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Build professional competence and Equip with strategies to empower midwifery students – An interview study evaluating a simulation-based learning course for midwifery educators in Bangladesh

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ABSTRACT

Use of simulation-based learning in midwifery education programmes is crucial. Due to midwifery educators in Bangladesh were lacking competence in using such pedagogical methods in their teaching, they were invited to participate in a simulation-based learning course. In this paper, we present a study on the perceived usefulness of this course. Semi-structured individual interviews were conducted with 17 of the 28 midwifery educators participating on the course and data were analysed using inductive content analysis. Findings showed that the simulation-based learning course for midwifery educators in Bangladesh was useful. It "builds the professional competence of midwifery educators" and "equips them with strategies to empower midwifery students". The findings show that a simulation-based learning course is of major importance in pre-service education in settings where the capacity of midwifery educators needs to be strengthened. However, without continuous in-service training, the midwives' competence will deteriorate and this in turn will threaten the quality of midwifery education and the midwifery profession. Thus, contextualized pre- and in-service simulation-based education to secure midwifery core competencies is necessary. Simultaneously implementing and evaluating pre- and in-service education programmes is the next step in the struggle to increase the quality of maternity care services.

1. Introduction

Professional midwives are an integral part of delivering quality sexual, reproductive, maternal, and newborn healthcare (Renfrew et al., 2014; Ten Hoope-Bender et al., 2017). As a strategy to improve the quality of these areas of healthcare, the Government of Bangladesh has implemented strategies to improve the availability of professional midwives (Bogren et al., 2015).

To secure that future midwives are well educated and able to provide evidence-based quality midwifery care (Castro Lopes et al., 2016; Fullerton et al., 2013; Luyben et al., 2017), it is essential that the educators teaching them in the midwifery education programmes have a good level of formal competence. Core competencies for midwifery educators have been defined by the International Confederation of Midwives (ICM) and the World Health Organization (WHO) (Fullerton et al., 2013; West et al., 2016; WHO, 2013). However, according to WHO, only 6.6% of midwifery educators in low and middle-income settings have any formal education as midwives (WHO, 2013). Unless this specific challenge is targeted, the quality of midwifery education is not sufficient, which will negatively affect the quality of midwifery education. This will, in turn, reduce the effect of increasing the midwives' workforce for improving maternal and newborn health (Renfrew et al., 2014, Homer et al., 2014). It is therefore critical to ensure not only that midwifery education programmes are offered, but also that the formal competence of the educators teaching these midwifery programmes is of a high standard.

When pre-service midwifery education was introduced in Bangladesh in 2013, it was the existing nursing educators that were given the responsibility of teaching the midwifery programmes. Very few of them had any formal professional midwifery education or formal pedagogical skills as a midwifery educator. This led to the nursing educators facing major challenges in moving from teaching nursing to teaching midwifery (Bogren et al., 2017a). Due to their lack of formal education as midwifery educators they lacked the defined core

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competencies of midwifery educators (Fullerton et al., 2013; WHO, 2013). This in turn led to the need for courses for the midwifery educators. In this paper, we present an investigation of the usefulness of a simulation-based learning course for midwifery educators in Bangladesh.

2. Method

2.1. Research design

A qualitative research design was used, which is useful when little is known about a phenomenon under study (Polit and Beck, 2012, Elo and Kyngas, 2008), such as the usefulness of a simulation-based learning course for midwifery educators in Bangladesh. Data were collected through semi-structured individual interviews with midwifery educators participating in the course. Data were analysed using content analysis according to Elo and Kyngas (2008). Content analysis aims to describe a study phenomenon in a conceptual form, derived from the data. Ethical permission was obtained from the Bangladesh Directorate General of Nursing and Midwifery in February 2017.

2.2. Setting: the midwifery diploma education in Bangladesh

The midwifery diploma education has being provided in Bangladesh since 2013. It is a three-year direct entry programme, with a curriculum informed by the ICM's essential core competencies for midwives, and consists of 40 percent theory and 60 percent clinical practice (Bogren et al., 2017b). It is currently offered at 38 public residential Nursing Institutes and Nursing Colleges, which are geographically distributed across the country. In Bangladesh, a Nursing Institute offers nursing and midwifery education programmes at diploma level. All Nursing Institutes are situated at the district level of the health system. A Nursing College offers midwifery and nursing education programmes at bachelor degree level. While the Nursing Institutes are affiliated with general hospitals, the Nursing Colleges are governmental institutions affiliated with divisional level hospitals, which function as referral hospitals for community healthcare centers and district hospitals. The yearly intake of midwifery students at each institute and college varies from 25 to 50 students. Students come from both rural and urban areas and live at the residential Nursing Institutes or Colleges for the entire length of their programme of study.

