article

Assessment of the Midwifery Education Program at the University of British Columbia – A Survey of Graduates and Midwife Mentors

Évaluation du programme de formation en pratique sage-femme de l'Université de Colombie-Britannique – Sondage auprès des diplômées et des sages-femmes agissant à titre de mentors

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Abstract

The Midwifery Program at the University of British Columbia is the only academic centre for midwifery education in British Columbia. The program consists of arts and science courses, midwifery theoretical and clinical courses, problem-based learning tutorials, laboratory simulations, clinical experiences in community midwifery, and a semester of interprofessional placements in a local or global setting. As university based midwifery education is new to British Columbia, critical evaluation of the curriculum is essential. Between 2005 and 2010, we examined the curriculum annually from the perspective of new graduates (n=34) and their mentors (n=21) to inform curriculum renewal and development.

Overall graduates felt well prepared for clinical practice after graduating, and highly valued their clinical placements. Both graduates and midwife mentors reported competence with most clinical skills, and senior midwives noted the graduates' fluency with both the hospital and home setting. Need for improvement was noted with respect to suturing and venipuncture. There were some discrepancies in the assessment of competencies. While all graduates felt well or adequately prepared to recognize and manage when a normal birth changes to abnormal, not all mentor midwives agreed. Conversely, midwife mentors felt that graduates were prepared in the area of client communication and counseling, yet graduates felt less confident in this area.

Over the years, the Midwifery Education curriculum has evolved to address feedback received via the yearly curriculum evaluation. The academic calendar has been modified to allow students and faculty more time for preparation, integration and reflection during the introductory year, to facilitate the consolidation phase in the core clinical courses, and to facilitate senior research projects. Courses on counseling, pharmacology for midwives, lactation consultation, global maternity care, and anatomy labs have been added to the curriculum. The program continues its effort to enhance theoretical and clinical teaching by offering regular preceptor workshops.

Keywords

evaluation, midwifery graduates, midwifery education program

This article has been peer reviewed.

Résumé

Le programme de formation en pratique sage-femme de l'Université de Colombie-Britannique est le seul programme universitaire offert dans le domaine en Colombie-Britannique. Ce programme comprend des cours d'arts et sciences, des cours théoriques et cliniques de pratique sage-femme, des séances de tutorat fondées sur la résolution de problèmes particuliers, des simulations en laboratoire, des expériences cliniques en pratique sage-femme communautaire et un trimestre de stages interprofessionnels dans des milieux de travail locaux ou internationaux. Puisque la formation universitaire en pratique sage-femme en est à ses débuts en Colombie-Britannique, une évaluation critique du curriculum s'avère essentielle. Entre 2005 et 2010, nous avons chaque année examiné le curriculum du point de vue des nouvelles diplômées (n=34) et de leurs mentors (n=21) en vue d'éclairer le renouvellement et le développement du curriculum.

De façon globale, les diplômées se sentaient bien préparées à la pratique clinique à la suite de leurs études et accordaient une grande importance à leurs stages cliniques. Tant les diplômées que les sages-femmes agissant à titre de mentors signalaient une compétence en ce qui a trait à la plupart des habiletés cliniques; les sages-femmes expérimentées ont également souligné la maîtrise que démontraient les diplômées tant à l'hôpital qu'à domicile. La suture et la veinopuncture ont été identifiées comme des domaines devant faire l'objet d'une amélioration. Certains écarts ont été constatés en ce qui concerne l'évaluation des habiletés. Bien que toutes les diplômées se soient senties bien ou adéquatement préparées à reconnaître et à prendre en charge le passage de normal à anormal dans le cadre d'un accouchement, ce ne sont pas toutes les sages-femmes agissant à titre de mentors qui étaient d'accord avec cette évaluation. À l'inverse, celles-ci avaient l'impression que les diplômées avaient été préparées à assurer la communication avec les clientes et l'offre de conseils, alors que les diplômées se sentaient moins confiantes dans ce domaine.

