



Barriers to delivering quality midwifery education programmes in the Democratic Republic of Congo – An interview study with educators and clinical preceptors

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ABSTRACT

Background: In the Democratic Republic of Congo, the education of midwives at a higher education level has recently been introduced as a strategy to improve maternal and neonatal health. However, little is known about the preconditions for such an education.

Aim: To explore the barriers to delivering high-quality midwifery education programmes in the DRC and reflect on potential areas for improvement.

Method: Data was collected through 14 focus group discussions with 85 midwifery educators and clinical preceptors, at four higher education institutions delivering midwifery education programmes. Transcribed discussions were inductively analysed using content analysis.

Findings: Overall, the teaching environment was insufficient. Most midwifery educators and clinical preceptors had deficient competencies, and there was a shortage of didactic resources and equipment as well as poor communication routines between the education institutions and clinical education sites. The barriers varied between locations; for instance, the institution in the country's capital was overall well equipped.

Conclusion: The identified barriers constitute major risks undermining the quality of future midwives in the DRC. Reforming the education of midwives, together with general higher education reform, will be critical for achieving the Sustainable Development Goal on health in the country. We therefore suggest that (i) midwifery educators have at least one academic level above the programme in which they teach, (ii) continuing education be available for midwifery educators and clinical preceptors, (iii) education institutes and clinical sites are fit for purpose, and (vi) routines for clear communication links between education and clinical sites be used.

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Statement of significance

Problem or issue

High-quality midwifery education programmes are vital for educating competent midwives who can provide a high standard of safe, evidence-based care for women and newborns.

What is already known

In the DRC the midwifery profession has recently been introduced and global educational standards and evidence-

based competencies have been adapted to the local context, but challenges abound before these become a reality.

What this paper adds

Feasible suggestions to deliver a robust midwifery education programme in a low-income country for high quality of midwifery care. These suggestions are imperative for substantial and fast-track changes to occur in maternal and newborn health.

Introduction

Healthcare provided by a professional midwife has been identified as a strategy to improve maternal and newborn health worldwide [1,2]. It is estimated that midwives who are educated and regulated according to international standards [3], and fully

Abbreviations: ISTM, Institut Supérieur de Techniques Médicales; DRC, Democratic Republic of Congo.

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integrated into a well-functioning health system, can provide almost 90% of the essential sexual and reproductive health services for women and newborns and prevent over 80% of all maternal deaths, stillbirths, and neonatal deaths [4].

For equipping midwives with appropriate competencies for delivering high-quality, safe, and evidence-based care, midwifery education programmes are a crucial foundation [5]. According to the International Confederation of Midwives (ICM) there are two paths to becoming a professional midwife: a three-year direct-entry midwifery programme, and a 1.5-year post-nursing programme [6]. Both programmes should comprise a minimum of 40% theory and 50% practice [3].

To ensure that midwifery students acquire adequate skills, the midwifery educators at the teaching institutions play a critical role [7,8], as do the clinical preceptors, who are the students' educators in clinical practice. Thus, a quality education programme needs to have educators with appropriate competencies in both theory and practice [3] to guarantee good quality in the graduating midwives [1,9].

Globally, there are wide discrepancies between midwifery education programmes; not only in length and content, but also in the competence of the midwifery educators, and other essential resources such as physical location and the teaching and learning materials needed to deliver a quality education programme for the production of midwifery graduates with adequate theoretical and practical knowledge [1]. This is the case especially in low- and middle-income countries [10], including in the Democratic Republic of Congo (DRC), the second largest country in sub-Saharan Africa [11].

With around 90 million inhabitants, the low-income country DRC has major challenges in relation to maternal and newborn health. The quality of perinatal care is low, and maternal and neonatal mortality is still too high. In the latest Demographic Health Survey from 2013, the maternal mortality ratio in the DRC was 846 per 100,000 live births, and neonatal mortality ratio was 28 per 1000 live births [12]. The DRC government has made commitments to address this, with one main activity involving the establishment of the midwife as a separate autonomous health profession and strengthening the educational system in order to facilitate production of qualified midwives at a higher education level, however the midwifery profession is not yet regulated [13]. The United Nations Population Fund (UNFPA) is one of the main partners supporting the government in this regard [14]. This education is offered at the higher education institutes for applied medical sciences, in French "Institut Supérieur de Techniques Médicales" (ISTM) [13].