2.3. The simulation-based learning course for midwifery educators

Simulation-based learning is a form of active pedagogy. This learning method has been frequently used in midwifery education and practice (Cant and Cooper, 2010). The American pedagogical philosopher and psychologist John Dewey, who developed “active pedagogy” long ago, declared that a principle for quality in education is learn to know by doing, and to do by knowing. Dewey stressed that for long-term learning, a combination of theory, practice, reflection, and action must be combined in education (Dewey, 1938).

Lecturers in midwifery from Dalarna University in Sweden developed and conducted a contextualized four-day simulation-based learning course in October 2017 at Dhaka Nursing College, which is located in the capital of Bangladesh. The course added to a one-year international master's degree programme in Sexual and Reproductive Health for midwifery educators in Bangladesh (Bogren et al., 2017a), and followed the simulation content as per the national midwifery curriculum. The simulation-based course aimed to build professional competencies and confidence among midwifery educators. The course used multiple reinforcing modalities (case scenarios, mannequins, and other necessary equipment), and focused on critical decision points related to antenatal, intrapartum, newborn care, complication management, family planning, and infection control management. The subjects were based on ICM's competencies for midwives (Fullerton et al., 2011). Realistic simulators were used in the education programme, which allowed the participants to simulate and practice the management of labour and birth.

2.4. Participants and data collection

Twenty-eight midwifery educators from 15 Bangladeshi institutes and colleges participated in the simulation-based learning course and all were invited through email to participate in the study. Of these, 17 accepted while 11 declined due to shortage of time. All study participants were informed orally and in writing about the aim of the study, and that they were free to withdraw participation at any time without any explanation or consequences.

An interview guide including open-ended questions was developed in English and translated into the local language Bangla. The questions were related to the simulation-based learning course and addressed both the course's content and pedagogical methods. Examples of questions included: Can you tell me about the simulation-based learning course you attended last year? Can you describe any added value in your own teaching after you completed the simulation-based learning course? Follow up questions were posed such as: Please tell me more, please give an example, etc. The questions were pre-tested in both languages by persons who had acted as facilitators in the course. None of the pilot tested interviews were used in the analysis. An international midwifery course trainer and a professional interpreter conducted the individual semi-structured interviews in Bangladesh in the months of April and May 2018, which was approximately six months after the completion of the courses. After getting the participants' written consent, audio-recorded individual interviews lasting 40–60 min took place at a location chosen by the participants. The interviews were conducted in either English or Bengali, depending on the participant's preference. Thirteen interviews were conducted in English, and four were conducted in Bengali. A professional interpreter translated the interviews conducted in Bengali into English. Details on the participants and their experience in teaching midwifery and simulation-based learning to manage labour, birth and immediate neonatal care are given in Table 1.

2.5. Data analysis

All interviews were transcribed verbatim, and the transcripts were analysed using qualitative inductive content analysis as described by Elo and Kyngas (2008). The first analysis step aimed to gain a sense of the content of the interview texts by answering the question: what was the usefulness of the simulation-based learning course? This involved

Table 1
Details on the participants and their experience in teaching midwifery and simulation-based learning to manage labour, birth and immediate neonatal care.

Characteristics of participants	Total
	n = 17 (100%)
Age	
Mean (SD)	47.8 (4.9)
Median	47
Range	42–57
Clinical work experience in Nursing (years)	
Mean (SD)	5.2 (4.2)
Range	0–16
Work experience as Nursing instructor within the Midwifery curriculum	
Mean (SD)	4.9 (3.4)
Median	3
Range	2–16
Teaching in simulation based learning (hours/week)	
Mean (SD)	6.5 (3,0)
Median	7
Range	0–11

the authors reading the transcripts several times to get a sense of the whole. In the second step, a total of 246 codes of the text were identified answering how the course had been useful. In the third step, the codes were compared for similar content and categorised into groups. Fourthly, as the analysis progressed with the continuous comparison of the codes for similarities and differences, the groups were clustered into subcategories then further sorted into main categories. To ensure a standard approach to each step of the analysis, the authors discussed the interpretation of the data with each other until consensus was reached.

