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Perceptions of Medical Students and Their Supervisors of the Preparation of Students for Clinical Placement in Obstetrics and Gynecology

Patricia Johnson, PhD, RN, BA, MN(Hons), Patricia Green, RN, RM, MN, Peter Jones, MBBS, PhD, DCH, FRACP, Heather James, BN, MN

Health Sciences and Medicine, Bond University, Robina, Queensland, Australia

ABSTRACT

Background: Research is limited regarding the adequacy of preparation of medical students for their placement in obstetrics and gynecology. The aim of this study was to determine the perceptions of a cohort of undergraduate medical students from an Australian university and their clinical supervisors of the on-campus preparation of students for their clinical rotation in obstetrics and gynecology.

Methods: We used a descriptive exploratory qualitative research approach and purposive sampling to address the aim of the study. Ten undergraduate medical students and 4 of their supervisors participated in the study. Data were collected from focus group discussions, follow-up interviews, and individual semistructured interviews. Interview transcripts were analyzed using an inductive coding approach.

Results: Students and their clinical supervisors who participated in the study agreed that students should be as well prepared as possible by the university prior to their placement in obstetrics and gynecology because adequate preparation would provide a solid clinical framework upon which the discipline's knowledge and skills could be built. Overall, participants considered that the on-campus preparation was adequate in many aspects; however, they identified some specific areas in which preparation could be enhanced. These preparation enhancements included specific skills related to examining pregnant women, interpreting cardiotocography, conversing with patients and their families, and improving students' understanding of the hospital culture.

Conclusion: These findings provide an increased understanding of the factors a cohort of medical students and their clinical supervisors consider essential for student preparation for the clinical rotation in obstetrics and gynecology.

Address correspondence to
Associate Professor Patricia Johnson
Faculty of Health Sciences and Medicine
Bond University
Robina, Queensland, 4229
Australia
Tel: +61 (0) 755951253
Fax: +61 (0) 755951652
Email: pjohnson@bond.edu.au

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INTRODUCTION

Medical students in Australia are required to complete a clinical rotation in obstetrics and gynecology (O&G) to meet the requirements of their medical program[1] and the national accrediting body.[2] This requirement is congruent with most medical programs around the world. Adequate student preparation is essential to safe patient care[3] and is particularly important for medical students prior to their clinical rotation in O&G because this discipline presents a number of unique challenges. For example, medical students are required to perform intimate examinations; to participate in the management of sick and well patients and of women and babies; and to interact with women, their partners, support persons, and other health professionals, often for lengthy periods of time. Studies from Australia and other countries regarding medical student preparation for clinical rotations have raised concerns regarding the adequacy and effectiveness of medical student preparation for clinical rotations and internships.[4-6] In particular, delivering undergraduate O&G teaching to large classes is challenging[7] because of limitations in accessing patients and the clinical specialists to teach the requisite knowledge and skills.

Limited research to date has specifically explored the views of medical students and their clinical supervisors regarding the students' preclinical preparation for clinical rotations in O&G in Australia.

Findings from a recent survey undertaken in 1 medical school in New Zealand[8] indicated that obstetrics clinical skills can be taught effectively to large classes of medical students using an innovative approach involving specialists and pregnant volunteers. The authors found increased student confidence and interest in O&G but did not report any follow-up data after these students had undertaken their O&G clinical rotation to determine whether such interest and confidence continued.

Our study sought the views of students and their clinical supervisors after students had completed the O&G clinical rotation to evaluate if the on-campus preparation provided to medical students at our university was adequate and appropriate and to ascertain possible areas of improvement. Medical students at Bond University in Queensland, Australia, complete an 8-week clinical rotation in O&G in year 4 of the 4.7-year trimester undergraduate medical program. Students in this study prepared for their clinical rotation in O&G by completing a 4-week block of problem-based learning that covered reproductive medicine and sexual health in the first half of year 3 of the medical program. In addition, near the end of year 3, faculty—both medical practitioners and midwives—delivered a series of clinically focused lectures. Students also received training in intimate examinations of women via a clinical teaching associate program.[9]

