ORIGINAL RESEARCH ARTICLE

Effect of predictive nursing on preventing postpartum hemorrhage in parturients undergoing vaginal delivery

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Abstract

The aim of this paper was to assess the impact of predictive nursing on preventing postpartum hemorrhage in parturients undergoing vaginal delivery. From January 2020 to December 2022, eighty parturients who underwent vaginal delivery at The Second People's Hospital of Lianyungang were selected as study participants. They were randomly divided into a control group (Routine nursing) and a study group (Predictive nursing, a forward-looking nursing model that employs various methods to analyze and predict the potential health issues that patients may encounter, and then formulates intervention measures in advance, aiming to prevent problems before they occur). Compared to the control group, the study group had shorter labor time at the first, second and third stages, less postpartum blood loss 2 h and 24 h after delivery, lower scores of depression and anxiety, higher quality of life scores, lower incidence of complications and higher nursing satisfaction. Our study indicates predictive nursing model can effectively reduce postpartum bleeding, decrease the risk of neonatal asphyxia, promote maternal quality of life, and achieve the nursing goal of optimizing pregnancy outcomes for parturients who underwent vaginal delivery.. *(Afr J Reprod Health 2026; 30 [8]: 23-31).*

Keywords: predictive nursing, postpartum hemorrhage, vaginal delivery, quality of life

Résumé

Cette étude visait à évaluer l'impact des soins infirmiers prédictifs sur la prévention des hémorragies du post-partum chez les parturientes ayant accouché par voie basse. De janvier 2020 à décembre 2022, quatre-vingts parturientes ayant accouché par voie basse à l'Hôpital populaire n° 2 de Lianyungang ont été sélectionnées pour participer à l'étude. Elles ont été réparties aléatoirement en deux groupes : un groupe témoin (soins infirmiers de routine) et un groupe expérimental (soins infirmiers prédictifs, un modèle de soins prodigués qui utilise diverses méthodes pour analyser et prédire les problèmes de santé potentiels que les patientes pourraient rencontrer, puis formuler des mesures d'intervention en amont, afin de prévenir leur apparition). Comparé au groupe témoin, le groupe expérimental a présenté une durée de travail plus courte lors des première, deuxième et troisième phases du travail, des pertes sanguines post-partum moindres 2 h et 24 h après l'accouchement, des scores de dépression et d'anxiété plus faibles, une meilleure qualité de vie, une incidence de complications plus faible et une plus grande satisfaction des patientes vis-à-vis des soins infirmiers. Notre étude indique qu'un modèle de soins infirmiers prédictifs peut réduire efficacement les hémorragies du post-partum, diminuer le risque d'asphyxie néonatale, améliorer la qualité de vie maternelle et atteindre l'objectif de soins infirmiers visant à optimiser le déroulement de la grossesse chez les parturientes ayant accouché par voie basse. *(Afr J Reprod Health 2026; 30 [8]: 23-31).*

Mots-clés : soins infirmiers prédictifs, hémorragie du post-partum, accouchement par voie basse, qualité de vie

Introduction

Delivery is a natural physiological process, mainly divided into vaginal delivery and cesarean section.[1] Recently, with the continuous advancement of vaginal delivery assistance technologies, the number of parturients choosing vaginal delivery has gradually increased.[2] Vaginal delivery is a more a natural mode of childbirth, which can reduce the physical damage to the mother, but it may also cause postpartum bleeding.[3]

Postpartum hemorrhage is one of the common complication during childbirth. Its main characteristic lies in the volume of blood loss. For vaginal delivery, the blood loss should reach or exceed 500 milliliters, while for cesarean section, it needs to reach 1000 milliliters or more, and all these situations occur within the first 24 hours after the fetus is delivered.[4] Once postpartum hemorrhage occurs, parturients may experience heavy vaginal bleeding. This condition may further develop into hemorrhagic shock and other serious symptoms.