Au fil des ans, le curriculum du programme de formation en pratique sage-femme a évolué en réponse aux commentaires reçus dans le cadre de son évaluation annuelle. Le calendrier universitaire a été modifié pour allouer plus de temps aux étudiantes et aux professeurs à des fins de préparation, d'intégration et de réflexion au cours de la première année, ainsi que pour faciliter la phase de consolidation dans le cadre des cours cliniques de base et pour faciliter la mise en œuvre des projets de recherche en fin de programme. Des séances d'anatomie en laboratoire et des cours sur le counseling, la pharmacologie pour les sages-femmes, la consultation en allaitement et les soins de maternité à l'échelle internationale ont été ajoutés au curriculum. Le programme poursuit ses efforts pour améliorer l'enseignement théorique et clinique en offrant régulièrement des ateliers de préceptorat.

Mots-clés

Évaluation, diplômées en pratique sage-femme, programme de formation en pratique sage-femme

Cet article a été évalué par des pairs.

INTRODUCTION

The Division of Midwifery at the University of British Columbia (UBC) offers a four-year baccalaureate midwifery educational program, the sole midwifery program in British Columbia. The program was established in 2002 and, until 2012, admitted 10 students each year. The curriculum, which integrates the humanities and the social and biomedical sciences, was adapted from the Ontario Midwifery Education Program (a consortium of three Universities: Laurentian, McMaster and Ryerson). Students develop technical skills as well as theoretical knowledge and familiarity with current research that is relevant to clinical practice. As a degree-granting program for a distinct health profession, the UBC Midwifery Program must be consistent with provincial and national preparatory, regulatory, and certification guidelines. It must also be attentive to the midwifery competencies specified by the College of Midwives of British Columbia, the Canadian Midwifery Regulators Consortium, and the International Confederation of Midwives.

The midwifery curriculum is organized to provide preclinical foundational courses in the first three terms. A variety of teaching methods are used, including seminars, laboratories, distance learning, and simulation. Problem-based learning (PBL) is used throughout the program, in the didactic portion and in weekly tutorials while students are in clinical placements. UBC instructors teach midwifery theory and clinical skills through simulation, and clinical midwife preceptors provide further guidance and supervision during clinical placements.

In the original curriculum (2002–2011), students were enrolled for 18 months of elective and basic science courses (three preclinical semesters), followed by two and one-half years of combined midwifery theory and clinical courses. To solidify knowledge and skills in the areas of prenatal care, labour and birth, postpartum care, and newborn care, students are placed with midwife preceptors and interprofessional colleagues in varied practice settings around the province. Students may choose to spend six to eight weeks of this time in an international setting. The final course is a clerkship, in which students have greater independence and must demonstrate competencies and assume responsibilities similar to those of a full-time registered midwife.

To inform ongoing curriculum development, the team performed an evaluation of the first six cohorts of midwifery students by surveying graduates and their principal mentors one year after graduation. The goal of this evaluation was to determine whether the midwifery education program had adequately prepared graduates for their initial year of midwifery practice.

Literature Review

Educational evaluation is defined as "a systematic process that judges the worth of an educational program via quantitative and/or qualitative data analysis, consistent with the evaluation question, and aims to improve students' experience and achievements."[1] In an analysis of dozens of curriculum evaluation studies, Vernon and Blake noted the use of the following program evaluation tools: surveys of attitudes and opinions of participating students and faculty, class attendance, surveys of the educational experience, tests of clinical functioning (e.g., ratings and tests of clinical performance on the basis of observations of behaviour with real or simulated patients), and standardized tests of clinical knowledge.[2]