METHODS

This study used a descriptive exploratory qualitative research approach to identify the perceptions of a cohort of medical students and their clinical supervisors of the effectiveness of the student preparation for their O&G clinical rotation. Qualitative research is concerned with exploring people's perceptions and individual views on a particular issue or phenomenon.[10] We used 3 methods to collect data. For the student participants, initial focus group discussions were followed up with individual interviews to clarify emerging themes. We held semistructured individual interviews with the clinical supervisors. Both interview methods enable participants to contribute their own unique and context-dependent perspectives, while focus groups also provide opportunities for participants to interact and share their views.[11]

The procedures for this study were in accordance with the Australian Government National Health and Medical Research Council,[12] and we obtained formal approval from the university's ethics committee (RO 1149). We invited students in year 4 of the medical program in 2010 (n=73) and their hospital clinical supervisors (n=8) to participate. A research assistant who was not involved in students' teaching and assessment recruited students, while one of the study investigators recruited clinical supervisors.

The study sample included 14 participants: 10 students (4 males and 6 females) and 4 lead clinical supervisors (2 males and 2 females). The clinical supervisors comprised specialist obstetricians and gynecologists and midwives. These lead supervisors coordinated other clinical staff involved in the day-to-day supervision of the students and were therefore cognizant of the views of all staff involved with medical students during their O&G rotation. This number of participants is congruent with qualitative studies in which sample sizes tend to be small because of the large volume of rich, verbal, context-specific data that must be analyzed.[10]

The study investigators prepared student and supervisor interview guides (Tables 1 and 2) to facilitate data collection. The process for data collection with the student participants involved 3 focus group interview sessions held shortly after the students had completed the O&G clinical rotation. Two of the focus groups had 3 participants; the other had 4 participants. Each group interview lasted approximately 60 minutes, and an independent service digitally recorded, deidentified, and transcribed verbatim the interviews. In addition, 3 students further participated in individual follow-up discussions with the research assistant 2 to 3 weeks after their particular focus group. The purpose of the follow-up discussions was to clarify and further explore the emerging themes the study investigators identified in the initial stages of data coding. The research assistant recorded these follow-up interviews in deidentified notes.

Individual interviews with the lead clinical supervisors occurred after all students in this cohort had completed the O&G rotation. One of the study investigators conducted these interviews that were not digitally recorded in accordance with the participants' preference. The researcher took comprehensive written notes, and the interviews lasted between 35 and 45 minutes.

We analyzed all data using an inductive coding approach[13] in which we individually read the data from each interview, generated a list of ideas and concepts, and grouped them into preliminary descriptive codes. We then met to review and cross-check the preliminary coding and to identify areas in the student data that would benefit from greater exploration during the follow-up individual discussions. We followed this process until we agreed that we had collected sufficient data to achieve the study aim, achieved inter-coder agreement, and accurately depicted participants' views in the main themes and their underlying categories. We then contacted

Table 1. Student Interview Guide

Research Assistant: "*Please reflect back on all the teaching you received on campus that related to the obstetrics and gynecology clinical rotation. This includes lectures, tutorials and clinical skills sessions that were provided to prepare you for this particular rotation. We are very interested to hear your individual views.*"

Questions to prompt in-depth responses included the following:

1. Did the lectures and tutorial sessions specific for obstetrics and gynecology adequately and appropriately prepare you for this rotation? Why/Why not?
2. Did the clinical skills sessions specific for obstetrics and gynecology adequately and appropriately prepare you for this rotation? Why/Why not?
3. What other skills and knowledge do you perceive were useful in preparing you for this rotation? Why?
4. What other skills and knowledge should the Faculty provide to help you better prepare for this rotation? Explain why you consider these would be useful and in what format they are best delivered (e.g. clinical sessions, tutorials, lectures, online sources).

participants and invited them to review and comment on the identified themes. They agreed that the findings reflected their perspectives.

RESULTS

Students' Perceptions

Overall, the students reported feeling adequately prepared in many aspects but identified areas in which their knowledge and skills were not totally sufficient. The students indicated that the faculty gave them the impression they had received adequate preparation, but their experiences demonstrated that this view was not always accurate. The 3 main themes of responses—the need for a complete and focused skill set, clearer links between theory and practice, and unambiguous identification of the student's role during clinical rotation—identify where preparation could be enhanced.

The first theme highlights that the students felt they should be equipped with sufficient clinical knowledge and skills to allow them to function reasonably well and to be able to demonstrate these skills to their peers and senior clinicians.