These situations pose a serious threat to the mother's life and health, so immediate medical treatment and intervention are necessary.[5] According to past reports, the incidence of postpartum hemorrhage among Chinese mothers ranges from 2% to 3%. The occurrence of this condition is related to various factors, including weak uterine contractions, abnormal placenta, and soft birth canal injuries.[6] Clinical studies have pointed out that uterine atony is the major cause of primary postpartum hemorrhage, accounting for 70% of postpartum hemorrhage.[7]

The occurrence of uterine atony is associated with mental tension, abnormal functions of the central nervous system, prenatal risk factors.[8] The second is placental abnormality, including placenta previa, placenta implantation, and partial placenta remnants.[9] Soft birth canal injury is also the main cause of postpartum hemorrhage. Usually, the occurrence of soft birth canal injury is related to macrosomia, the mode of delivery, and improper rapid delivery. The postpartum hemorrhage caused by such reasons is mostly manifested as continuous bleeding.[10] In addition, coagulation dysfunction may lead to postpartum hemorrhage, and this type of postpartum hemorrhage is relatively rare and mostly occurs in pregnancies accompanied by thrombocytopenia and aplastic anemia.[11] Thus, it can be seen that a variety of factors can cause the occurrence of postpartum hemorrhage. Therefore, in clinical practice, efforts should be made to actively strengthen the prevention of postpartum hemorrhage.

The routine nursing plans that were commonly used in the past mainly involved providing passive care services based on the doctor's recommendations. The content of the care was monotonous and could not effectively meet the needs of maternal care, resulting in poor care outcomes.[12] The predictive nursing model, as a cutting-edge concept in modern nursing, is centered around systematically analyzing past clinical adverse nursing event data, integrating the individual characteristics of the parturient to construct a risk warning model, and implementing targeted preventive measures to minimize the incidence of nursing risk events to the greatest extent.[13] Specifically, this method includes three innovative mechanisms: Firstly, a bleeding risk database based on electronic medical records is established. Through natural language processing technology, high-risk factors such as placental abruption and coagulation dysfunction in previous cases are extracted, and a prediction model consisting of 12 core indicators is formed. Secondly, a continuous uterine contraction monitoring device is used to collect real-time data on uterine contraction frequency, intensity, and baseline tension, and to dynamically assess the bleeding tendency based on the maternal hemoglobin level. Thirdly, a visual warning interface is developed. When the risk score exceeds the threshold, an automatic graded response process is triggered, including increasing the frequency of rounds, preparing blood supplies, and conducting multidisciplinary consultations, among other intervention measures. These methods transform traditional empirical judgments into data-driven decision support, thereby increasing the early identification rate of postpartum hemorrhage and advancing the implementation time of preventive intervention measures on average.

As a result, the pathological process of bleeding is effectively blocked, and the incidence of severe complications is significantly reduced. As reported previously, predictive nursing intervention is beneficial to improve the effects of thrombolytic therapy in patients with ischemic stroke, which improves the neurological, cognitive and motor functions of patients, and reduces the occurrence of complications, suggesting an important clinical application value.[14] The predictive nursing intervention measures based on comprehensive risk assessment significantly reduced the incidence of postoperative complications in elderly patients undergoing total hip replacement surgery, shortened the hospital stay, improved satisfaction, enhanced hip joint function, increased the score of daily life activities, and lowered the level of anxiety.[15] However, the impact of predictive nursing on preventing postpartum hemorrhage in parturients with vaginal delivery is unclear.

Therefore, our research aimed to explore the impact of predictive nursing on preventing postpartum hemorrhage in parturients with vaginal delivery.

Materials

From January 2020 to December 2022, eighty parturients who underwent vaginal delivery at The Second People's Hospital of Lianyungang were selected as study participants. They were randomly divided into a control group (CG, 40 case) and a study group (SG, 40 cases) according to the random number table method. Inclusion criteria: (1) All parturients were vaginal delivery; (2) There were no coagulation function diseases and pregnancy diseases. Exclusion criteria: (1) Parturients with mental illness, blood disease, malignant tumor and low degree of cooperation; (2) The basic information was not perfect.

Sample size calculation

Power analysis was carried out in this study using G*Power 3.1.9.7 software to determine the sample size required to detect statistical differences. With an alpha level of 0.05 and 90% power analysis, the research revealed that a sample size of 40 patients per group was required.

