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Examining the Influence of Accompanying Midwifery with Position Guidance on Delivery Outcomes

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Abstract: *Objective:* To explore and analyze the influence of accompanying midwifery with position guidance on delivery outcomes. *Methods:* A total of 68 puerpera who were admitted to Dafeng People's Hospital from April 2021 to April 2023 were recruited, grouped using odd and even number draw methods, and divided into cooperation and regular groups with 34 cases in each group. The patients in the cooperation group cooperated with the process of accompanying midwifery and position guidance, whereas the patients in the regular group had routine midwifery intervention. The delivery outcome, the duration of each labor process, the psychological state, and the amount of postpartum hemorrhage were compared between the groups. *Results:* The delivery outcomes of vaginal delivery and cesarean section in the cooperation group were significantly better than those in the regular group ($P < 0.05$). The difference was not statistically significant when comparing the cooperation group with the regular group through a lateral vaginal incision ($P > 0.05$). The duration of each labor process in the cooperation group was significantly shorter than in the regular group ($P < 0.05$). Before the intervention, the HAMD and HAMA scores of the two groups were insignificant ($P > 0.05$); but the HAMD and HAMA scores of the cooperation group were significantly lower than the regular group after the intervention ($P < 0.05$). The amount of postpartum bleeding in the cooperation group was markedly lower than that in the regular group ($P < 0.05$). *Conclusion:* Accompanying midwifery and position guidance throughout the delivery process can improve delivery outcomes and increase the natural delivery rate.

Keywords: Accompanying midwifery throughout the whole process; Position guidance; Delivery outcome

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1. Introduction

Childbirth is a unique physiological activity for women that must go through three labor stages. Reasonable nursing cooperation can promote the smooth progress of labor [1,2]. If the labor process is too long, it will consume much of the mother's physical strength. The long-term physiological reaction will cause the mother discomfort, adversely impacting the delivery outcome [3]. Full-course midwifery is a new model that provides maternal services throughout the entire labor process and has particular value for the mother's psychology, pain, and delivery outcomes [4,5]. Position guidance can effectively relieve the pain of uterine contractions and change

the fetus's position to prepare for natural delivery. This paper will study and analyze the influence of full-time accompanying midwifery and position guidance on delivery outcomes.

2. General information and methods

2.1. General information

A total of 68 parturients who were admitted to the Department of Obstetrics and Gynecology, Dafeng People's Hospital from April 2021 to April 2023 were recruited. They were divided into cooperation and regular groups, with 34 cases in each group, by drawing lots with odd and double numbers. The age in the cooperation group ranged from 23 to 37 years old, with an average age of 30.57 ± 2.43 years; gestational weeks ranged from 37 to 42 weeks, with an average gestational age of 39.58 ± 1.24 weeks. The age in the regular group ranged from 22 to 37 years old, with an average age of 30.41 ± 2.56 years; gestational weeks were 38 to 42 weeks, with an average gestational age of 39.82 ± 1.34 weeks. There was no statistically significant difference between the groups in age, gestational weeks, and other general information ($P > 0.05$).

Inclusion criteria included patients who meet the indications for natural delivery, voluntarily participate in research, and with barrier-free communication.

Exclusion criteria included patients with obesity, chronic diseases, and mental illnesses.

2.2. Methods

The regular group received routine midwifery intervention: the nursing staff accompanied the mothers throughout the process and explained the childbirth knowledge to the mothers during this period to comfort the mothers' emotions. The nursing staff also detected all signs of puerpera and implemented fetal heart rate monitoring.