Although much of the health program curriculum evaluation literature pertains to medical students, we identified some studies that specifically discuss midwifery program evaluations.[3–5] Lauder et al. evaluated Scottish graduates' fitness to practice by administering a survey to a stratified random sample of preregistration nursing and midwifery students (n = 777).[3] Results showed that candidates were ready for beginning practice and had high levels of self-reported competency. In Canada, an evaluation of the Ontario Midwifery Education Program was undertaken in 2003 (n = 123). Surveys were mailed to all graduates of the program (n = 181). Students rated science courses, last-year clinical placements, group tutorials, and clinical preceptors most highly. Although graduates felt well prepared for practice on average, many found it difficult to balance the demands of the program with family obligations, especially when having to relocate for clinical placements.[5] Lange and Kennedy studied the experiences of 254 midwifery graduates who reported significant gaps between theory and actual midwifery practice; the discrepancy was particularly pronounced for midwifery practices that support normal birth.[6]

RESEARCH METHODS

The study team developed the graduate and mentor surveys to ensure that all aspects of the program and curriculum

were assessed. Midwife mentors are experienced midwives who are designated as mentors for new graduates over the first six months of postgraduate practice or for 20 completed courses of care. They advise new graduates with clinical concerns and may be available by phone or in person. Assessment of new graduates and their mentors is a common strategy to evaluate skill acquisition in the health sciences.[7]

For graduates, the survey consisted of a series of questions about the curriculum and their experiences with the UBC Midwifery Program. Graduates were asked about how effective various aspects of the program were, how well the program prepared them for practice in specific areas, and the extent to which the program helped them to improve relevant skills. Quantitative (numerical) response options ranged from "strongly agree" to "strongly disagree" (when rating the quality of the midwifery education program), "very effective" to "very ineffective" (when rating components of the midwifery curriculum), and "a great deal" to "very little" (when rating to what extent the program had developed or improved their skills).

For midwife mentors, the survey included questions about the graduates' level of preparation for their first year of practice in a range of areas, as well as questions about the type of assistance the graduates required and their demonstrated competence and familiarity with clinical skills and settings. Midwife mentors could choose from three response options: not adequately prepared, adequately prepared, and well prepared. Additional Likert-type questions about the assistance graduates required and about whether graduates demonstrated competence in the hospital and home environment were included in the survey. Both surveys included open-ended questions and sections for additional comments. Over the years, both the graduate and mentor surveys were revised to reflect modifications to the midwifery curriculum.

Following approval from the UBC Ethics Review Board, surveys were sent to all graduates and their midwife mentors. Each year, surveys were distributed via mail and e-mail approximately one year after graduation. Surveys were sent to 55 graduates and 55 midwife mentors. All the returned surveys were identified with a numeric code, and personal identifiers were removed. In the first year of data collection (2005), a focus group was held with four of the graduates to obtain in-depth information about their experiences with the midwifery program. The focus group was conducted by the research coordinator in the Division of Midwifery. To maintain confidentiality, a research assistant transcribed the data from the focus group; faculty members involved in the interpretation of findings did not have access to raw data with personal identifiers. In subsequent years, the focus group was discontinued, and only surveys were administered to graduates and midwife mentors.

A research assistant recorded all survey data with SPSS version 18.0 software (SPSS Inc., Chicago, IL).[8] Descriptive statistics were calculated for variables of interest separately for the graduates and mentors. Open-ended comments were thematically analyzed to generate frequency counts. In addition, quotes from the focus group and surveys were selected to illustrate and validate quantitative findings.

Surveys were sent to 55 graduates from 2005 to 2010 and to their midwife mentors (n = 55). In all, 34 graduates (a 62% response rate) and 21 mentors (a 38% response rate) responded (Table 1).

RESULTS

Graduates

Overall, the graduates felt well prepared by the UBC Midwifery Program. One graduate explained, "*Although there were many challenges, the end result was that I did feel ready to practice when I graduated. For the most part during my first year, I have felt confident and ready to handle the challenges that have come up in practice.*"

Table 1: **Number of Respondents, by Year**

Year of Graduation	Graduate Respondents	Total Graduates	Mentor Respondents
2005	6	6	7
2006	6	7	7
2007	7	9	5
2008	8	12	1
2009	3	11	0
2010	4	10	1
Total	**34**	**55**	**21**

Over 90% agreed that the program prepared them adequately for practice, and 90.1% of respondents reported that they would recommend the UBC Midwifery Program to others. Almost all (97.1%) agreed that the program was academically challenging. Two-thirds of the participants felt that the overall workload and the clinical course workload were manageable (67.6% and 65.6%, respectively).