Randomization

A group randomization design was adopted for random grouping. The random allocation sequence was generated by a computer. The allocation confidentiality measures were achieved through sequential numbering, sealing, and opaque envelopes. After being deemed to meet the inclusion criteria, patients were randomly assigned to the CG or the SG in a 1:1 ratio.

Methods

Parturients in the CG were treated with routine nursing, Nurses carried out relevant prenatal examinations for parturients, guided parturients to master breathing skills, and maternal and infant knowledge during delivery, closely monitored parturients' physical indicators, and fetal heart status during delivery, and assisted parturients to complete delivery. In terms of the management of the third stage of labor, once the fetus is delivered, the nurse will immediately assist the mother to assume the supine position with knees bent. Abdominal massage will be performed to promote uterine contractions, and oxytocin will be injected intravenously as per the doctor's instructions. At the same time, the signs of placental separation will be closely observed. After confirming that the placenta has been completely delivered, continuous uterine massage for 10 minutes will be carried out and the intensity of uterine contractions will be monitored. Within 2 hours after giving birth, the nurse will measure the vital signs of the mother every hour. The focus will be on observing the bleeding from the perineal incision and the changes in the height of the uterine fundus. The amount of vaginal bleeding will be assessed through weighing, and timely detection and handling of the risk of postpartum hemorrhage will be ensured.Parturients in the SG adopted predictive nursing, including:

Setting up a care team. Responsible nurses, obstetric directors and nurses were organized to establish predictive nursing teams, unified training on knowledge related to pregnancy and complications were carried out for team members, and regular assessment was conducted. Only after passing the assessment could nurses engage in clinical nursing work. Nurses analyzed and grasped the personal information of the mothers (personality characteristics, educational level, and living habits), actively communicated with the mothers and their families, and developed individual predictive nursing plans.

Prenatal predictive nursing. Routine gynecological examination and obstetrical examination were performed one week before the expected date of delivery, and the overall condition of the maternal reproductive system was assessed. Nurses did a good job of maternal psychological state assessment before delivery, and implemented targeted psychological counseling to correct maternal psychological state and improve maternal confidence in childbirth. Nurses kept a peaceful attitude, gave more care and respect to women, and improved their trust and compliance. Nurses showed the process of childbirth and the environment of the delivery room in the form of videos, pictures and other forms, so that parturients could understand and adapt in advance, relieve anxiety and anxiety, and guide the delivery position and breathing skills. Intrapartum predictive nursing. a. The first stage of

labor nursing: nurses closely monitored fetal heart sound, understood the progress of pregnant women's contractions, observed the changes of their uterus morphology, did health education and explanation of the labor process, informed pregnant women of possible adverse conditions and avoidance measures, and improved pregnant women's understanding of labor health knowledge. Nurses guided pregnant women to take proper breathing methods and divert their attention b. Second stage of labor nursing: nurses monitored the fetal heart rate once every 10 minutes, paid attention to the warm work of pregnant women, observed the strength of the contraction, the shape of the abdomen, understood the uterine tenderness and contraction rhythm, helped pregnant women to take a comfortable position, reduce their labor pain, and taught pregnant women to scientifically apply abdominal pressure. During the interval of contractions, nurses timely supplemented nutrition and maintain strength. c. Third stage of labor nursing (The management of the delivery process during this stage strictly followed the evidence-based recommendations of the World Health Organization regarding safe childbirth): If, within 30 minutes after the fetus was delivered, no typical signs of natural placental detachment were observed (such as the uterus becoming hard and spherical, the fundus rising to the level of the umbilicus, the umbilical cord protruding from the vaginal opening descending and extending on its own), the nurses immediately activated the emergency plan-by gently massaging the lower part of the uterus, guiding the mother to hold her breath and exert force, or adjusting the mother's position, to facilitate the placental detachment, while continuously monitoring the vital signs. If the amount of vaginal bleeding exceeded 200 milliliters within a short period of time (measured precisely by a blood collection device), or if there were high-risk factors for placental retention, an immediate manual placental separation procedure was carried out. After the placenta was delivered, the nurse systematically checked the integrity of the placenta using the "three-check method": first, the nurse observed whether the maternal side of the placenta was intact; second, the nurse checked if the blood vessels on the fetal side ruptured; finally, the nurse verified the weight of the placenta by weighing and compare it with the gestational age. If any residual placenta or partial retention of the fetal membranes was found, the obstetrician was immediately notified for a bedside ultrasound-guided curettage procedure. Meanwhile, the nurse conducted simultaneous examinations of the perineum and vagina, using the layered dissection method to assess the degree of laceration (classified as grades I-IV). For lacerations above grade II, under strict aseptic conditions, absorbable sutures were used to repair the tissue layer by layer according to the anatomical structure. Special attention was paid to protecting the integrity of the rectal mucosa. After the operation, iodophor gauze rolls were placed for hemostasis and observation of urination.