The patients in the cooperation group received accompanying midwifery during the whole process and position guidance:

(1) Accompanying midwifery throughout the process: After the mother was admitted to the hospital, the mother's condition was comprehensively assessed, and delivery education was given to help her understand childbirth correctly. A warm service attitude was upheld and the strangeness between nurses and patients was eliminated. Soothing music was played in the room to stabilize the mother's mood. The emotional changes of the parturients were paid attention to. Advice was given promptly by the midwives when the parturients had negative emotions. The mothers were encouraged to eat sufficient food to provide the body with sufficient energy and prepare for childbirth, followed by draining the urine and keeping the bladder empty. When the cervix was dilated to 3 cm, the mothers were brought into the delivery room. At this time, various indicators of the mother and fetus were closely monitored, focusing on tracking the expansion of the mother's cervix to judge the progress of labor correctly. When entering the second stage of labor, mothers were taught to use abdominal pressure that can reduce the damage to the vagina caused by the delivery of the fetus. After the fetus was delivered, the newborn was assessed and brought into intimate contact with the mother. After the placenta was entirely removed from the body, the uterus of the parturient was massaged, and vital signs and postpartum hemorrhage were detected.

(2) Position guidance: In the first stage of labor, the mothers were encouraged to move independently, and the mothers' upper body could be tilted forward to take a standing position. This position can change the position of the fetal head. In the process of standing, swinging the hips left and right can relieve the pain of uterine contractions to a certain extent. A birthing ball of appropriate size was prepared

and allowed the mother to sit on the birthing ball and swing her body with the frequency of uterine contractions. Maternal women with lower back pain had soft pillows on the stool, and the midwife helped the mothers with massaging the lower back to relieve pain. After the labor process entered the active stage, the position of the fetal head was assessed. Abnormal fetal position can be corrected by positioning, as the mother laid on her side on the bed, with legs supported with a pillow in between, and using gravity to guide the change in fetal position.

2.3. Observation indicators

The observation indicators of this study included:

(1) The delivery outcomes were compared between the groups, including vaginal delivery, cesarean section, and colpotomy.

(2) The time of each stage of labor was compared between the groups, including the first, second, and third stages of labor.

(3) The psychological state between the groups was compared, and the Hamilton depression scale (*HAMD*) and the Hamilton anxiety scale (*HAMA*) were used to evaluate. The higher the score, the more severe the depression/anxiety.

(4) The amount of postpartum hemorrhage between the groups was compared, including the amount of postpartum hemorrhage at 2 hours and 24 hours.

2.4. Statistical analysis

SPSS 21.0 statistical software was selected to process and analyze the data. The count data were expressed by the number of cases (n) and percentage (%), and the χ^2 test was implemented. The mean ± standard deviation (SD) was described in the measurement data, and the t-test was implemented. $P < 0.05$ was considered as a statistically significant difference.

3. Results

3.1. Comparing the delivery outcomes between the cooperation group and the regular group

The delivery outcomes of vaginal delivery and cesarean section in the cooperation group were significantly better than those in the regular group ($P < 0.05$); there was no statistically significant difference in colpotomy between the cooperation group and the regular group ($P > 0.05$). See **Table 1** for details.

Table 1. Comparison of delivery outcomes between groups [n (%)]

Group	Number of cases	Vaginal delivery	Cesarean section	Colpotomy
Cooperation group	34	22 (64.71)	7 (20.59)	5 (14.71)
Regular group	34	13 (38.24)	15 (44.12)	6 (17.65)
χ^2 value	-	4.7688	4.3004	0.1085
P value	-	0.0289	0.0381	0.7419

3.2. Comparing the duration of each labor process between the cooperation group and the regular group

Table 2 shows that the duration of each labor process in the cooperation group was significantly shorter than that in the regular group ($P < 0.05$).

Table 2. The time comparison of each labor process between the groups (mean ± SD)

Group	Number of cases	The first stage of labor	The second stage of labor	The third stage of labor	Total labor time
Cooperation group	34	308.69 ± 16.87	30.87 ± 6.73	7.17 ± 2.57	346.73 ± 26.17
Regular group	34	383.41 ± 27.51	43.51 ± 9.34	11.94 ± 2.62	438.86 ± 39.47
t value	-	13.5010	6.4022	7.5785	11.3448
P value	-	0.0000	0.0000	0.0000	0.0000

3.3. Compare the psychological state of the cooperation group and the regular group

Before the intervention, the HAMD and HAMA scores of the two groups were not statistically significant ($P > 0.05$). After the intervention, the HAMD and HAMA scores of the cooperation group were significantly lower than those of the regular group ($P < 0.05$). See **Table 3** for details.