Thus, to produce midwives of high quality who can contribute to better maternal and newborn health in DRC and in similar low-income settings, it is important to understand the existing conditions in terms of educator competence and the conditions of the education environments. In this study, we aim to explore the barriers to delivering high-quality midwifery education in the DRC, and reflect on areas for improvement.

Method

Study design and settings

In order to explore the barriers to delivering high-quality midwifery education in the DRC, we designed an inductive qualitative study with midwifery educators and clinical preceptors. This explorative approach was crucial to understand the concrete situation in DRC, a country where almost no scientific publication exists on the midwifery profession, and in particular the midwifery education. The Research Ethics Committee at the Congo Protestant University approved the study.

The midwifery education system in the DRC consists of two levels: (i) a programme at the secondary school level; and (ii) a programme at institutes of higher education (ISTMs). At the secondary school level, candidates with a three-year post-primary education are admitted. Upon completion of a four-year full-time education programme, A2 graduates are awarded an enrolled certificate in midwifery. This category of education is governed by the Ministry of Health [15]. Governed by the Ministry of Higher Education, since 2013 the ISTMs in the DRC offer two paths of self-selected midwifery education. Both programmes consist of 60% theory and 40% clinical practice, and lead to an A1-level midwife, equivalent to an advanced diploma. The first, a three-year direct-entry full-time programme, is currently offered at 16 ISTMs located in twelve of the country's 26 provinces. The second is a twelve-month programme for nurses educated within a three-year programme at the higher academic level. This programme, while too short to fulfil international standards, is currently offered at three ISTMs located in three provinces. The curricula of both the twelve-month and the three-year programmes were developed under the leadership of the Ministry of Higher Education, using a participatory approach, where midwifery educators, the midwifery association, policy makers and UN agencies in DRC were involved in the designing [13]. Before the 2013 educational reform, some ISTMs offered a three-year midwifery education programme resulting in an advanced diploma (A1), and a two-year full-time programme resulting in a A0/L2/license degree equivalent to a Bachelor's degree [15].

Study participants and data collection

The participants were involved in any of the midwifery education programmes at four of the 16 ISTMs in the DRC: one in the capital city in the west, one in central DRC, and two in the east. Managers at three ISTMs were contacted and informed about the study by the national NGO, "Soins de Santé Primaires en Milieu Rural" (SANRU Asbl), and the manager of one was contacted by the authors (MBe and MBo). All managers approved the study, after which they provided contact details of all midwife educators. We also received contact details for purposefully selected clinical preceptors representing all clinical education sites at two of the ISTMs. The invited participants were contacted by either SANRU Asbl (3 ISTMs and clinical preceptors) or MBo/MBe (one ISTM) and asked to meet at a given time and place, at either the ISTM or any of the clinical sites. They were also given an information letter in French, describing the purpose of the focus groups and clarifying that participation in a focus group was voluntary and that withdrawal was allowed at any time without explanation.

A total of 14 focus group discussions (FGDs) were conducted from September to December 2019, four with midwifery educators and ten with clinical preceptors, with a total of 85 participants. The FGDs with midwifery educators had three to seven participants, with a total of 22 out of the existing 24 educators participating. The FGDs with clinical preceptors included 63 participants with five to nine participants per FDG. Each FDG was held in French by MBe, based on an interview guide (For details, see Appendix A for educators and Appendix B for clinical preceptors). In addition, characteristics of the participants were recorded. The focus groups lasted 30–85 min, with a mean of 50 min. They were recorded, and additional notes were typed by MBo.

Data analysis

The audiotaped FGDs were transcribed from the French into English text, and analyses were conducted by MBo and MBe using an inductive content analysis method [16]. First, the text from all FGDs was read through to get an overall understanding. Next, in

Table 1
Examples of the data analysis process from meaning unit to generic category.