Postnatal predictive nursing. The perineal wound was cleaned after childbirth to keep it dry and clean. Nurses did a good job of close monitoring of maternal signs and indicators and soft birth canals, understood the postpartum hemorrhage of mothers, and prevented heavy bleeding. After the occurrence of abnormalities, nurses timely told to the doctor for treatment. The diet was based on light, easy to digest and balanced nutrition, and reduced the intake of crude fiber diet to avoid constipation. The room was kept to be clean and tidy, nurses reasonably adjusted the indoor temperature and humidity, and improved the comfort and sleep quality of maternal. Nurses encouraged parturients to get out of bed early, improved intestinal peristalsis and prevented venous thrombosis.

Observed indicators

(1) Labor time at the first, second and third stages in both groups was compared.
(2) Postpartum hemorrhage: Postpartum hemorrhage 2 h and 24 h were calculated.
(3) Self-rating anxiety scale (SAS) together with self-rating depression scale (SDS) were implemented for evaluating parturients' anxiety and depression.[16]
(4) The quality of life of parturient women was assessed by QOL.[17] The evaluation dimensions included physical, role, social and cognitive functions. The evaluation was evaluated by 4-level scoring method, and the original score was converted by percentage system.(5) Incidence of complications including postpartum wound

infection, neonatal asphyxia, and cervical laceration was counted.
(6) Nursing satisfaction was assessed by the self-made questionnaire of the hospital, with a total of 10 items, each item scored 10 points, and the total score was 100 points. Very satisfied: ≥90 score; Satisfied: 80 ~ 89 points; Dissatisfied: <80 points, nursing satisfaction = (very satisfied + satisfied)/total cases ×100%.

Statistical analysis

SPSS 12.0 statistical software was implemented for statistical analysis of the data. The statistical method of measurement data was exhibited as mean ± standard deviation (x±s), and t test was adopted for comparison. The statistical data were exhibited as [n (%)] and χ^2 test was used for comparison. P<0.05 indicated statistically significant.

Ethical consideration

All parturients and their families signed informed consent voluntarily. Our study was approved by the ethical committee of The Second People's Hospital of Lianyungang on January 11, 2020, and the approval number was 2020LYG_0021.

Results

General information in both groups

As shown in Table 1, no significant difference could be observed in general information such as age, gestational week of delivery and types of parturients between the two groups (P>0.05), indicating the general information of the two groups of patients was comparable.

Labor time in both groups

In comparison with the CG, the SG had shorter labor time at the first, second and third stages (P<0.05, Figure 1).

Postpartum hemorrhage in both groups

In comparison with the CG, the SG had less postpartum blood loss 2 h and 24 h after delivery (P<0.05, Figure 2).

SAS and SDS scores in both groups

Before the nursing, there were no significant differences in SAS and SDS scores between the groups (P>0.05). After the nursing, the SAS and SDS scores of both groups were lower than those before the nursing (P<0.05). Compared to the CG, the SG had lower SAS and SDS scores after the nursing (P<0.05, Figure 4).

QOL score in both groups

After the nursing, the QOL scores of the SG in the aspects of physical, role, social and cognitive functions were higher than those of the CG (P<0.05, Figure 4).