2.6. Findings

The identified usefulness of the simulation-based learning course for midwifery educators in Bangladesh can be sorted into two main categories: ***Build professional competence as midwifery educators*** comprising two subcategories: *Increased theoretical knowledge and practical skills,* and *Enhanced communication confidence;* and ***Equip with strategies that empower midwifery students*** with three subcategories: *Applied new pedagogical approaches, Confidence to deliver practical skills, and Added inquisitiveness.*

2.7. Build professional competence as midwifery educators

2.7.1. Increased theoretical knowledge and practical skills

Participation in the simulation-based learning course had increased the theoretical knowledge and had equipped the midwifery educators with practical skills. This included knowledge in how to support a woman in early and late pregnancy and during labour and birth. They had become more equipped with theoretical and systematic knowledge and practical skills around essential hands-on manoeuvres, and how to teach these manoeuvres in a respectful manner. This included essential lifesaving skills such as how to prevent and care for a woman with a post-partum haemorrhage, apply aortic pressure, use of ambu bags, ventilation and compression techniques related to neonatal resuscitation, and newborn care.

One of the participating educators expressed:

> *Through practicing learning procedures essential for antenatal care, the mechanisms of labour, postnatal check-ups, newborn care, helping babies breathe, and complicated procedures such as shoulder dystocia, breech presentation, cord prolapse, post-partum haemorrhage, and infection control management, I now have increased my knowledge and skills on how to manage these* (Midwifery educator (ME) 1).

After the course, the educators had actively integrated theory into their practical learning sessions for the students. By searching for supporting evidence before conducting simulation-based teaching for their students, the simulation-based learning course had also inspired them to learn more and searched knowledge from books and the internet.

> *I teach my students up-to-date knowledge! I like researching now. I want to learn more and more. I learn new things and then I teach them to my students* (ME 7).

2.7.2. Enhanced communication confidence

Another essential useful aspect of the course was that it had enhanced the educators' confidence in communication. They had obtained new communication strategies that they could apply in the education programme. This included confidence in utilizing themselves as a communication tool with their students in the teaching and learning process. They had formed a strategy for a process in learning including how to behave with their students which also encouraged the students to give constructive feedback. For example, through smiling and using joyful communication, they could create a bond between themselves and the students that enhanced the students' learning.

> *Facial appearances, body language, non-speaking eye contact, everything. Yes this is new to me. Thinking about myself as a tool, and a method for learning. By using this type of communication, I get students to listen and learn* (ME 5). *// My communication skills have improved a lot and I got a lot of help from the simulation-based course. I can now better communicate and explain concepts to my students during the lessons. I also give feedback on a regular basis. So maybe some improve, I hope* (ME 11).

Through the scenario-based training performed during the simulation-based learning, different communication techniques were taught. This resulted in educators being more prepared to communicate with their students and colleagues using different communication techniques such as role-plays.

> *About communication, we conduct more role-plays now after the simulation training. I am feeling confident in using communication techniques such as assertive communication, aggressive communication etc. versus listening and repeating, this has helped me a lot in my work* (ME12).

2.8. Equip with strategies that empower midwifery students

2.8.1. New pedagogical approaches applied

After participating in the simulation-based learning course, the midwifery educators had applied new pedagogical tool such as using checklists to support the assessment of students in clinical practice in a systematic way. The course had also encouraged the educators to better prepare their simulation-based teaching by writing and using lesson plans, also for the students' sessions in the clinical sites. Such new pedagogical approaches provided them with new strategies that could be used to empower the students.

> *I can now in a more scientific way use assessment tools such as checklists, which support me in knowing what to assess. After participating in the simulation-based learning course, I can now systematically assess my students' skills (*ME 13). *I make more proper lesson plans now. I prepare myself for teaching my students in skill lab sessions. First theory then practice then clinical practice. I also follow the syllabus (*ME 2).