Meaning Unit Translated from French into English	Code	Subcategory	Generic Category
The essence of midwifery is to manage complicated births, care of an unconscious woman, and care of an asphyxiated newborn. No woman or newborn should die.	Management of complications is seen as the core of a midwife's role.	Unclear understanding of the unique philosophy and role of a midwife	Deficient competence in midwifery educators and clinical preceptors
When the educators come to visit the clinical education site, they only talk to us preceptors without having the students present. There is never a three-party meeting. We give our evaluation to the educator, which is done without engaging the student.	Lack of three-party communication between educator, clinical preceptor, and student	Unstandardized routines for following up midwifery students' clinical learning outcomes	Poor communication between the education institution and clinical education sites

Table 2
Categories within the main category *An insufficient teaching environment*.

Generic Category	Subcategory
Deficient competence in midwifery educators and clinical preceptors	Shortcomings in level of education Almost no continuing professional development Unclear understanding of the unique philosophy and role of a midwife
Shortage of resources and equipment	Limited access to evidence-based literature Insufficient simulation-based learning equipment Scarce clinical equipment
Poor communication between the education institution and clinical education sites	Unstandardized routines for following up midwifery students' clinical learning outcomes Inexplicit routines for preparing clinical preceptors

new readings, meaning units were identified that answered the research question “What are the barriers to delivering a quality midwifery education programme?” The meaning units were then compared and sorted into codes based on similar content. Thereafter, the codes were compared and clustered into subcategories. After several analysis refinements moving from text details to wholeness, consensus on the result was reached. An example of the analysis process is shown in [Table 1](#).

Results

Main category: an insufficient teaching environment

The main result is that the teaching environment is insufficient for enabling the educators and clinical preceptors delivering midwifery education of high quality; this concerned both the theoretical and the clinical education. The barriers varied between the ISTMs, however, and overall the ISTM in the capital was much better equipped. The insufficient teaching environment is described in three generic categories with subcategories. An overview is shown in [Table 2](#).

Deficient competence in midwifery educators and clinical preceptors

Overall, there were shortcomings in the level of midwifery education, academic level, and pedagogical skills among the midwifery educators and clinical preceptors. There was virtually no continuing professional development offered, and there was a prominent unclear understanding of the midwife's core philosophy and role.

Shortcomings in level of education

The shortcomings in level of education consist of three parts: formal education as a midwife, academic level, and pedagogical education.

The formal education as a midwife varied. The less educated were auxiliary nurse-midwives on a secondary school level ($n = 10$), and the more educated were nurse-midwives with a one-year post-nursing programme at a higher education level ($n = 5$), the direct-entry midwives at A1 level ($n = 67$), as well as the nurse-midwives at A0 level ($n = 3$). About one-third of the educators and clinical preceptors (31 out of 85) had an academic degree, 27 holding a Bachelor's degree and four a Master's degree. For more details see [Table 3](#).

At the ISTM situated in the country's capital, the shortcoming in academic level had almost been eliminated by enabling the midwifery educators to study midwifery at a higher education level in parallel with educating; however, there was still a lack of midwives functioning as clinical preceptors:

We can't offer all students midwives as supervisors in their clinical practice. Some of them are supervised by nurses working in the area of midwifery. (FGD1)

The participants expressed a strong wish to earn an academic degree or a higher degree. And several did study in parallel with working, although this was a challenge, especially due to a lack of financial support:

I want to earn a Master's in midwifery . . . I want to earn a Master's in Public Health . . . I want a PhD. (3 participants in FGD4)

Concerning pedagogic competence, ten out of the 22 midwifery educators lacked pedagogic training and only five had formal competence on an academic level. Unfortunately, this information was not collected from the clinical preceptors ([Table 3](#)). Both educators and clinical preceptors expressed the importance of developing their pedagogical skills, especially in how to promote students' active participation as this supports deepened student learning. Some educators had attended a five-day course in student active learning, but they found it difficult to apply:

I need to develop the pedagogic competence to be able to pass on knowledge in the art of midwifery. (FGD1)

We have the old education, and now that the new education reform has been instituted we need to be updated in the new education programme and its pedagogy. (FGD10)

Simulation-based learning was a defined component in the midwifery curriculum. Some educators had taken a course in simulation-based learning pedagogy, but it was difficult to maintain this knowledge without continuous practice. As a result, students lacked a method for learning important curriculum content concerning normal and critical management related to antenatal, intrapartum, and immediate newborn care:

We've had this curriculum since 2014, and at that time we had a short training in educating through simulation-based learning. We need continued education in simulation knowledge and in how we should do it in practice. We've had a three-day course in simulation material for supporting the learning, but it wasn't good. (FGD4)

Table 3
Characteristics of study participants (n = 85).

