for primiparas and are recommended for wider implementation.**

**Keywords: Midwives; Continuous Encouragement and Support during Labor; Primiparas; Vaginal Delivery; Effectiveness.**

## 1. Introduction.

Childbirth is a unique physiological process for women, which can easily lead to physiological and psychological stress reactions [1,2]. Primiparas generally have limited knowledge about childbirth and often experience negative emotions before labor, feeling fearful of labor pain and having low childbirth self-efficacy, which may affect the choice of delivery method and reduce the vaginal delivery rate [3]. In recent years, no specific psychological interventions have been provided for primiparas among most women undergoing normal deliveries [4]. Continuous encouragement and support during labor by midwives refers to professional midwives providing continuous encouragement and companionship throughout the entire labor process, offering personalized delivery guidance and technical support [5]. Based on this, the present study selected 40 primiparas as subjects to observe the application effects of midwives' continuous encouragement and support during labor in primiparas.

## 2. Materials and Methods

### 2.1 General Information

Forty primiparous women who gave birth at Gêrzê County People's Hospital between July 2023 and July 2024 were chosen as the study participants. They were randomly allocated into two groups, each consisting of 20 individuals, using a random number table method. In the control group, participants were aged between 20 and 30 years, with a mean age of (26.31±2.11) years. In the observation group, the participants' ages ranged from 20 to 28 years, with a mean age of (24.40±2.75) years. The baseline characteristics of the two groups showed no statistically significant differences ($P > 0.05$), ensuring their comparability. This study was reviewed and approved by the Ethics Committee of Gêrzê County People's Hospital, and all participants provided informed consent.

Inclusion criteria: Singleton, full-term primiparas. Meeting the indications for vaginal delivery. No pregnancy complications; Mentally healthy. with no communication barriers.

 

Exclusion criteria: Presence of organ dysfunction or severe psychological disorders. Complications such as placenta previa. Pelvic narrowing or breast development abnormalities.

**2.2 Methods**

The control group received routine labor monitoring. The pregnant women were informed of perinatal precautions, detailed childbirth knowledge was provided, and the midwives patiently answered any questions from first-time mothers. During the latent phase, fetal heart rate, cervical dilation, and contractions were monitored. When the cervix was dilated to 3 cm, the women were transferred to the delivery room for routine monitoring of labor progress. During labor, the midwives comforted the pregnant women, monitored fetal heart rate, guided them on proper breathing, advised on reasonable food intake, and instructed on how to push correctly during the second stage of labor. After delivery, the newborn's condition was promptly communicated to the mother, and skin-to-skin contact between mother and baby was facilitated. The observation group received continuous encouragement and support from midwives throughout the labor process, in addition to the routine care provided to the control group.

Prenatal intervention: After the pregnant women were admitted, the midwives maintained a warm and gentle attitude, communicating with them to establish a harmonious nurse-patient relationship. Based on the needs of the primiparas for health knowledge, targeted health education was provided, introducing childbirth and midwifery knowledge, emphasizing aspects such as labor positions, breathing, and pushing. They reminded the women to follow the midwives' guidance during labor. The midwives monitored the women's emotional state, played soft music, guided them in light physical activities, enhanced fetal heart monitoring, and closely observed cervical dilation. Family members were reminded to prepare easily digestible, high-calorie food for the women to replenish their energy.

Latent phase intervention: During this phase, the midwives guided the pregnant women in using birthing balls and practicing correct breathing techniques to relieve pain. One family member was invited to accompany the women, providing full care and helping the family prepare for the baby's arrival by encouraging and supporting the mother after childbirth.

Intrapartum guidance: When the cervix was dilated to 2 cm, the midwives encouraged the women, guided them in eating and drinking, and reminded them to avoid shouting loudly. Once the cervix reached 3 cm, they were transferred to the delivery room for continued monitoring. The midwives guided the women in eating and drinking during labor and coached them on proper breathing techniques during contractions. They provided massage to the lower back and helped the women find comfortable positions to ease pain. The midwives alleviated anxiety and fear of contractions through verbal communication, encouraging the women to maintain confidence in vaginal delivery. After full cervical dilation, the midwives instructed the women on how to breathe and bear down according to contractions, advising them to relax during contraction intervals and exert effort during contractions. The midwives massaged the lower back during breaks between contractions, comforted the women with soothing words, encouraged them to express their questions and feelings, and asked if they needed water. The progress of the fetal head descent was communicated to the women, boosting their confidence. As the baby was about to be delivered, the midwives instructed the women to cooperate with perineal protection techniques. During the third stage of labor, the midwives monitored the delivery of the placenta, informed the women about the newborn’s condition, and placed the newborn on the mother’s chest for skin-to-skin contact, encouraging breastfeeding and alleviating the mother’s concerns.