Although the program was perceived as challenging, graduates appreciated the variety of placements and the quality of instruction from senior midwives.

> *Despite the many challenges that come with being a midwifery student, I feel that I had an excellent experience in the program. I was taught by midwives with a wealth of knowledge and experience. . . I had an excellent mix of rural and urban placements and opportunities to work with other health care providers in order to expand my skills. It was difficult, moving nine times in four years, leaving behind family and friends in the process, and working crazy hours while keeping up with the academic requirements. But I truly feel it was worth it—becoming a midwife takes hard work because being a midwife is hard work… and incredibly fulfilling.*

One graduate pointed to some discrepancies in the teaching and practice styles of different midwives:

> *I felt as though a large part of my learning was left to the different midwives I was learning under. Although this was my favourite part of my degree and where I learnt the most, I also find that different midwives practice differently, and sometimes what I have learnt is not evidence based or even the same as another student had learnt.*

Aspects of the Program Most Valued

Just over half of graduates (54.8%) agreed that the practical experience obtained through clinical placements was the most valuable aspect of the program. A third of respondents commented on the variety of clinical placements available (35.5%) and the quality of teaching (33.0%). One graduate remarked, "*The two and a half years working [clinically] with midwives was very valuable, and I felt ready to be a midwife working on my own after the program.*"

Midwifery Program Curriculum and Instructors

Three-quarters of the graduates indicated that the teaching they received was of high quality (73.5%) and that the

Table 2: **Assessment of Skill Development during the Midwifery Program**

Skill Area	Mean	SD
Clinical competence	3.21	0.77
Collaboration with midwives and other maternity care providers	3.00	0.74
Client education	2.94	0.81
Research	2.82	1.00
Understanding professional and ethical responsibilities	2.65	0.81
Problem solving and critical thinking	2.38	0.70
Working in teams	2.24	0.66
Understanding international context of midwifery practice	2.24	0.89
Leadership	2.21	0.70
Oral communication	2.18	0.87
Understanding the meaning of pregnancy and birth in different cultural settings	2.18	0.83
Written communication*	2.06	1.04
Counselling	2.97	0.94
Creativity	1.44	0.82
Business aspects of midwifery	1.03	0.72

For the purpose of documentation (e.g., charting or consults).

instructors gave useful feedback (76.5%). Almost all respondents (94.1%) said that instructors were current and knowledgeable in their field, and 88.2% reported that instructors were available outside of class time to help students. One graduate wrote that she "l*iked the enthusiasm and pride for midwifery shown by some of the profs.*"

One graduate expressed dissatisfaction with the teaching abilities of some instructors and suggested additional training for midwifery teachers. "I *think the instructors need to take courses on how to educate people. It isn't enough to just be a midwife in order to also be a teacher.*" Another graduate felt that instructors did their best, given the limited resources. "*My sense is that the staff and instructors are doing the best they can but that they are stretched to the max. They are so committed to teaching—which is so admirable—but they do not have the resources to do it as well as other, more-established programs.*"

Graduates almost universally rated their clinical placements with midwives (100%), family physicians (95.5%), obstetricians (100%), and international colleagues (100%) as effective. Similarly, all (100%) of the graduates reported that the Objective Structured Clinical Examination (OSCE) structure was an effective component of the program, and 90.9% felt the midwifery laboratory work to be an effective component as well. Two-thirds (68.8%) of the respondents felt that the problem-based learning style was effective. Approximately 85% of the participants found the library resources, classroom instruction, learning materials (textbooks, etc.), and the written assignments effective. Graduates were less confident in regard to the required arts and science courses; 44.4% and 61.8%, respectively, described these as effective.