Incidence of complications in both groups

The incidence of complications in the SG was 2.50% (1/40), and that in the CG was 17.50% (7/40). In comparison with the CG, the SG had lower incidence of complications (P<0.05, Table 2).

Nursing satisfaction in both groups

The nursing satisfaction of parturients in the SG was 97.50% (39/40), and that in the CG was 77.50% (31/40). In comparison with the CG, the SG had higher nursing satisfaction (P<0.05, Table 3).

Discussion

Vaginal delivery is an ideal mode of childbirth and is highly regarded and accepted in clinical practice.[18] Compared with cesarean section, it can effectively promote postpartum recovery, but postpartum hemorrhage is still the most common complication of vaginal delivery.[19] If clinical nursing staff fail to pay more attention and take timely preventive measures, it may lead to more serious complications and endanger the physical and mental health of parturients.[20] Therefore, during the delivery process, effective nursing interventions should be strengthened to improve the adverse consequences of childbirth. As a new nursing method, predictive nursing emphasizes comprehensively assessing potential problems while meeting the patients' nursing needs, formulating and implementing pre-established plans to minimize nursing errors and

Table 1: General information in both groups

Groups	Cases	Age (years)	Gestational week of delivery (weeks)	Types of parturients	
				Primipara	Multipara
Control group	40	28.24±2.32	38.25±0.25	30 (75.00)	10 (25.00)
Study group	40	28.25±2.30	38.21±0.23	32 (80.00)	8 (20.00)
χ^2/t		0.01	0.74	0.28	
P		0.98	0.45	0.59	

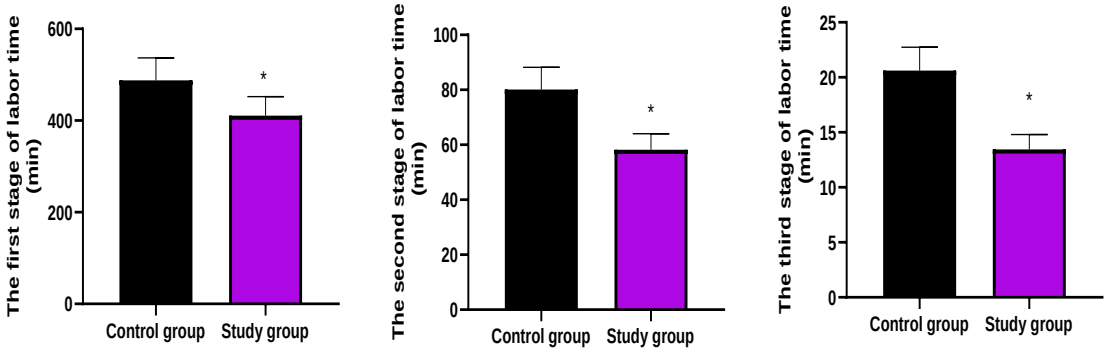

Figure 1: Labor time in both groups. *P<0.05.

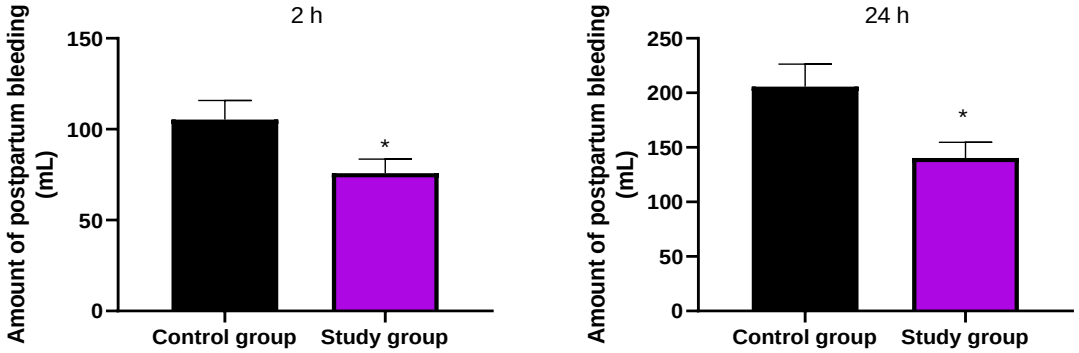

Figure 2: Postpartum hemorrhage in both groups. *P<0.05.