Postpartum care: After delivery, the midwives helped the primiparas expel clots from the uterine cavity, disinfected and sutured the perineal incision, and guided the mothers on proper care. During the postpartum observation period in the delivery room, the midwives informed the women about possible postpartum issues and coping strategies, alleviated their anxiety, and provided guidance on correct breastfeeding and newborn care. After two hours of uneventful observation, the women were transferred back to the ward. The

 

midwives also provided breast care, including warm compresses and massages, and thoroughly explained postpartum care instructions to the women and their families.

### 2.3 Observation Indicators and Evaluation Criteria

Delivery methods.

Adverse maternal and neonatal outcomes, including fetal distress, neonatal asphyxia, postpartum hemorrhage.

### 2.4 Statistical Methods.

Continuous data were presented as mean ± standard deviation (xx ± s). To compare differences between the two groups, the independent samples t-test was employed, while the paired t-test was utilized for comparisons within the same group. Categorical data were represented as percentages, and comparisons were made using the chi-square ($\chi^2$) test. A P-value of less than 0.05 was deemed statistically significant.

## 3. Results

### 3.1 Comparison of Delivery Methods Between the Two Groups

The vaginal delivery rate in the observation group was 95.0% (19/20), which was significantly higher compared to 80% (16/20) in the control group ($\chi^2 = 5.414$, $P = 0.020$).

### 3.2 Comparison of Labor Duration Between the Two Groups

The observation group experienced a shorter labor duration than the control group ($P < 0.05$), as detailed in Table 1.

**Table 1. Comparison of Labor Duration Between the Two Groups (x±s)**

| Group | Number of cases | First stage of labor(h) | Second stage of labor(min) | Third stage of labor(min) |
|---|---|---|---|---|
| Control group | 16 | 5.11±1.78 | 30.6±6.08 | 9.88±1.97 |
| Observation group | 19 | 9.676±0.65 | 46.13±4.93 | 8.21±1.80 |
| T | | 2.479 | 10.887 | 3.258 |
| P | | < 0.001 | < 0.001 | < 0.001 |

### 3.3 Comparison of Adverse Maternal and Neonatal Outcomes Between the Two Groups

The observation group exhibited a lower overall rate of adverse maternal and neonatal outcomes compared to the control group, and the difference was statistically significant ($P < 0.05$), as presented in Table 2.

**Table 2. Comparison of Adverse Maternal and Neonatal Outcomes Between the Two Groups. [n (%)]**

| Group | Number of cases | Fetal distress | Neonatal asphyxia | Postpartum hemorrhage |
|---|---|---|---|---|
| Control group | 20 | 3 | 5 | 2 |
| Observation group | 20 | 2 | 1 | 1 |
| X2 | | | | 3.005 |
| P | | | | 0.024 |

## 4. Discussion

Primiparas lack childbirth experience and often have concerns about fetal health, labor pain, and postpartum physical changes. During the perinatal period, they may experience significant physiological and psychological fluctuations. The emergence of negative emotions can lead to increased secretion of catecholamines, causing nervous system dysfunction, which affects uterine contractions, prolongs labor, and increases the risk of childbirth complications [6]. Many primiparas have insufficient knowledge about vaginal delivery, highlighting the need to strengthen nursing interventions [7]. Routine interventions focus on basic childbirth care and monitoring fetal heart rate and vital signs but tend to overlook the psychological state of primiparas. Persistent negative emotions can affect delivery outcomes. There are various risks during childbirth for primiparas, and professional guidance and companionship are crucial [8,9]. Continuous encouragement and support from midwives throughout labor provide comprehensive companionship and targeted guidance during the primiparas' hospitalization. Midwives patiently explain the labor process, encourage the use of free positions for delivery, help with pain relief through massage, and guide the primiparas on correct breathing and pushing techniques [10,11]. Doula-supported deliveries help primiparas actively cooperate with the midwives during labor, leading to more coordinated contractions and timely intake of food and water during labor to replenish strength, which effectively shortens the duration of labor [12]. Furthermore, continuous encouragement and support from midwives can significantly improve the psychological state of primiparas, enhance their childbirth self-efficacy, boost their confidence in vaginal delivery, and effectively reduce the likelihood of emergency cesarean