Skill Development While in the Midwifery Program

Graduates were asked to rate (on a scale of 1 [not at all] to 5 [a great deal]) the extent to which the Midwifery Program facilitated the achievement of competence in several areas. Graduates identified clinical skills, collaboration with other maternity care providers, and client education as the areas of greatest improvement. Written communication, counselling, creativity, and the

Table 3: **Clinical and Professional Skill Preparation of Graduates As Rated by Midwife Mentors and Graduates (2007–2010)**

Skill Area		
Physical assessment of newborns	100.0	90.9
Management of normal labour	100.0	95.5
Client advocacy	100.0	86.4
Management of asepsis and universal precautions	100.0	100.0
Client communication and counselling	100.0	86.4
Communication of informed choice	100.0	95.5
Prenatal assessment	95.2	100.0
Assessment of health history	95.2	100.0
Intrapartum assessment of maternal fetal well-being	90.5	100.0
Postpartum assessment	90.5	95.5
Neonatal resuscitation	90.5	95.5
Communication during consultation/referral	90.5	90.9
Formation of interpersonal relations	90.5	100.0
Appropriate documentation	90.5	81.8
Recognition and management when normal changes to abnormal	85.7	100.0
Venipuncture and intravenous therapy	85.7	90.4
Laceration repair	71.4	63.6

business aspects of midwifery were identified as the areas of least improvement. Additional skills are listed in Table 2.

Areas of Learning Not Covered Well in the Program

When asked what other areas they would have liked to learn more about to prepare for a career in midwifery, 54.8% of graduates expressed insufficient curriculum about the business of midwifery. "*We are independent business people . . . I seriously flailed for the first few months.*" Other graduates (32.2%) expressed a need for an additional focus on specific practical skills. "*I'd like to see the core curriculum include more in-depth information on anatomy and physiology as related specifically to the pregnant woman and newborn.*" Some respondents wanted a mix of formal lectures and problem-based learning (PBL) because they felt a lack of direction and structure with the PBL approach. "*Although problem-based learning is an effective tool, it sometimes felt like the blind leading the blind. A balanced approach of lectures and PBL would be ideal.*" Another graduate lamented the unstructured nature of tutorials and the lack of course selection.

> *Tutorials, where the majority of our theoretical clinical learning happen[s], are far too unstructured to be effective. Also, there is important course material we do not learn because the courses do not exist at UBC—[ex] pharmacology specific to obstetrics, breastfeeding—because the program is underfunded.*

Midwife Mentors

Less than half of midwife mentors (42.9%) found graduates to be adequately or well prepared for the reality of autonomous practice. One mentor remarked that "t*he transition from student for many years to independent primary career does not happen overnight.*" However, over 85% felt that they were well trained to perform in the various roles of a midwife.

Mentors were generally positive about the graduates' level of clinical competence. One mentor remarked that "*the program is doing a good job of preparing students . . . Clinically, the students appear well prepared.*" More midwife mentors reported that graduates were competent in the home environment (90.5%) than reported that graduates were competent in the hospital environment (76.2%). The majority of midwifery skills demonstrated by the graduates were rated very highly by mentors, with some exceptions. Three mentors felt that graduates were not prepared to perform venipuncture and initiate intravenous (IV) therapy and that graduates had some difficulty recognizing when normal changes to abnormal. Table 3 presents the clinical skills assessments of midwife mentors and graduate students in order to highlight similarities and discrepancies. In both the areas of client advocacy and counselling, all mentors thought the graduates were well prepared, whereas 86% of graduates thought they were well prepared. Mentors (71.4%) and graduates (63.6%) alike were less positive about graduates' skills in repairing lacerations.