Variable	Midwifery Educators (n = 22) n (%)	Midwifery Clinical Preceptors (n = 63) n (%)
Gender		
Male	10 (45%)	14 (22%)
Female	12 (55%)	49 (78%)
Age range (mean)	25–60 (42)	28–67 (42)
Professional education as midwife		
Nurse-Midwife 3 + 2 years (AO)	3 (14%)	0
Nurse-Midwife (1-year post-nursing programme)	4 (18%)	1 (2%)
Midwife 3 years direct entry (A1)	14 (64%)	53 (84%)
Auxiliary Nurse-Midwife (A3, A2)	1 (5%)	9 (14%)
Highest level of completed academic qualification		
Master's degree (M2) in Public Health/Mother-Newborn Health	4 (18%)	0
Bachelor's degree (L2) in Obstetrics/Education	15 (68%)	13 (21%)
Administration, Public Health/Community Health/Epidemiology		
Pedagogic training		
Yes, at academic level	5 (23%)	–
Yes, as a short in-service training	7 (32%)	–
No	10 (45%)	–
Years as midwife, range (mean)	1–20 (11)	0–46 (9)

Almost no continuing professional development

The lack of continuing professional development was another key barrier to delivering a good-quality education based on the latest scientific evidence. The need for the most up-to-date scientific knowledge was prominently expressed among the midwifery educators, with the reason that they need to deliver up-to-date evidence-based education. There was also a need of skills in reading and understanding the latest evidence within the subjects they were teaching. For this, they needed English language skills, which were next to non-existent; thus, this served as a major barrier to keeping oneself apprised of the latest scientific evidence in areas concerning the programme's learning outcomes. There was also a need of skills in research methodologies, everything from designing to collecting and analysing data, not only for conducting research themselves but also to have the capacity to educate and guide the midwifery students in their thesis work:

We lack scientific knowledge. We have to have better knowledge of research within the area of midwifery. If I had research competence, I'd be able to communicate better with other researchers from other countries and thereby increase my knowledge. It should be easier to exchange experiences, both physically and via the Internet. (FGD1)

We need knowledge in how to conduct research. All of us conduct research, and have published one scientific article each. We lack the methods, critical review, and knowledge of how to read English scientific text. The strength is that I know the theory, but I need more knowledge of theoretical science – how to conduct research and how to introduce students to research. (FGD4)

The clinical preceptors expressed a comprehensive need for continuing professional clinical development, as many of them had been educated long ago. This need comprised several areas, everything from how to use a partograph to identify deviating processes, to infection prevention control and pharmaceutical treatment during pregnancy. Mostly, the expressed need involved maternal and newborn emergency obstetric care such as newborn resuscitation, managing a woman with preeclampsia, and when to refer a woman or newborn to a higher level of care:

We have the old education. With the new education reform from 2013, we need to be updated in the new education

programme. For instance, we don't have competence in offering support during labour or promoting normal birth. (FGD 10)

We don't have continuous education. We need continued education in promoting normal and complicated labour, and in caring for and supporting a woman with HIV. (FGD13)

When there is bleeding, I send them to a reference hospital. I need knowledge in resuscitating the newborn. The support for the child – when I started, they said the child should be suctioned – you don't do that now. I need more knowledge for taking care of a premature baby. (FGD6)

A few participants addressed the need of knowledge in the midwife's area of responsibility – supporting and promoting a normal physiological process of labour and birth. This included knowing more about using alternative positions and movement during labour, offering continuous labour support, and assisting a woman giving birth in a non-supine position:

We need more knowledge of how to support the woman during labour; the women give birth on their back and we need continued education in alternative delivery positions. I use a squatting position, and kneeling, but everybody doesn't do that. (FGD10)