The simulation-based learning course had also provided he midwifery educators with skills on how to search the internet for simulation-based videos, which could be used in own teaching. They found that using multi-media, videos, mobile recordings, and role-play strategies positively influenced their students' deep learning ability. According to some educators, this was life changing and motivational for their careers as educators. The course also affected their mind-set and how interactive teaching methods were used in a low-hierarchy environment. Breaking down the barriers between themselves as educators and their students had positively enhanced their motivation for teaching as well as the students' learning.

> *My mind-set has changed a lot and I think in a different way from before regarding interactive learning. Now I don't shout at my students, instead I listen to them patiently, and this has had a positive impact on them and I am getting more positive feedback* (ME 17).

2.8.2. Confidence to deliver practical skills

Participation in the simulation-based learning course had given the midwifery educators confidence to deliver practical skills, which led to increased interest in learning among their students. This, in turn, reflected on the educators' engagement in teaching. Feeling appreciated gave them satisfaction and further enhanced their confidence. This resulted in an increased enthusiasm for teaching and learning for both students and educators.

> *Before I did not engage in teaching. Afterwards, I followed the pedagogic style. I felt confident. It is more fun and I also have more knowledge and*

the students are more enthusiastic (ME 7).

The added confidence included increased self-confidence to prepare teaching, which in turn resulted in students gaining hands-on abilities in quality midwifery practice.

I was a shy person and haven't had enough confidence to face challenges. This has provided me with the opportunity to look beyond boundaries and now I can think out of the box. I plan according to which topic I am teaching. Different topics, different strategies. I mix methods depending on the subject and I feel more confident teaching now. I also have a new way of thinking – knowledge has no end. Learn more, gain more. A good teacher is also a good student (ME9).

2.8.3. Added inquisitiveness

Added inquisitiveness means that participating in the course had given the midwifery educators a desire for continuous learning. They had become more interested to continuous further develop and improve both theoretical knowledge and pedagogical competency including skills in using simulation-based learning. Through the theoretical knowledge and practical skills they gained, they transformed their own teaching with research-based knowledge. They had become inquisitive about midwifery science and strived for more knowledge within the profession. They felt encouraged and enthusiastic about continuing to learn new things, such as around obstetric emergencies. The continued learning process made them perform better than before. After the course, the midwifery educators had started to reflect upon themselves as teachers with regard to their new knowledge and skills. They had also become more aware of not being perfect and of the need of continuous repetitions and refreshments:

We need follow-up training and refresher training for our skills to become permanent! All teachers need this. It's essential! Now we are still good but we forget. I have a certain level of competency now but I need regular training to stay up-to-date and for my confidence to grow (ME 8). // *Now before I conduct a simulation class in intrapartum care, I search for scientific facts to help me remember correctly. For example, if I forget the details about infection risk with prolonged rupture of membranes, I check. Not only in books, but in scientific articles too* (ME 4).

3. Discussion

The key result in this interview study investigating the usefulness of a simulation-based course for midwifery educators in Bangladesh was that it developed professional competence in midwifery educators and equipped them with strategies to empower midwifery students.

Through an interpretation of the findings of applying active pedagogy, as described and discussed by the American pedagogical philosopher and psychologist John Dewey (1938), this study shows that the midwifery educators developed increased knowledge and enhanced practical midwifery skills through “doing by learning” and “learning by doing”. In the simulation-based course, the educators became more equipped with theoretical knowledge and practical skills around essential hands-on manoeuvres, and systematic learning on how to teach these manoeuvres in a respectful manner. It was obvious that after the course they immediately applied these new pedagogical strategies to enhance the learning outcomes of their midwifery students. According to Dewey (1938), and as seen in this study, it is important that theory is combined with practice to ensure quality teaching.

It is encouraging that the midwifery educators continued to reflect upon themselves as teachers after the course. Self-reflection is crucial as it supports individual's growth of knowledge, and is a prerequisite for gaining a deeper understanding (Ekebergh, 2007). As shown in this study, combining new pedagogic approaches with confidence in delivering practical skills increased the inquisitiveness of midwifery educators. Previous research evaluating students in simulation-based learning in midwifery and medical education (Kumar et al., 2018) came to the same conclusion regarding added inquisitiveness. It is therefore anticipated that both students and educators can obtain added inquisitiveness for further midwifery science and update knowledge within the profession. The midwifery educators' ability to reflect should therefore not be underestimated. The importance of using self-reflection is in line with Ekebergh (2007), who emphasised the significance of a reflective attitude for effective learning (Ekebergh, 2007). This is true for midwifery students according to Lendahls and Oscarsson (2017), but also for the midwifery educators in this study. Hence, through self-reflection after completion of a simulation-based learning course, midwifery educators and midwifery students can build their professional competence.