Assistance to New Graduates in the First Year of Practice

The majority (65%) of midwife mentors reported that the assistance new graduates required was "*just right.*" Graduates most often required assistance from experienced practice members in the following areas: telephone consultation, scheduling, adjustment to workload, emotional support, consultation in person with an experienced practice member, chart review, and the business aspects of midwifery. One mentor's clinic has an "'o*pen door' policy, which ensures that the new grad will call us at any time, with any concern.*" Another mentor estimated the amount of mentorship required by new graduates to be the following: "*Total number of hours are 160 clinic hours, 80 hours of labour and delivery supervision, 10 hours of antenatal care provided in the hospital . . . 20 hours of postpartum care, and 40 hours of general practice/ team/hospital procedures.*"

The amount of mentorship depended on the skill and comfort level of the graduate and often decreased over time. Overall, the reported time commitment of working with a new graduate was high. One mentor remarked that she "w*as surprised by the amount of work we have had to commit.*" Another suggested that "*mentors should be remunerated.*" One mentor offered the following words of encouragement to new graduates: "S*tay humble; this job will continue to throw curve balls at you, and it is worth the hours one puts into it.*" Another midwife mentor thought that the new graduates were too "medical" in their orientation. Yet another thought that an entire "new registrant" year such as exists in Ontario should be instituted so that (1) the new graduates expect feedback, (2) those in nursing and

other professions realize that they are working with new graduates, and (3)"the first year of practice is a refining year."

DISCUSSION

Experiential learning has been described as the most pertinent component of the development of good clinical judgment.[9] This description was echoed by midwifery graduates, who rated clinical experiences with midwives and physicians as very effective for learning. Both graduates and mentors thought that the midwifery program had prepared new graduates well for practice in most areas. Some mentors stated that one can teach the skills and theory but that it is difficult to fully prepare someone for independent practice. Becoming a confident, independent midwife takes time. These findings are consistent with those of other midwifery program evaluations, which found that new graduates considered ready for practice in terms of their clinical skills lacked confidence[10] and that graduates report significant differences between theoretical learning and practice.[6] This probably accounts for the discrepancy between mentors' views of readiness for overall practice (42.9%) and professional skill preparation (> 85%) (see Table 3). In other words, new graduates may have all the necessary skills, yet they may not be perceived as ready for practice.

The evolution of a clinician, from the novice stage to the expert stage, is complex. The experiential learning that takes place after graduation often involves the refinement and changing of preconceived notions and expectations. Years of practice enhances a clinician's ability to solve problems and view situations holistically.[9] Practitioners develop stories and memories of important clinical situations as they progress from novice to expert.[9] This concept can be applied to the lack of perceived competence in suturing. New midwifery graduates have not had enough experience in perineal repair under different circumstances to build memories and develop the confidence to perform the skill at various levels of complexity. When new practitioners are in the "competent" stage, they need active teaching and learning to progress to the "proficient" stage.[9]

The second area in which new graduates did not express confidence was client communication and counselling. To address this gap, a 13-week counselling course was introduced. Although students spend more time at hospital than at home births, mentors rated new graduates as being comfortable and competent in both settings. This is an important finding because choice of place of birth is one of the cornerstones of Canadian midwifery. The clinical skills of graduates were rated as high, with the exception of IV skills, suturing skills, and recognizing when normal changes to abnormal. Suturing and IV skills are taught in the simulation laboratory, the virtual laboratory, and the clinical placement setting under supervision. These are skills that may take longer for new graduates to master fully. Therefore, a faculty member developed modules in a virtual laboratory for students to learn midwifery skills such as episiotomy, suturing, and IV maintenance and insertion. In later years, a "supportive student learning workshop" was set up for the end of the third year so that students have additional simulated practice in IV cannula insertion and management, suturing, and emergency skills before spring/summer rotations. Students who went on a global midwifery practicum had more opportunities to work on emergency obstetrical skills and IV therapy clinical skills. Nevertheless, learning to correctly repair an episiotomy or laceration is difficult, and there are few opportunities for hands-on practice.