Table 3. Comparison of psychological states between groups (mean ± SD)

Group	Number of cases	HAMD score		HAMA score	
		Before intervention	After intervention	Before intervention	After intervention
Cooperation group	34	23.57 ± 2.75	14.25 ± 2.07	22.41 ± 2.34	15.24 ± 2.37
Regular group	34	23.48 ± 2.52	18.32 ± 2.63	22.57 ± 2.53	20.85 ± 2.63
t value	-	0.1406	7.0907	0.2707	9.2397
P value	-	0.8885	0.0000	0.7875	0.0000

3.4. Compare the amount of postpartum bleeding between the cooperation group and the regular group

Table 4 shows the amount of postpartum hemorrhage in the cooperation group was significantly lower than in the regular group ($P < 0.05$).

Table 4. Comparison of postpartum hemorrhage volume between groups (mean ± SD)

Group	Number of cases	Bleeding volume 2 hours after delivery (mL)	Bleeding volume 24 hours after delivery (mL)
Cooperation group	34	163.49 ± 18.27	329.57 ± 55.23
Regular group	34	220.54 ± 20.69	420.35 ± 60.45
t value	-	12.0518	6.4644
P value	-	0.0000	0.0000

4. Discussion

Childbirth is the process of separating the fetus from the mother's body. It is divided into three stages, namely the three stages of labor: the cervical dilation stage, fetal delivery, and placental delivery [6,7]. Childbirth is a relatively long process, and the mother will be accompanied by severe uterine contraction pain, which can easily lead to psychological stress, such as fear and anxiety, which will eventually affect the delivery outcome and even cause neonatal complications [8,9]. Nursing interventions are provided during childbirth to help the mothers go through the labor process smoothly and complete the childbirth. The conventional nursing mode focuses on treating puerpera, and the intervention effect on pain and psychology is relatively weak, hence a new nursing mode needs to be introduced. The process of accompanying midwifery is a "one-on-one" nursing

model, which provides complete delivery care for the parturient when admitted to the hospital. Implementing full companionship can create a comfortable delivery environment for mothers and protect the safety of mothers and babies. This nursing model reduces the psychological burden of the patient and negative emotions through psychological counseling, which can reduce maternal and infant complications [10]. Position guidance is a way to reduce maternal pain. During labor, the mothers are guided to change different postures to ease the pain of uterine contractions [11,12]. This nursing model is relatively simple and readily accepted by mothers. It will neither increase mothers' discomfort during the implementation process nor affect the safety of mothers and infants [13]. Position guidance can also correct the position of the fetus, promote the descent of the head, speed up the time of dilation of the cervix, and shorten the labor time [14].

The results of the experiment are as follows: the vaginal delivery and cesarean section delivery outcomes of the cooperation group were significantly better than those of the regular group ($P < 0.05$); there was no significant difference in colpotomy between the cooperation group and the regular group ($P > 0.05$). The duration of each labor process in the cooperation group was significantly shorter than that in the regular group ($P < 0.05$). Before the intervention, the HAMD and HAMA scores of the two groups were insignificant ($P > 0.05$); after the intervention, the HAMD and HAMA scores of the cooperation group were significantly lower than the regular group ($P < 0.05$). The amount of postpartum hemorrhage in the cooperation group was significantly lower than in the regular group ($P < 0.05$). With full-course accompanying midwifery and position guidance, most women complete their childbirth through natural vaginal delivery. Natural birth is conducive to the mother's postpartum recovery and reduces postpartum complications. The duration of the labor process is shortened significantly, and the psychological state of the parturient has been improved, which has a positive significance on the delivery outcome [15].

To sum up, the application of accompanying midwifery throughout the whole process and position guidance in maternal delivery can reduce the chance of cesarean section, and the delivery outcome is excellent. This mode of midwifery is worthy of wide application and promotion in clinics.

Disclosure statement

The author declares no conflict of interest.