 

sections due to severe pain. This approach also helps lower the rate of cesarean sections performed without medical indications [13,14]. This suggests that the application of continuous encouragement and support from midwives during labor can improve the vaginal delivery rate and delivery efficacy, shorten labor duration, reduce stress, and improve maternal and neonatal outcomes. Negative emotions are psychological stress responses that can affect various physiological functions through the central nervous system, leading to prolonged labor and increased labor pain in primiparas [15-18]. Therefore, it is essential to promptly alleviate the negative emotions of parturients to reduce their stress response. Continuous encouragement and support from midwives throughout labor, combined with professional interventions and encouragement from family members, help primiparas feel cared for, improve their birthing experience, regulate their psychological stress, inhibit sympathetic nervous system excitability, relieve pain, shorten labor duration, and promote vaginal delivery [19-21].

## 5. Conclusion

The results of this study showed that the vaginal delivery rate in the observation group was higher than that in the control group, with a statistically significant difference ($P < 0.05$). The duration of the first, second, and third stages of labor in the observation group was shorter than that in the control group, with statistically significant differences ($P < 0.05$). The total incidence of adverse maternal and neonatal outcomes in the observation group was lower than that in the control group, also with a statistically significant difference ($P < 0.05$). Additionally, enhanced postpartum interventions can significantly reduce the occurrence of adverse outcomes such as postpartum hemorrhage and promote postpartum recovery. In conclusion, the application of continuous encouragement and support from midwives during vaginal delivery in primiparas has shown remarkable effectiveness and is worthy of promotion.

## References.

[1] Abbott, P., Dadich, A., Hosseinzadeh, H., Kang, M., Hu, et al. (2013). Practice nurses and sexual health care: Enhancing team care within general practice. Australian Family Physician, 42(10), 729-733.

[2] Ahmed, R., Petrany, S., Fry, R., & Krasnow, M. (2013). Screening diabetic and hypertensive patients for ocular pathology using telemedicine technology in rural West Virginia: A retrospective chart review. The West Virginia Medical Journal, 109(1), 6-10.

[3] Ajay, V. S., Jindal, D., Roy, A., Venugopal, V., Sharma, et al. (2016). Development of a smartphone-enabled hypertension and diabetes mellitus management package to facilitate evidence-based care delivery in primary healthcare facilities in India: The mPower heart project. Journal of the American Heart Association, 5(12). 89-91.https://doi.org/10.1161/JAHA.116.004343

[4] Anger, H. A., Dabash, R., Hassanein, N., Darwish, E., Ramadan, et al. (2020). A cluster-randomized, non-inferiority trial comparing use of misoprostol for universal prophylaxis vs. secondary prevention of postpartum hemorrhage among community level births in Egypt. BMC Pregnancy and Childbirth, 20(1), 317. https://doi.org/10.1186/s12884-020-03008-5

[5] Anson, R., Willcott, A., Toperoff, W., Karim, A., Tang, M., et al. (2022). COVID-19 telemedicine and vaccination at an urban safety net HIV medicine clinic. The Journal for Nurse Practitioners: JNP, 18(8), 837-840. https://doi.org/10.1016/j.nurpra.2022.06.005

[6] Aromataris, E., & Munn, Z. (Ed.). (2020). JBI manual for evidence synthesis. JBI. https://synthesismanual.jbi.global. https://doi.org/10.46658/JBIMES-20-01

[7] Asgary, R., Staderini, N., Mthethwa-Hleta, S., Lopez Saavedra, P. A., Garcia Abrego, et al. (2020). Evaluating smartphone strategies for reliability, reproducibility, and quality of VIA for cervical cancer screening in the Shiselweni region of Eswatini: A cohort study. PLoS Medicine, 17(11), 102-104.e1003378. https://doi.org/10.1371/journal.pmed.1003378

[8] Australian Institute of Health and Welfare. (2022). Rural and remote health. Australian Institute of Health and Welfare. https://www.aihw.gov.au/reports/rural-rem

 

ote-australians/rural-and-remot...