Prenatal and postpartum assessments were highly rated by graduates and midwife mentors. This may be due to the expansion of the physical assessment skills course (facilitated by a family physician and a midwife) or due to the midwifery laboratory that was developed to help students learn and practice clinical skills with a combination of clinical skills learning stations and high-fidelity simulators.

Although most graduates felt that instructors were up to date and knowledgeable, not all comments regarding theoretical instructors and clinical preceptors were positive. Good clinicians are not necessarily good teachers; it takes time, commitment, and preparation to excel at teaching. It is also difficult to standardize clinical teaching, as preceptors have different levels of training and clinical experience and practice in different settings and contexts. Students expected their clinical placements to reinforce what they had learned during their coursework; these expectations were not always met. To address the issue of congruence between classroom teaching and clinical teaching, more preceptor workshops have been introduced with some funding provided so that more preceptors are able to attend. As well, workshops have been made available in at least one rural area to share educational updates with

clinical preceptors for whom travel to Vancouver would mean leaving clients unattended.

Some graduates did not give a high rating to the PBL approach, indicating that it lacks structure or that it should be combined with other methods. These findings are congruent with those reported by British midwifery students (n = 84).11 Although graduates found the PBL tutorials helpful, they felt anxious about the lack of direction and felt that PBL may not be the best approach to prepare a midwifery student for practice. Evaluations in other jurisdictions where PBL was used found that its success depended on the participation and motivation of the group as well as the clinical preceptors and sites where related learning takes place.10 Increased experience with the PBL model in teaching will likely result in increased satisfaction with PBL classes. To address this concern, UBC midwifery instructors have recently attended PBL tutor-training workshops to improve their skills in this modality.

Although new graduates were well prepared for their first year of practice, graduates and mentors noted how challenging it is to make the transition from student to practicing midwife. Lange and Kennedy discussed the rift between theoretical knowledge and the complex and unpredictable events that are part of midwifery practice.6 Our evaluation took place one year after graduation; however, skill acquisition takes longer than that and is characterized by several stages. Benner[7] and Benner et al.[9] applied the Dreyfus model of skill acquisition (which proposes five stages: novice, advanced beginner, competent, proficient, and expert) to describe how nursing graduates develop professional competence. Although the Midwifery Education Program provided graduates with all of the necessary clinical skills for their first year of practice, it takes years of practice to become an expert.

Improvements to Curriculum

In the fall of 2011, following an annual review of our evaluation surveys and a series of stakeholder consultations, a new UBC midwifery curriculum was launched. The new curriculum requires the completion of prerequisite courses in English, anatomy, and physiology prior to admission. Despite the removal of a foundation year, students continue to complete the program's requirements over four years as a result of a new course delivery schedule and the addition of four new didactic courses. Distribution of midwifery-specific coursework over the full four years allows a less compressed delivery of the clinical care courses and a logical sequence of graduated content with respect to complexity, knowledge basis, and skill development. The new sequence allows more-reasonable teaching and learning loads per term for both students and faculty. Many of the topics that graduates identified as lacking have been added to this curriculum, including targeted anatomy laboratories and new courses in applied health sciences, counselling for maternity care, pharmacology for midwives, and lactation consultation.

The program has also increased its global maternal infant content. Courses in both the theory and practice of global maternal infant health have become credited courses in the new curriculum because nearly half of the students choose to travel to global midwifery sites for one of their elective rotations. The curriculum still requires all students to attend sessions on safe motherhood and global maternal infant health. Although clinical experience in global midwifery care is optional, the program actively promotes global health participation via international placements supervised by UBC faculty and local midwives.

Program Resources

Some graduates noted that the program was poorly resourced. From its inception in 2002, the UBC Midwifery Education Program received limited government and university resources; additional resources were needed for instructional, support staff, and operational requirements. Curriculum evaluations of other midwifery programs have noted that adequate funding is needed for these educational programs to succeed.[12] Thus, inadequate instructional resources may be responsible for some of the difficulties in achieving excellence in all areas.