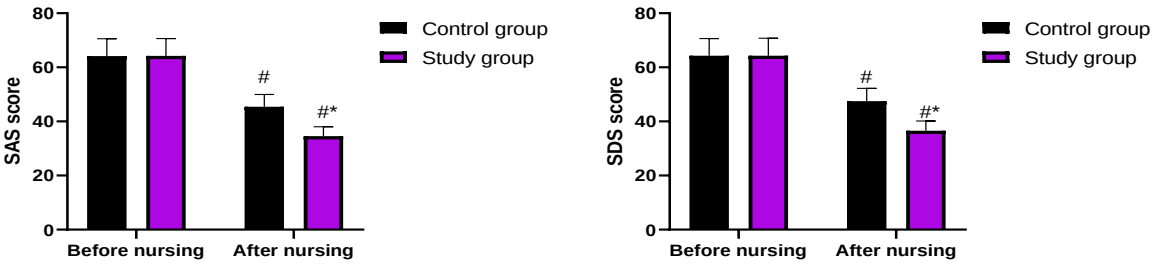

Figure 3: SAS and SDS scores in both groups. #P<0.05, compared with before nursing, *P<0.05, compared with the control group.

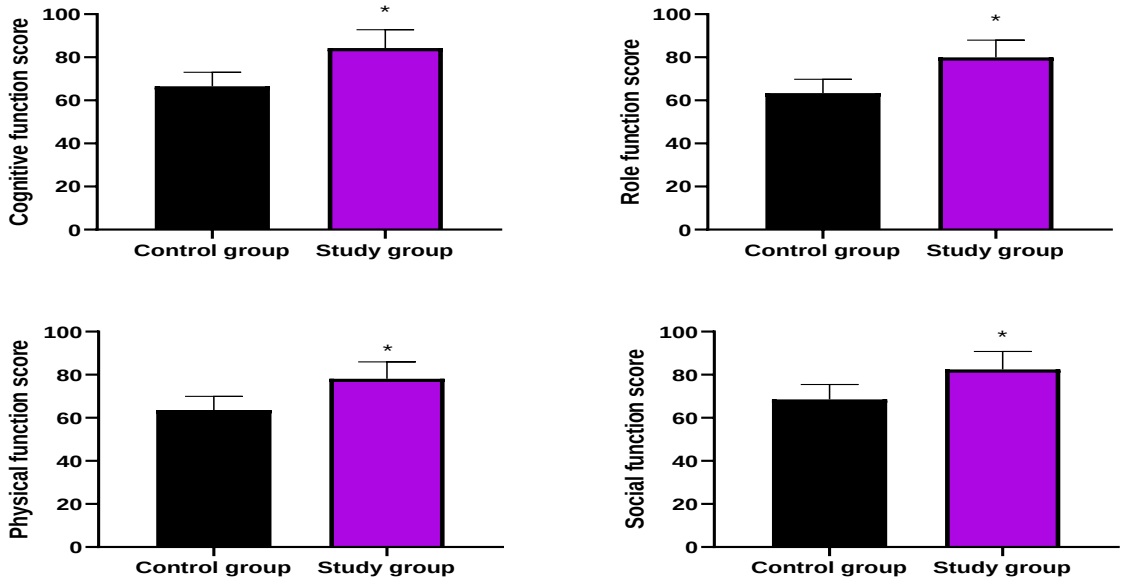

Figure 4: QOL score in both groups. *P<0.05.