> Women's health is two specialities in one. So you can't really be specific or in-depth in the time we had...But we really need to have covered all the basics sufficiently so we can appear competent to the registrars. (Student 7)

Identified gaps in students' skills included palpating the abdomens of pregnant women, reading and interpreting cardiotocography, and using vaginal speculums. Although students had previously had teaching and some simulated practice, they perceived these skill areas as problematic.

> I felt that there was a gap in some areas of knowledge and I think it carried across into gynae. Even though we had been taught how to use a speculum, this seemed so long ago and I had forgotten. (Student 8)

The second theme reflects the students' perception that the link between the theory taught on campus and the practical application required during the off-campus clinical rotation was not always clear or consistent. This gap required students to build better links to connect what they had previously been taught to the clinical setting. For example, they reported that they had received insufficient teaching on the stages of labor. The instruction did not include any audiovisual materials and was not linked to a specific clinical skills session.

> I have an appreciation of what goes on from the readings, but I'm not exactly sure where my hands should be if I had to help in delivery. We really hadn't been stepped through that very much. (Student 10)

Table 2. Clinical Supervisor Interview Guide

1. Are the University medical students adequately and appropriately prepared for this rotation? Why/Why not?
2. What do you see as the most important and useful skills and knowledge for the students to have to prepare them for this rotation? Why?
3. Do you have any other suggestions or feedback for the Faculty to assist them to provide the best possible preparation for students for this rotation? Explain why you consider these would be useful.

The third theme revealed that students experienced some uncertainties regarding their actual role within the clinical setting. Therefore, they appreciated the help the clinical staff provided.

> The midwives at X hospital are great. They make you observe first and then only let you assist in delivery when they are ready. Which is really good because we were told we had to have deliveries signed off, but I didn't know how much help I would get or if I would be on my own. We didn't really know what to expect. (Student 8)

One interesting issue several students raised involved communication skills training that they believed did not prepare them adequately for dealing with patients and relatives in a range of situations. Students reported that they felt comfortable taking patient histories in controlled settings such as the antenatal clinic but sometimes experienced awkwardness in communicating without a set task or structure. For example, one student discussed difficulties in talking to a woman and her partner in the labor ward:

> I was there most of the day, and I knew she [laboring woman] must have been in lots of pain. But I didn't really know what to say or make general conversation—we haven't really been taught that. I guess you pick it up with experience. (Student 5)

Clinical Supervisors' Perceptions

Data from the supervisors' interviews revealed 2 main themes that reflect the findings from the student data: clarifying the benchmark and needing to know the clinical culture. The doctors who participated in the study were involved with the students in both the obstetrics and the gynecology settings, whereas the midwives were predominantly involved in the obstetrics setting. Therefore, the interview data mainly focus on the students' preparation for the obstetrics clinical rotation.

Clarifying the benchmark meant that at times clinical supervisors had problems determining exactly what was required of them when working with students:

> There seems to be an expectation from students that we would provide a lot of the knowledge required, so many of us [staff in the obstetrics unit] don't have any clear expectations of their knowledge base. So we just assumed, rightly or wrongly, that they don't know that much. (Clinical Supervisor 2)

The doctors were more familiar with the students' on-campus preparation, and one doctor expressed surprise that the students had forgotten skills they had been previously taught. This doctor reported that students had received the requisite skills to be ready for the rotation, but the students did not demonstrate this preparation.

The clinical supervisors described how the culture of an obstetrics unit is different from that of surgical or medical units because the clients are usually healthy and fall within a defined age range. The physicians felt that some students struggled to adapt to the challenges this type of culture—ie, of wellness rather than sickness or disease—creates. Also, the midwives are heavily involved in supervising and teaching students in several health disciplines: student nurses, student midwives, medical students, junior doctors, and allied health professionals such as paramedics. Therefore, knowing the culture in an obstetrics ward includes knowing the roles of and working closely with clinical supervisors from other medical disciplines:

> Needing to understand the culture of the unit is important. The competition with other students attending the unit, especially in the labour ward, meant that the students who were not proactive were not allocated the mothers/deliveries and had to return in their own time. (Clinical Supervisor 1)

DISCUSSION

This study found that medical students and their clinical supervisors expect that universities will provide a comprehensive level of preparation prior to clinical rotations. The view that students should be sufficiently prepared to perform clinical skills at a level congruent with Does, the highest level of Miller's[14] 4-level triangle of clinical competence, reinforces that it is no longer acceptable for students to practice common procedures for the first time on real patients.[15] Expectations that simulation and task training will fully prepare students for the complexities of performing skills competently on real patients are unrealistic, so sufficient time and expert supervision must be allocated to allow students the opportunity to more fully practice the necessary skills prior to rotation.