[9] Bajis, S., Grebely, J., Hajarizadeh, B., Applegate, T., Marshall, A.et al. (2020). Hepatitis C virus testing, liver disease assessment and treatment uptake among people who inject drugs pre- and post-universal access to direct-acting antiviral treatment in Australia: The LiveRLife study. Journal of Viral Hepatitis, 27(3), 281-293. https://doi.org/10.1111/jvh.13233

[10] Barrett, C., Mathews, M., Poitras, M.-E., Norful, A. A., Martin-Misener, R., et al. (2021). Job titles and education requirements of registered nurses in primary care: An international document analysis. International Journal of Nursing Studies Advances, 3, 100044. https://doi.org/10.1016/j.ijnsa.2021.100044

[11] Barton, A. B., Okorodudu, D. E., Bosworth, H. B., & Crowley, M. J. (2018). Clinical inertia in a randomized trial of telemedicine-based chronic disease management: Lessons learned. Telemedicine Journal and E-Health: The Official Journal of the American Telemedicine Association, 24(10), 742-748. https://doi.org/10.1089/tmj.2017.0184

[12] Barton, G. R., Fairall, L., Bachmann, M. O., Uebel, K., Timmerman, V., Lombard, C., & Zwarenstein, M. (2013). Cost-effectiveness of nurse-led versus doctor-led antiretroviral treatment in South Africa: Pragmatic cluster randomised trial. Tropical Medicine and International Health, 18(6), 769-777. https://doi.org/10.1111/tmi.12093

[13] Bedelu, M., Ford, N., Hilderbrand, K., & Reuter, H. (2007). Implementing antiretroviral therapy in rural communities: The Lusikisiki model of decentralized HIV/AIDS care. The Journal of Infectious Diseases, 196(Suppl 3), S464-S468. https://doi.org/10.1086/521114

[14] Bernhardt, J. M. (2023). Nurse-sensitive indicators in the Care of Individuals with Opioid use Disorder. Journal of Addictions Nursing, 34(1), E45-E50. https://doi.org/10.1097/JAN.0000000000000431

[15] Billington, J., Coster, S., Murrells, T., & Norman, I. (2015). Evaluation of a nurse-led educational telephone intervention to support self-management of patients with chronic obstructive pulmonary disease: A randomized feasibility study. COPD, 12(4), 395-403. https://doi.org/10.3109/15412555.2014.974735

[16] Bosworth, H. B., Powers, B. J., Olsen, M. K., McCant, F., et al. (2011). Home blood pressure management and improved blood pressure control: Results from a randomized controlled trial. Archives of Internal Medicine, 171(13), 1173-1180. https://doi.org/10.1001/archinternmed.2011.276

[17] Bove, A. A. (2010). Using modern communications to manage chronic heart disease. The American Heart Hospital Journal, 8(1), 25-28.

[18] Brennan, A. T., Long, L., Maskew, M., Sanne, I., Jaffray, I., et al. (2011). Outcomes of stable HIV-positive patients down-referred from a doctor-managed antiretroviral therapy clinic to a nurse-managed primary health clinic for monitoring and treatment. Aids, 25(16), 2027-2036. https://doi.org/10.1097/QAD.0b013e32834b6480

[19] Carlisle, K., & Warren, R. (2013). A qualitative case study of telehealth for in-home monitoring to support the management of type 2 diabetes. Journal of Telemedicine and Telecare, 19(7), 372-375. https://doi.org/10.1177/1357633x13506512

[20] Carroll, E. (2021). Implementation of office-based buprenorphine treatment for opioid use disorder. Journal of the American Association of Nurse Practitioners, 34(1), 196-204. https://doi.org/10.1097/JXX.0000000000000588

[21] Chang, K., Davis, R., Birt, J., Castelluccio, P., Woodbridge, P., & Marrero, D. (2007). Nurse practitioner-based diabetes care management: Impact of telehealth or telephone intervention on glycemic control. Disease Management and Health Outcomes, 15(6), 377-385. https://doi.org/10.2165/00115677-200715060-00005.