Table 2: Incidence of complications in both groups

Groups	Cases	Postpartum wound infection	Neonatal asphyxia	Cervical laceration	Total incidence rate
Control group	40	2 (5.00)	3 (7.50)	2 (5.00)	7 (17.50)
Study group	40	1 (2.50)	0 (0.00)	0 (0.00)	1 (2.50)
χ^2					5.00
P					<0.05

Table 3: Nursing satisfaction in both groups

Groups	Cases	Very satisfied	Satisfied	Dissatisfied	Total satisfaction rate
Control group	40	18 (45.00)	13 (32.50)	9 (22.50)	31 (77.50)
Study group	40	24 (60.00)	15 (37.50)	1 (2.50)	39 (97.50)
χ^2					<0.05
P					7.31

complications, and improving the overall quality of nursing.[21] Nursing staff accurately and comprehensively assess the condition, detect existing risks early, and then take corresponding nursing technical operations and measures to prevent complications, thereby improving medical quality and patient safety.[22] Predictive nursing has transformed from "mechanical service" to "active nursing," from passive nursing to predictive nursing, encouraging nursing staff to actively adopt this nursing process, enhancing their thinking abilities such as prediction and reasoning, helping to form safe nursing behaviors, following the principle of "prevention before treatment", ensuring the safety of patients, and simultaneously suppressing the occurrence of other complications.[13]

In this study, the CG received routine nursing, while the SG received predictive nursing. The results showed that in comparison with the CG, the SG had shorter labor time at the first, second and third stages, less postpartum blood loss 2 h and 24 h after delivery, lower scores of depression and anxiety, higher quality of life scores, lower incidence of complications and higher nursing satisfaction. These

results indicated that predictive nursing was effective in shortening the time of labor, reducing the amount of postpartum hemorrhage, reducing the occurrence of complications as well as improving the negative emotions and promote the quality of life of parturients, which were in line with previous studies.[23]

Strength and limitations

The advantages of this study are manifested in three aspects: Firstly, it innovatively shifts the risk assessment to an earlier stage, achieving precise intervention through multi-dimensional data integration; Secondly, it emphasizes the evidence-based nature of nursing decisions, providing quantifiable operational standards for clinical practice; Thirdly, it focuses on the comprehensive health management of pregnant women, breaking through the isolated response to single complications in traditional nursing models. However, the limitations of the study also need to be acknowledged: The small sample size may affect the generalizability of the results, some observation indicators rely on subjective evaluation and may have measurement bias, and the adaptability of the model in different medical resource environments has not been fully explored.

The research results offer dual implications for policies and practices: At the policy level, it is suggested that predictive care should be incorporated into the quality evaluation system of obstetrics, through specialized training to enhance the risk assessment capabilities of medical staff, and promoting the deep integration of electronic medical record systems and early warning models; At the practical level, a multidisciplinary collaboration mechanism needs to be established, optimizing the allocation of nursing resources, while strengthening health education for pregnant women to increase their compliance with the nursing plan, and ultimately forming a closed-loop management system of “assessment-intervention-feedback”.

Conclusion

Predictive nursing model can effectively reduce postpartum bleeding, decrease the risk of neonatal asphyxia, promote maternal quality of life, and achieve the nursing goal of optimizing pregnancy outcomes for parturients who underwent vaginal delivery.

Author’s contribution

Bei Sun and Ping Shen: conception and design, analysis and interpretation of data, drafting the article or revising it critically for important intellectual content. All authors: final approval of the version to be published.