Building the bridge between theory and practice stresses the importance of effective curriculum planning and management that respond to changing trends in medical education.[16] A comprehensive blueprint of curriculum content, teaching delivery methods, and timetables of sessions that is continually reviewed can help ensure that teaching and learning are relevant.[16] The on-campus clinical and theoretical preparation not only must be congruent with the expectations and needs of students, but also must reflect the balance of knowledge and skills related to the clinical rotation they will experience.

The remaining themes reflect the need for both students and their clinical supervisors to clearly understand the roles, responsibilities, and expectations of students on clinical rotation and the culture of O&G units. Research in the United Kingdom found a high level of dissatisfaction with the working relationship between midwives and junior doctors[17] that impacted career choices for both medical students and junior doctors. Although we did not find such dissatisfaction, the issue does raise the importance of good interprofessional relationships and the need for effective communication between all involved in the education and training of medical students.[18] Teunisson and Wilkinson[19] offer a model for optimal participation in the health workplace that guides new workers, including students, from the initiation process through ongoing learning. The model incorporates a clear framework for describing staff expectations and enhancing team interactions and understanding and includes both physical and social contexts.

The communication difficulties the students experienced with well patients and their relatives and loved ones need to be explored. This study highlighted how students appear to struggle with handling the expectations of a clinical interaction with a woman in labor. The focus in medical student clinical training on specific history or examination skills that relate to making a provisional diagnosis and management plan may not prepare students for consultations in other contexts in which making a diagnosis is not the purpose of the clinical interaction. The Calgary-Cambridge framework for consultation[20] emphasizes the need to include the patient's perspective and context in the consultation process. An essential part of this framework is clarifying the purpose of a given medical consultation.

Simply spending time with patients as a medical student who contributes to but is not directly responsible for the care of patients deserves further consideration. In the American setting, the role that midwives play in Australia is largely replaced by resident doctors in the labor ward. Because the resident medical staff must supervise the medical care of multiple mothers in labor, they may spend less time communicating with the patients. Consequently, supporting students so the communication difficulties our group experienced are better managed may be even more relevant in the American setting where midwives do not practice in the same way as in Australia. This situation may provide students with the potential to have a positive impact on the experience of birth for the laboring mother and her partner.

In response to this study's findings, we have implemented teaching sessions focusing on the content and skills identified as insufficient. To evaluate if these sessions have fully addressed the issues raised, further research is warranted and may include mixed methods.

The limitation of the study is the small sample of students from 1 university. Thus, the findings cannot be generalized to other medical programs. Nevertheless, we hope these results may be useful and applicable to other programs and increase understanding of contemporary views on medical student preparation for clinical placements in Australian hospitals.

CONCLUSION

Findings from this qualitative study demonstrate the expectations of both students and their clinical supervisors in O&G that universities offering medical programs need to fully prepare students prior to clinical rotation. This expectation may reflect the growing emphasis on patient safety and the increased use of simulation for teaching a range of clinical skills. This study suggests a possible gap in the communication skills program at our medical school in preparing students to appropriately and confidently interact with women and their families during labor.

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Epitoma

Students on obstetrics and gynecology rotations face unique challenges concerning women's health, childbirth, and intimate examinations. This study at Bond University in Queensland, Australia, evaluated student and faculty confidence with prerotation obstetrics and gynecology preparation and identified areas for improvement. These areas included clinical examination skills, orientation to the culture and informal curriculum of the wards, integration and communication within the 4-year curriculum, and student-patient communication skills. The researchers developed a tool to identify challenges to teaching obstetrics and gynecology to medical students and are positioned to introduce curricular innovations to improve student training as well as faculty and student satisfaction. Interestingly, the challenges identified in the study are the same in the United States as they are in Australia.

—Guest Editor Leonardo Seoane, MD

This article meets the Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties Maintenance of Certification competencies for Patient Care, Interpersonal and Communication Skills, and Professionalism.