Our study shows that the midwifery educators immediately improved their simulation-based teaching technique after the completion of the course by applying new pedagogical approaches such as using interactive teaching methods and breaking down the barriers between the educators and the students creating a low hierarchical environment. According to the midwifery educators, this immediately had a positive effect on their students’ deep learning. As seen in Nestel et al. (2016), a national training programme for simulation educators and technicians, evaluation strategy and outcomes showed that the performance of the students improved immediately after simulation-based learning (Nestel et al., 2016). John Dewey stressed that for long-term learning, a combination of theory, practice, reflection, and action must be combined in education (Dewey, 1938). Even if this study reflects a positive outcome of the usefulness of a simulation-based learning course, the midwifery educators who participated in the course claimed that a four-day course was not enough for the educators to adapt their long-term learning within the subjects taught. Several studies on the simulation-based training programmes Helping Mothers Survive and Helping Babies Breath, implicate the same result, indicating that repetitive in-service training is essential for long-term learning (Bang et al., 2016; Eblovi et al., 2017; Evans et al., 2014; Kc et al., 2017; Tabangin et al., 2018).

Given the fact that simulation-based learning built professional competence in the midwifery educators and equipped them with strategies to empower the midwifery students, this study has revealed significant findings related to the usefulness of a simulation-based learning course in higher education for midwifery educators, delivered by foreign experts as an in-service course. The midwifery educators in this study stressed the importance of in-service courses to ensure their competence would not decrease. This is in agreement with a study from Ethiopia (Kibwana et al., 2017). With insufficient pre-service and in-service midwifery education, competence will decrease, which will threaten the midwifery profession (Kibwana et al., 2017). A rigourous pre-service education for midwifery educators as well as continuous in-service education is hence necessary to ensure high-quality midwifery education. The findings in this study further indicate a positive result in building midwifery educators’ competence in partnership with international midwifery experts providing context-specific education where midwifery pre-service education has only recently been introduced. In this case, the midwifery expertise came from Sweden, a country where midwifery has traditionally been a strong profession with a well-established midwifery education system. Such international partnerships are recommended by West et al. (2016), who have shown that context-specific knowledge and skills in teaching are strengthened by implementing international midwifery partnerships in low- and middle-income countries (West et al., 2016).

3.1. Strengths and limitations

It could be seen as both a strength and a limitation that one of the international midwifery experts performed most of the interviews. On the one hand, the midwifery educators were familiar with the interviewer and responded with enthusiasm, strengthening the trustworthiness of the study. On the other hand, as expressed by

methodological textbook authors, dependability cannot be ignored (Polit and Beck, 2012). However, as the interviews were conducted six months after the end of the course, it was anticipated that such dependability due to the interviewer's role as a trainer was reduced or even eliminated.

Another strength of the study was that the participants could choose to use the local language Bangla or their second language English in the interviews. As described by Abujelban et al. it is always better to express oneself in one's native language, rather than being limited to a second language (Abujelban et al., 2012).

4. Conclusion

Bangladesh is a country where midwifery education programmes have only recently been introduced, and the simulation-based learning course was found to be useful for the participating midwifery educators. Professional confidence was built and strengthened, and this resulted in an empowering approach to the midwifery students. We suggest that such a simulation-based learning course, as a capacity building activity, should be given to midwifery educators in pre-service education. However, without combining this with continuous in-service training, competence will deteriorate and this will threaten the quality of the midwifery profession. Thus, we suggest giving both a contextualized pre- and in-service education programme including simulation-based learning, based on identified core competencies for midwives. For optimal outcome, such pre-service and in-service activities need to be further studied and could preferably be conducted in partnership with midwifery experts from countries where the midwifery profession is well established.

Declarations of interest

None.

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Appendix A. Supplementary data

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