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Research Brief

Labor and Delivery Simulation: Does Timing Matter?

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KEYWORDS
labor and delivery;
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nursing students;
timing;
scheduling

Abstract

Background: Scheduling simulation experiences for labor and delivery to promote optimal learning outcomes has not been fully investigated.

Methods: This study compared self-efficacy, clinical-experience stress, and clinical-practice satisfaction between two groups of third-year nursing undergraduate students who experienced a different timing of simulations in an obstetrical rotation. One group of nursing students performed simulations before clinical practice (n = 42); a second group performed simulations after clinical practice (n = 38).

Results: No significant differences emerged in scores of self-efficacy, clinical-experience stress, and clinical-practice satisfaction between the two groups. Survey questions on simulation timing demonstrated that 55 (69%) students preferred simulation practice at the end of obstetrics clinical rotations.

Conclusions: Students reported individual preferences for various reasons. Nurse educators should consider students' viewpoints regarding the timing of labor and delivery simulations to provide optimal outcomes.

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Background

The number of births in Korea has been consistently decreasing (Statistics Korea, 2017). Opportunities for students to experience labor and delivery (L & D) practice have followed this trend. The situation has created competition for obstetrics clinical placements for nursing students. In addition, students maintained an observational role in obstetrics settings because of patients' requests, and there is reduction in the number of deliveries performed. Although clinical-observation experiences are frequently used to decrease instructor—student ratios, these can limit students' problem-solving ability (Smith, 2009). One solution for these problems was to incorporate simulations into obstetrics rotations. The advantage of using simulations in obstetrical nursing courses is that (a) simulations can ease the burden of finding clinical placements for obstetrics clinical

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practice (OCP), (b) students can participate in realistic hands-on practice, and (c) students can experience the full process of delivery.

Timing of simulations in obstetrical rotations requires educator attention. A need exists to explore what simulation timing students prefer and what is effective in students' achievement. One way to integrate simulations into curriculum is to locate simulations early in the semester, helping students prepare for specific knowledge and skills in patient care (Campbell & Daley, 2013). Researchers who compared the timing effect of simulation-based delivery education found that experiencing simulations before OCP was more effective in delivery-care knowledge, clinical-performance ability, and simulation-practice satisfaction (Shim, Park, & Kim, 2014). Another study comparing the effect of timing of simulations among recovery-room rotations found that experiencing simulations first was effective in self-efficacy, but not in knowledge and clinical-practice ability (Lee, 2014). Another way to integrate simulations into curriculum is to schedule simulations late in the semester. Sittner, Hertzog, and Ofe Fleck (2013) incorporated L & D simulations at the end of the course and designed simulations as a capstone because of their benefit in providing an opportunity to evaluate behaviors, skills, and critical thinking.

Key Points

- Timing of labor and delivery (L & D) simulation in obstetrics rotation matters.
- L & D simulations at the end of obstetrics rotations have the benefit of the ability to review the whole process of delivering nursing care.
- L & D simulation at the beginning of the course may make students feel unprepared after only completing a theory class.

This descriptive comparative study explored whether the timing of obstetrics simulations mattered from students' perspectives. The specific purpose of this study was to compare self-esteem, clinical-experience stress, and clinical-practice satisfaction between two groups with a different order of simulations and clinical practice. To gather additional information regarding timing of L & D simulation, two open-ended questions were placed at the end of a survey.

Method

Nursing students in the third year of the curriculum were recruited for this study. A total of six L & D simulations, using high-fidelity human-patient simulators, were completed as part of ten days of OCP. Although all students were required to participate in the simulations, participation in the study was voluntary. Three groups (n = 42) experienced simulations at the beginning of the obstetrics rotation and the other three groups (n = 38) at the end of obstetrics rotation. Students participated in OCP for eight hours per day for a total of ten days. Self-efficacy for L & D nursing was measured by pretest and posttest surveys. Clinical-experience stress and clinical-practice satisfaction were measured only by the posttest survey. The pretest survey was conducted on the first day of clinical practice, and a posttest survey was conducted at the end of OCP. Detailed design and data-collection procedures are described in Figure. The scenario addressed normal delivery without complications or risk factors. The simulation took 15 to 20 minutes, and each team comprised four to five students. After completing the simulation, one of the researchers led a debriefing with 12 to 15 students as a group. Students' simulations were recorded in video, and recorded videos were shown to other students randomly.

At the end of the posttest survey, two open-ended questions were asked to students for subjective opinion of their preferences for the timing of the L & D simulation and their reasoning. Data were analyzed by *t*-test using SPSS 21.0. The institutional review board of the researchers' university approved the study, and the researchers obtained informed consent from participants. Participants were informed they could withdraw from the study at any time.

Instruments

Self-Efficacy for L & D Nursing

Self-efficacy for L & D nursing was measured by an instrument originally developed by Pintrich and De Groot (1990) and revised by Jung (1994). The first author of this study revised the instrument again to target L & D nursing care. Content validity was checked with four experts in maternal-health nursing-simulation education. This instrument was comprised of ten items with a 5-point Likert-type scale ranging from 1 (not at all) to 5 (very much so). Internal consistency of this scale was 0.87 for the pretest survey and 0.89 for the posttest survey in this study.

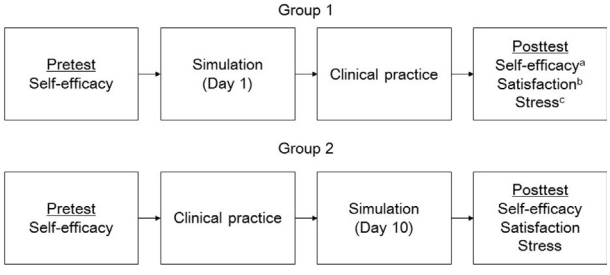

Figure Research diagram. *Note.* [a]self-efficacy for L & D simulation, [b]satisfaction with clinical practice, [c]clinical-experience stress.