Unclear understanding of the unique philosophy and role of a midwife

One crucial barrier entailed an unclear understanding of what a midwife is, the midwife's autonomy, and the core of the midwifery practice compared that of a nurse or physician. For most of the educators and clinical preceptors, this was difficult to express. Many of the more experienced educators had been teaching in nursing education programmes and working as nurses in clinical practice for years before starting to educate in midwifery, and struggled with knowledge about and the ability to express the uniqueness of the midwifery profession. It was repeatedly declared that a midwife's most important role is to ensure that no woman, or her newborn, dies in childbirth. With help from the repetition of the question about the uniqueness and responsibility of the midwife, the participants started to reflect on this, and successively expressed some core elements of the midwife's philosophy and responsibility. A common thread among the answers was that midwives are responsible for protecting women's and their

newborns 'rights to health, and for serving as partners to women and mothers. Many participants did not truly grasp the uniqueness of a midwife compared to a nurse, and it was expressed that there was a need to better know about this midwife identity in order to offer students this crucial awareness and knowledge:

The ideal is that no woman should die; they shouldn't die due to things we can avoid. Not newborns either; we have to be able to take care of bleeding regardless of what trimester it is. Midwives are partners to the mothers. They're there with the mothers to support them in a safe way, to avoid all the dangers. The midwife offers support when there are problems; they're autonomous and should respect the woman's rights, and respect the newborn child's rights. They're responsible for making sure the care environment is clean. (FGD2)

We lack knowledge in bedside manner. Ethical knowledge in bedside manner as a midwife. (FGD4)

I want to develop my competence in developing the education in the basic philosophy of midwifery. The library has no books describing the midwife's philosophy. (FGD3)

In order to increase the recognition and status of the midwifery education, the need for midwifery role models, particularly internationally, was stressed. Midwifery educators at one ISTM expressed a need of strength to defend the professional competence and identity of the midwifery profession. They felt discriminated against by other educators, especially those in nursing education. The midwifery students were also at times verbally attacked by other students. In line with this, the simple fact that we visited and held the focus groups, greeting and encouraging the midwifery students, gave them courage and hope:

The other teachers say bad things about us – that we can't develop, that we're at a lower level. An exchange with an international institution of learning would strengthen us in our identity. The other students make fun of the midwife students, saying they have a lower status. Many of the midwife students later continue their education in public health because they don't feel they have sufficient worth as midwives. Your being here now encourages our students. The midwife profession is a weak one in the DRC, and it motivates the students to see you as role models. It gives them hope that the midwife can attain an established position in the future. (FGD4)

Shortage of resources and equipment

Limited access to evidence-based literature, insufficient simulation-based learning equipment, and scarce clinical equipment were mentioned by both educators and clinical preceptors as some of the barriers to delivering midwifery education of high quality. These shortcomings included the absence of electricity, the Internet, projectors, computers, textbooks, and research publications, all necessary to help students acquire the needed knowledge and skills to become a qualified midwife.

Limited access to evidence-based literature

As described in the category "Deficient competence in midwifery educators and clinical preceptors", there was an awareness that the education should be built on the latest scientific evidence. But there was limited access to this, which made it almost impossible to deliver evidence-based lectures. This was especially sensitive when it came to literature highlighting the philosophy of a midwife. Consequently, the students' learning was jeopardized:

We midwives focus on philosophy and physiology during the entire pregnancy, and stress the normal pregnancy, physiological birth, and post-partum period. It's a matter of a normal

physiological way of thinking. I need literature. The books that do exist take an obstetrical perspective, not a midwife's perspective. The fundamental documents are lacking – it could be both books and on the Internet. (FGD3)

The reasons for limited access to evidence-based literature were multifactorial. One was the lack of, or highly limited access to, recently published evidence-based midwifery textbooks. Unreliable access to electricity, for example, influenced the possibilities to charge mobile phones, use computers, and save online literature. Another reason was the lack of Internet access, which meant it was impossible to search for the latest evidence on midwifery care, such as recently published research. This resulted in an inability to search for recent articles within the subject they were teaching. One of the institutions had no Internet access at all:

We don't have access to the Internet. It's there, but we often can't get online. So it's hard to get hold of scientific articles. (FGD1)

We're supposed to work in a research-oriented way. But have difficulties getting the research because we don't have Internet. (FGD2)

Another barrier involved a lack of computers. Sometimes, when there was Internet access, there were challenges in saving the information as there were no computers. To ensure that the students received the best possible education the educators used their own private resources, for instance buying Internet access or using their private mobile phones; a few had a private computer that they used for work. Students were taught in theory how to search for evidence knowledge, but were unable to apply such skills as the institutions had no access to computers or the Internet.