References

1. de Almeida LL, Abreu RA, Brito MM, Gardés TP, Flores RB, Rosa Filho RRD and Vannucchi CI. Both spontaneous vaginal delivery and elective caesarean section influence neonatal redox status in dogs. Vet Rec. 2022; 190(5): e1082.
2. Jansen C, de Mooij YM, Blomaard CM, Derks JB, van Leeuwen E, Limpens J, Schuit E, Mol BW and Pajkrt E. Vaginal delivery in women with a low-lying placenta: a systematic review and meta-analysis. Bjog. 2019; 126(9): 1118-1126.
3. Newsome J, Martin JG, Bercu Z, Shah J, Shekhani H and Peters G. Postpartum Hemorrhage. Tech Vasc Interv Radiol. 2017; 20(4): 266-273.
4. Pacheco LD, Saade GR and Hankins GDV. Medical management of postpartum hemorrhage: An update. Semin Perinatol. 2019; 43(1): 22-26.
5. Jackson DL and DeLoughery TG. Postpartum Hemorrhage: Management of Massive Transfusion. Obstet Gynecol Surv. 2018; 73(7): 418-422.
6. Oyelese Y and Ananth CV. Postpartum hemorrhage: epidemiology, risk factors, and causes. Clin Obstet Gynecol. 2010; 53(1): 147-156.
7. Bienstock JL, Eke AC and Hueppchen NA. Postpartum Hemorrhage. N Engl J Med. 2021; 384(17): 1635-1645.
8. Evans MI, Britt DW, Worth J, Mussalli G, Evans SM and Devoe LD. Uterine contraction frequency in the last hour of labor: how many contractions are too many? J Matern Fetal Neonatal Med. 2022; 35(25): 8698-8705.
9. Cahill AG, Beigi R, Heine RP, Silver RM and Wax JR. Placenta Accreta Spectrum. Am J Obstet Gynecol. 2018; 219(6): B2-b16.
10. Jiang Y, Zhang L and Chen D. Perinatal outcome and risk factors of precipitate labor in term primipara: an analysis of 381 cases. Zhejiang Da Xue Xue Bao Yi Xue Ban. 2022; 51(6): 724-730.
11. Rigouzzo A, Louvet N, Favier R, Ore MV, Piana F, Girault L, Farrugia M, Sabourdin N and Constant I. Assessment of Coagulation by Thromboelastography During Ongoing Postpartum Hemorrhage: A Retrospective Cohort Analysis. Anesth Analg. 2020; 130(2): 416-425.

12. Zehler A and Musallam E. Game-Based Learning and Nursing Students' Clinical Judgment in Postpartum Hemorrhage: A Pilot Study. J Nurs Educ. 2021; 60(3): 159-164.
13. Cui G, Zhang Y, Liu Z, Li X and Sha M. Effect of Predictive Nursing Combined with Early Drinking Water Therapy on Patients with Urinary Retention after Vaginal Delivery. Comput Math Methods Med. 2022; 20224204762.
14. Xue L, Deng J, Zhu L, Shen F, Wei J, Wang L, Chen Q and Wang L. Effects of predictive nursing intervention on cognitive impairment and neurological function in ischemic stroke patients. Brain Behav. 2023; 13(3): e2890.
15. Guo J and Zhang Z. Effects of Predictive Nursing Process on Elderly Patients with Total Hip Arthroplasty. Rejuvenation Res. 2025; 28(2): 37-44.
16. Ding X and Yao J. Peer Education Intervention on Adolescents' Anxiety, Depression, and Sleep Disorder during the COVID-19 Pandemic. Psychiatr Danub. 2020; 32(3-4): 527-535.
17. Bertelli M, Francescutti C and Brown I. Reframing QoL assessment in persons with neurodevelopmental disorders. Ann Ist Super Sanita. 2020; 56(2): 180-192.
18. Benahmed N, San Miguel L, Devos C, Fairon N and Christiaens W. Vaginal delivery: how does early hospital discharge affect mother and child outcomes? A systematic literature review. BMC Pregnancy Childbirth. 2017; 17(1): 289.
19. Vääräsmäki M and Raudaskoski T. Pregnancy and delivery after a cesarean section. Duodecim. 2017; 133(4): 345-352.
20. Simon EG and Laffon M. [Maternal care after vaginal delivery and management of complications in immediate post-partum--Guidelines for clinical practice]. J Gynecol Obstet Biol Reprod (Paris). 2015; 44(10): 1101-1110.
21. He B, Zhang A and He S. Therapeutic Effect of Ultrasound-Guided Peripherally Inserted Central Catheter Combined with Predictive Nursing in Patients with Large-Area Severe Burns. Comput Math Methods Med. 2022; 20221019829.
22. Li C, Chen H and You G. Effect of Algoplaque Hydrocolloid Dressing Combined with Nanosilver Antibacterial Gel under Predictive Nursing in the Treatment of Medical Device-Related Pressure Injury. Comput Math Methods Med. 2022; 20229756602.
23. Wang F, Lu N, Weng X, Tian Y, Sun S and Li B. Measurement of postpartum blood loss using a new two-set liquid collection bag for vaginal delivery: A prospective, randomized, case control study. Medicine (Baltimore). 2021; 100(19): e25906.