To address this major problem, the Division Director—in consultation with faculty, staff, and the Faculty of Medicine—proposed (and was granted) an expanded budget by the Ministry of Health and the Ministry of Advanced Education and Labour Market Development. The proposed sustainable budget allowed for increased faculty, staff, and program resources and addressed many reported challenges. In addition, the ministries approved a plan for a graduated increase in admissions to double student enrolment by 2014.

Challenges

In response to the provincial maternity health care crisis, the midwifery faculty created web-based distance learning classes that allow students to be placed in rural and remote practice education sites while they continue their core competency studies through UBC. Given the identified need for midwives in primary health care in rural and northern communities, it is especially important that the academic program prepare students for the unique challenges of primary care delivery in low-resource settings. However, there are few registered midwives practicing in rural and remote areas of British Columbia, which limits the number of student placements in these areas.

Limitations

The poor return rate after the first three years of the survey affects the generalizability of the findings to all program graduates. In addition, we could not always distinguish whether students' competence in different clinical skills was acquired in a clinical setting or was due to the quality of teaching and to learning through simulation and theory.

CONCLUSION

This evaluation shows that the UBC Midwifery Program effectively prepares graduates for practice and that graduates and preceptors were satisfied with the skill preparation offered by the program. The midwifery curriculum has undergone revisions partly as a result of the evaluations by graduates and midwife mentors presented in this article. These assessments indicate that the health care system in British Columbia is well served by the UBC Midwifery Program. An anticipated increase in the number of students and faculty in the future means that the curriculum will continue to evolve. Feedback from ongoing evaluations of graduates and midwife mentors, along with changes in midwives' scope of practice, will guide new curriculum development. Findings from this curriculum evaluation may provide useful information to midwifery program faculty and administrators in other jurisdictions.

REFERENCES

1. Maudsley G. What issues are raised by evaluating problem-based undergraduate medical curricula? Making healthy connections across the literature. J Eval Clin Pract. 2001;7(3):311–24.
2. Vernon DT, Blake RL. Does problem-based learning work? A meta-analysis of evaluative research. Acad Med. 1993;68(7):550–63.
3. Lauder W, Watson R, Topping K, Holland K, Johnson M, Porter M, et al. An evaluation of fitness for practice curricula: self-efficacy, support and self-reported competence in preregistration student nurses and midwives. J Clin Nurs. 2008;17(14):1858–67.
4. McKenna L, Rolls C. Bachelor of midwifery: reflections on the first 5 years from two Victorian universities. Women Birth. 2007;20(2):81–4.
5. Kaufman K, Schmuck ML, McNiven P, Sharpe M, Soderstrom R. Graduates' views of the Ontario Midwifery Education Program [Points de vue des étudiants du programme de formation en sage-femmerie.] Can J Midwifery Res Pract. 2007;6(1):7–12.
6. Lange G, Kennedy HP. Student perceptions of ideal and actual midwifery practice. J Midwifery Womens Health. 2006;51(2):71–7.
7. Benner P. From novice to expert: Excellence and power in clinical nursing practice. Commemorative ed. Prentice-Hall; Upper Saddle River, NJ, 2001.
8. Nie NH, Hull CH. Predictive Analysis Software (PASW). 2008, 18.0
9. Benner P, Tanner C, Chesla C, editors. Expertise in nursing practice: Caring, clinical judgment and ethics. 2nd ed. New York: Springer Publishing Company; 2009.
10. Holland K, Roxburgh M, Johnson M, Topping K, Watson R, Lauder W, et al. Fitness for practice in nursing and midwifery education in Scotland, United Kingdom. J Clin Nurs. 2010;19:461–9.
11. Rowan C, McCourt C, Beake S. Midwives' reflections on their educational programme: A traditional or problem-based learning approach? Midwifery. 2009;25(2):213–22.
12. Mallik M, Fraser DM, Collington V, Gibb S. Delivering the pre-registration midwifery curriculum: Findings from the UK MINT project. Evid Based Midwifery. 2011;9(3):76–83.

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