We buy private modems, . . . those who are able buy their own modems in order to offer as good an education as possible. We even buy our own USB sticks. We have a computer that the teachers can use. This single computer isn't enough, because there are many of us teachers who have our lessons at the same time. (FGD2)

We have so many students and teachers that the Internet capacity isn't enough. Furthermore, the connection is unreliable. We might have Internet access one day, but the next day it's not there. (FGD1)

Insufficient simulation-based learning equipment

The midwifery education was further compromised by insufficient simulation-based learning equipment at three of the four ISTMs (the ISTM in the capital was well equipped). One ISTM had a small room with almost no equipment, and two ISTMs had no simulation lab available, and hardly any equipment at all. This made it impossible for the educators outside the capital to teach the simulation-based learning activities that are necessary for preparing students for their clinical education practice. This meant that, upon entering clinical sites, students had not had sufficient prior education and faced difficulties applying in practice what they had been taught in theory, and lacked the practical knowledge and skills to protect patients from unnecessary risks:

Actually, it used to be the case that the teachers at the school were to have gone through the training with the students through simulation, but they don't do it because there's no material. So when the students come they're not prepared. They go from theory directly here, without simulation. (FGD6)

When we're going to teach practical elements like simulation, we don't have the education material and thus the education ends up being more theoretical than practical. We don't have . . . the simulation material to teach according to the curriculum. Despite this we try to make the best of the

simulation-based training, but it's not optimal. We need more competence in providing an education of high quality. (FGD4)

Scarce clinical equipment

At the clinical education sites, there was not sufficient clinical equipment to cover the basic needs to provide care during labour, birth, and the period after. They lacked everything from essential supplies like equipment for physical examination, birth sets, episiotomy and suturing kits, light sources, syringes, mucus extractors, medicines and injectables to personal protection equipment such as goggles, gloves, aprons and rubber boots, as well as more advanced material like oxygen, vacuum extractors, and equipment for newborn resuscitation, incubators, and sterilization equipment. The lack of clinical equipment endangered both the clinical preceptors and their patients, as well as their possibilities to offer the midwifery students an optimal clinical education:

We had a political conflict in 2016–2017, and then all the material disappeared. The military had occupied the hospital and used it as its headquarters. They burned the beds. The war ended at the beginning of 2018, and since then no one's done anything. We haven't gotten any outside support to rebuild the hospital; we wait for outside support but nothing's come. We're working under difficult conditions. We lack the material we need to offer good education. For example, we don't have a suction cup for vacuum extraction, and we have very few delivery sets. We used to have more sets, but now we only have one that's supposed to be used for 70 deliveries a month. (FGD5) . . . we don't have material. If we were to get material, we'd need knowledge in how it's used. (FGD7)

Poor communication between the education institute and the clinical education sites

One barrier involved poor communication links between the ISTMs and the clinical education sites. This had resulted in unclear routines for how the clinical preceptor should guide, follow up, and assess the midwifery students' clinical learning experience.

Unstandardized routines for following up midwifery students' clinical learning outcomes

There were no standardized routines concerning the clinical supervision, from the students arriving at their clinical placement to assessing the learning objectives and the dialogue between clinical preceptor and student concerning how to achieve them. Because of the shortage of midwifery educators, only some visited the clinical sites, but there was no clear system in place for all three parties (i.e. student, clinical preceptor and educator) to meet. Due to the lack of routines for assisting students and clinical preceptors, there was an increased risk that students would not have the competencies they needed by the end of their clinical placement in how to manage antenatal care, care during labour, birth, and the postnatal period:

First, they (the teachers) come and talk to us preceptors without the students. There's never any three-party discussion. We give the evaluation to the teacher; as clinical preceptors we have a meeting with the teacher, and the teacher informs the student. (FGD5)

