

# Study on the Effectiveness of the Application of Perineal Wound Model in Teaching Midwife Interns

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**Abstract:** *Objective:* To discuss and analyze the effectiveness of the application of perineal wound model in teaching midwife interns. *Methods:* The research subjects in this study were 40 midwife interns who enrolled in our hospital from January 2020 to December 2022, which were divided into a control group (consisted of 20 interns, taught with the conventional method) and a research group (consisted of 20 participants, taught with the perineal wound model) using the random number table method. The outcomes of these two groups were compared. *Results:* The examination results of the research group were better than control group ( $P < 0.05$ ); the interns of the research group were more satisfied towards the teaching method compared to the control group ( $P < 0.05$ ). *Conclusion:* Applying the perineal wound model in teaching midwife interns could effectively improve their examination achievements and teaching satisfaction, which brings a significant clinical value.

**Keywords:** Midwife intern; Perineum wound; Examination results; Teaching satisfaction

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## 1. Introduction

Obstetrics is a highly practical and specialized field. Therefore, the improvement of quality of obstetric healthcare is crucial in obstetric healthcare. As the "Put People First" initiative advocated in contemporary education emphasizes cultivating the innovative, practical, communicative abilities of healthcare professionals, it is crucial to improve the competencies of midwife interns, so as to fully achieve the purpose of obstetrics teaching<sup>[1]</sup>. In this study, we investigated and researched the effectiveness of the application of perineal wound model in teaching midwife interns.

## 2. Materials and Methods

### 2.1. Materials

The research subjects of this study are 40 midwife interns who have enrolled in our hospital from January 2020 to December 2022. They were divided into a control group and a research group using the random number table method. The control group has 20 participants including 1 male and 19 female, with average age of  $22.25 \pm 2.23$ . Meanwhile, the research group has 20 participants, who were all female, with average age of  $22.19 \pm 2.15$ . The baseline information of interns before the study was  $P > 0.05$ . All participants of this study have signed an informed consent.

## 2.2. Research methods

The participants in control group were taught with regular methods: regular syllabus, classroom presentation combined with textbooks and typical case studies, and periodically visiting and learning in inpatient wards.

The participants in research group were taught with the perineal wound model. (1) A unified teaching plan created by the collaboration of the institution and intern hospital, where teaching tasks can be divided into a weekly schedule and a specific delivery and nursing procedure is taught to each intern. (2) After 4 weeks of basic teaching in delivery room, interns began to review the relevant knowledge and participate in the process of delivery, perineum protection, and suture under the guidance of teachers and tutors. (3) The interns watched the presentation of delivery and perineum suture and practiced making perineum lateral incision and the complex perineum lacerated wound model with oxtongues, making levator ani model with chicken legs, and making rectum and anus with small intestines of pigs, so that they could better understand the perineum anatomy. After the wound model was completed, the interns practiced their suturing until they were proficient. (4) During the training, the teachers explained the common and difference between practice suture and real suture, so as to improve their skills and adaptability towards real surgeries.

## 2.3. Research objectives

Theoretical and practical tests were given to the participants, 50 marks each, an increase in the score indicates improvement in the results <sup>[2]</sup>; self-making the teaching satisfaction questionnaire, online anonymous filled and statistics analysis after integrating.

## 2.4. Data analysis

This study used the statistics software SPSS 21.0 as a data processing tool, of which the counting data were described as (%), the verification was calculated by  $\chi^2$ ; measurement data were described as (mean  $\pm$  SD), the verification was calculated by t,  $P < 0.05$  has statistical significance.

## 3. Results

### 3.1. Comparison of test scores between two groups

As shown in **Table 1**, the theoretical and practical tests scores in the research group were higher than that of control group.

**Table 1.** Comparison of the test scores between the two groups

Project	Theoretical test score	Practical test score
Research group ( $n = 20$ )	41.25 $\pm$ 2.13	40.25 $\pm$ 1.12
Control group ( $n = 20$ )	34.26 $\pm$ 1.21	33.25 $\pm$ 1.45
$t$	8.5682	10.0271
$P$	< 0.05	< 0.05

### 3.2. Comparison of interns' satisfaction towards the teaching between the two groups

Based on **Table 2**, the teaching satisfaction of interns in research group was higher than control group.

**Table 2.** Comparison of the teaching satisfaction between the two groups

Project	Satisfied	Neutral	Unsatisfied	Degree of satisfaction
Research Group ( <i>n</i> = 20)	13 (65.00)	7 (35.00)	0 (00.00)	20 (100.00)
Control Group ( <i>n</i> = 20)	8 (40.00)	6 (30.00)	6 (30.00)	14 (70.00)
$\chi^2$	-	-	-	4.5836
<i>P</i>	-	-	-	< 0.05

#### 4. Discussion

Midwifery is a highly specialized field, and midwife training plays a crucial role developing the skills of midwives. For midwives, clinical internship is where they deal with their patients and society, and it is where they learn and be proficient in midwifery technologies, which are the fundamentals of nursing students [4]. However, as midwifery is a high-risk occupation, together with recently increasing legal and consumer awareness of puerperae and their families, interns may counter many issues during their internship, for example, some puerperae and families are unwilling to undergo surgeries by nursing interns, thus some tutors choose to not let interns handle deliveries to avoid getting complaints. This results in reduction of internship opportunities and also severely impact teaching quality. Therefore, it is important to mediate the contradiction between protecting patients' rights and improving clinical teaching.

The results in this study showed that the scores of both theoretical and practical tests in the research group were higher than that of the control group ( $P < 0.05$ ). Therefore, it is clear that perineal wound model can effectively improve the internship outcomes in nursing students. Hospital internship focuses on treating the perineum wound, providing better effects on clinical practice. While medical college provides a combination of both theory and practical education, which helps in visualizing the abstract knowledge. With repeated practice, the skills of the midwives can be enhanced and improved, which lays a foundation for clinical practice. Besides, in medical colleges there is a lack of personal bond between the students and the patients, and the communication methods are highly standardized [5]. However, by directly being involved in surgeries, the interns can experience the whole process of a delivery, which will help in linking their theoretical and practical knowledge. Due to the complexity of maternal care, repeated practice alone is not enough. With college education and hospital internship, interns will have a comprehensive understanding of human anatomy, maternal morbidity, and suture techniques guided by clinical tutors. However, they are not capable of performing operations. Therefore, with the perineal wound model and oxtongue model, they can understand the difference between model practice and real operations, hence improving adaptability and confidence. After reworking, their operation skill has significantly improved. In this study, the teaching satisfaction of interns of the research group was higher than that of the control group ( $P < 0.05$ ). In this program, midwife interns performed required procedures in a delivery on the perineal wound models repeatedly, which enhanced their perceptual awareness, stimulated their passion and potential in learning, and also allowed them to better understand suture techniques and related theories. In order to improve the clinical teaching quality, it is important to have reason analysis, clear objectives, appropriate management, evaluation, and feedback, and each procedure should be well-connected to ensure rapid development [6].

In conclusion, the application of perineal wound model could improve the test results of midwife interns and has high teaching satisfaction, with clear clinical benefits.

#### Disclosure statement

The authors declare no conflict of interest.

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