References

[1] Wei X, Wang X, Hou F, et al., 2023, The Impact of Midwife Companion Intervention Based on Gentle Delivery Combined with Late Pregnancy Birth Dance on First-Time Mothers' Degree of Labor Pain and Delivery Outcomes. Clinical Medical Research and Practice, 8(9): 134–136.

[2] Sun Q, Yang W, 2023, Intervention Effect of Postural Training Combined with One-on-One Doula Accompanied by Midwives on Natural Childbirth. Shanxi Medical Journal, 52(5): 396–399.

[3] Chang X, Song Y, 2023, The Influence of Midwife Companionship Based on the Concept of Gentle Delivery Combined with Free Position Intervention During Labor on the Degree of Labor Pain, Self-Control, and Confidence of Primipara. Clinical Medicine Research and Practice, 8(6): 149–151.

[4] Ye L, Sha J, 2021, The Effect of a Doula Accompanying Childbirth Combined with a Free Position on Maternal Discomfort and Negative Emotions During Labor. Chinese Maternal and Child Health Care, 36(23): 5414–5417.

[5] Fan X, Chen Y, 2021, The Effect of One-on-One Midwives' Whole-Course Companionship Combined with Free Posture on the Natural Delivery Rate and Total Labor Process of Primiparous Women with Water Bladder Trials. Heilongjiang Medicine, 45(14): 1550–1552.

[6] Wu Q, 2021, Analysis of the Influence of Birthing Ball Combined with Free Position Midwifery on Labor Pain, Labor Control, and Pregnancy Outcome of Primiparous Women. Chinese Community Physician, 37(15): 58–59.

[7] Xie W, 2020, Study on the Effect of Doula Accompanying Delivery Combined with Positional Nursing on Labor Process and Analgesic Effect of Epidural Labor Analgesia in Primipara. Chinese and Foreign Medical Research, 18(8): 76–78.

[8] Lin G, 2020, The Effect of One-on-One Full-Time Accompanied with Doula Combined with a Free Position on the Total Labor Process of Natural Delivery in Elderly Primiparas. Capital Food and Medicine, 27(4): 182.

[9] Lai Z, Li Z, Liang D, et al., 2020, Application Effect of Doula Companionship Combined with Position Guidance in Delivering Older Women. Chinese Medical Science, 10(1): 184–186 + 190.

[10] Xiao H, Liu W, Li Y, et al., 2019, The Clinical Value of Doula Labor Analgesia Instrument Combined with Position Management and One-on-One Accompanying Labor in Promoting Natural Childbirth. China Maternal and Child Health Care, 34(19): 4567–4570.

[11] Kang Y, Wu X, 2019, The Effect of Free Positional Delivery Combined with a Doula Company on the Sense of Self-Control and Delivery Outcome of Primiparous Women with Painless Delivery. Modern Diagnosis and Treatment, 30(18): 3237–3239.

[12] Yin Y, Li Y, Dong S, 2019, Observation on the Effect of Combined Application of Doula Companionship, Free Position, Combined Lumbar-Epidural Anesthesia, and Labor Analgesia on Promoting Natural Childbirth. Chinese and Foreign Medical Research, 17(20): 10–12.

[13] Li Y, Yin Y, Dong S, et al., 2019, Effects of Doula Company, a Free Position and Labor Analgesia on Pregnancy Outcome and Delivery Satisfaction of Primiparas. Chinese and Foreign Medical Research, 17(19): 172–174.

[14] Mo F, Zhu D, Li T, 2019, The Effect of Dedicated Personnel Accompanying the Whole Process of Delivery Nursing Combined with Free Position Delivery on the Rate of Cesarean Section and Postpartum Depression. Chinese Maternal and Child Health Care, 34(12): 2720–2722.

[15] An R, 2018, The Effect of One-on-One Companionship of Doula-Midwives Combined with Free Posture on the Cesarean Section Rate and Labor Duration of Full-Term and Singleton Primiparas. Modern Medical Imaging, 27(8): 2944–2945.