

ABSTRACT

Simulations are an important teaching tool, that can be utilized in the preclinical years to strengthen the knowledge of medical students through experiential learning. Cesarean section is the most common surgery seen in obstetrics, and for this reason the Obstetrics and Gynecology Interest Group at the Brody School of Medicine completed a cesarean section simulation and suturing lab.¹ Prior to attending the simulation, medical students prepared by watching a series of guided videos and studied suturing and surgical tool documents. During the simulation and suture lab, medical students delivered a simulated baby, learned how to complete a running locked suture, reviewed relevant clinical anatomy, and learned about patient safety measures that occur in the operating room. On the post simulation survey, 100% of student participants responded they would like to participate in future simulations and the simulation assisted in their understanding of the presented clinical case. Additionally, 93.33% of students that participated in the follow up survey identified that the simulation and suture lab enhanced their desire to go into obstetrics and gynecology. Simulation procedures are important for enhancing medical student learning, while in a low-stress environment and for identifying errors that can be prevented in the clinical setting. Therefore, experiential learning can be used as a teaching tool to enhance the confidence of students as they head into clinical rotations, which allows for practice, skill development and error analysis.²

INTRODUCTION

Providing medical students with hands-on clinical experience prior to the clinical years is important for medical development and strengthens ideas learned in the classroom. Experiences such as simulation labs allow for students to practice honing their skills in a low-stress environment, in which students can receive feedback and guided instruction. The cesarean section is among the most common surgical procedures in obstetrics and gynecology. As a result of this, the Obstetrics and Gynecology Interest Group at the Brody School of Medicine chose to incorporate a cesarean section simulation in to the schedule of yearly club activities. The goal of this simulation is to provide experiential learning for a cesarean section and suturing practice for students.¹ These skills can later be applied during the students' third year medical rotations.

MATERIALS & METHODS

Students prepared for the cesarean section simulation by watching two videos and reading the following document :

- ❖ Cesarean Section: Performed on Patient and Model by Meg O'Reilly, MD, MPH of OHSU
- ❖ Primary Low Transverse Cesarean Section: A step-by-step guide by Cassandra Duffy, MD, Mireille Truong, MD, and Rini Ratan, MD of Columbia University Medical Center.
- ❖ ECU OB C-section and BTL Tray by Tatiana Acosta, MD and Jill Sutton, MD

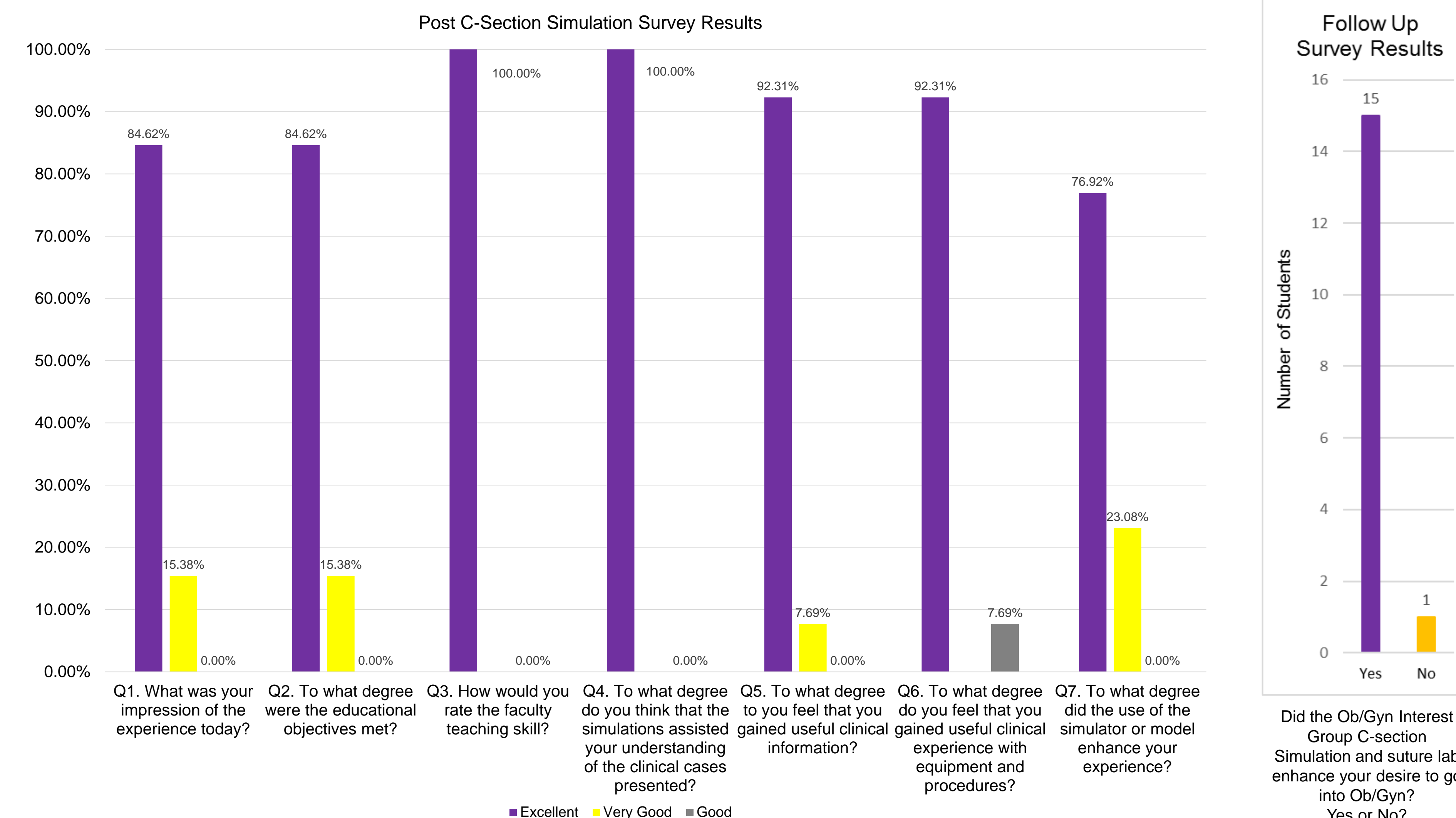
The following document was used during the simulation:

- ❖ Steps for performing a C-section: Time Out Steps, written by Tatiana Acosta, BSOM 2017 in collaboration with Jill Sutton, MD

Students prepared for the Suturing 101 session by using the following resources:

- ❖ Duke Suture Skills Course by Michael Zenn, MD
- ❖ Ethicon Knot Tying Manual

RESULTS



Of the students that participated in the simulation and suture lab, five of them were second year medical students and eleven were first year medical students. At the conclusion of the simulation and suture lab, the participating students were presented with a post simulation survey that was graded on the five point Lickert scale. Based on question number 8 in the post simulation survey, 100% of the participants stated they would like to participate in future simulation education. Also of note, 100% of students identified that the simulation assisted in their understanding of the presented clinical case. In a follow up survey, approximately 6 weeks after the simulation, students were asked to complete a second survey in regards to the simulation and suture lab enhancing their desire to go into obstetrics and gynecology. Of the 16 students involved in the simulation, 15 participated in the follow up survey. 93.33% (14 students) answered yes in regards to the simulation and suture lab enhancing their desire to go in to obstetrics and gynecology.

SAMPLE STUDENT PHOTOS



DISCUSSION

The ultimate goal of this experiential learning is to provide an opportunity for students to gain exposure and confidence going into their third year clinical rotations. Based on previous studies, students who practiced cesarean sections in a simulation, reported higher levels of confidence with their skills in being able to assist physicians.¹ Additionally, procedural simulation improves overall performance in the operating room in a true clinical setting. The goal for the future would be to incorporate this simulation into the Obstetrics and Gynecology Interest group schedule every year, to allow students to receive this experiential learning opportunity. Additionally, this simulation experience can be used as a tool to analyze risk management and patient safety during cesarean section operations. Simulations allow for repeated practice, skill development and error analysis.² The time out checklist, completed during the simulation, draws attention to potential errors that could be made in the operating room. Early exposure to this is beneficial for students in order to begin identifying safety measures that are standardized for surgical procedures. Additionally, suturing practice provides invaluable experience for students moving forward in their medical careers. Limitations to this activity included the large group size. As a result of this, not all of the students present were able to participate in a hands-on procedure during the simulation. Overall, this educational experience provides a safe and effective way for students to learn and practice their surgical skills in a low- stress environment and to obtain physician feedback.

REFERENCES

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