When the students come here they have with them learning goals; the goals are different from year to year. They (the teachers) come see some of them, but not others; there's nothing standardized. They only talk to the students, and only meet with around two out of six students. There are never meetings between clinical preceptors and teachers. They've

never given us guidelines or directives for how we should supervise and teach the students. When it comes to the students' final grades, we put this in an envelope and give it to the institute. There's no good communication between the teachers and the clinic. (FGD6)

Inexplicit routines for preparing clinical preceptors

Another barrier was that there were inexplicit routines for preparing the clinical midwives to function as clinical preceptors. This included how to train the midwifery students:

Before they leave the school, the teachers give the goals to the students. The students give us the goals they're to achieve during the clinical education. We get information from the ISTM regularly, but we never get any education in how we're to supervise. They're not interested in us; they just come to evaluate the students. When they do come, we're the ones doing the evaluation – they don't come here and stand next to the students. There's an evaluation form for the students, but we're the ones who fill it out. (FGD5)

Discussion

Midwives constitute a critical human resource subgroup that will be essential in reducing maternal mortality in the DRC. This is recognized in all the country's key policy documents, including the National Development Strategy Plan, the National Health Development Plan, and the Investment Case for Maternal and Child Health [17,18]. Any effort to improve the number, quality, and performance of this category of health workforce will contribute to improving the quality of services in the country, and consequently to reducing maternal mortality. In addition, the new DRC authorities are advocating for universal health coverage, in which maternal and child health is a priority and an indicator [17]. This will never be a reality unless maternal health services are available and of acceptable quality – hence the importance of an adequate landscape of midwifery education, training, and practice in the health system. This interview study has identified significant barriers to providing high-quality midwifery education in the DRC.

The educators and clinical preceptors had varied levels of midwifery education, from being an auxiliary midwife trained at the secondary school level to a nurse-midwife with a one-year post-nursing degree at a higher level. According to global standards for being a midwifery educator, one must have an academic qualification higher than that of the programme in which one teaches [3,8]. While this is a logical presupposition, in this study most of the educators had a Bachelor's degree, with only a few clinical preceptors holding a higher academic-level degree than that of the educational programme they taught. In accordance with conclusions from a study in Somaliland [19] and Bangladesh [20], we agree that unless adequate preparation of midwifery educators and clinical preceptors is targeted, the quality of midwifery education in the DRC will negatively affect the quality of the graduating midwives. In turn, this will reduce the effect of increasing the midwife workforce on improving maternal and newborn health [4,21]. 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.

Continuing professional development has been identified as an effective way to ensure that educators and clinical preceptors are motivated, and that they maintain, improve, and broaden their knowledge and skills, and develop their professional competence [5]. Our study found that the participating educators and clinical preceptors very seldom had access to continuing professional development. An urgent need was identified for updated evidence-

based knowledge in several of the topics within the curriculum – both the theoretical and practical domains. There was also a need for pedagogical skills in conducting student active learning pedagogy. A recognized risk involved with being a midwifery educator and a clinical preceptor with limited access to continuing professional development is that neither the theoretical nor the clinical education will be built on the latest research [22]. As a consequence, newly graduated midwives will be unable to undertake the full scope of evidence-based midwifery practice [23], resulting in poor quality of care. This may explain the paradox that while a high proportion of births (more than 80%) are assisted at healthcare institutions there is still high maternal and neonatal mortality in the DRC, indicating a poor quality of the maternity services [24,25]. We suggest that the DRC take necessary actions to ensure that midwifery educators and clinical preceptors have access to the latest evidence-based knowledge through continuing professional development opportunities. This would enable them to keep up with evidence-based knowledge and skills covering all core elements in order to serve as role models concerning the values and ethical principles needed for competent midwifery practice and an optimal development of the profession.

What stands out in the results is the participants' unclear understanding of what the midwife's philosophy and unique role are. This is critical, as all professional care practice is based on an epistemological foundation, whether this is conscious or unconscious for the healthcare professional – and this is the case for midwives as well [26]. It is well known that maternal and newborn healthcare is subject to differing and even opposing epistemological bases [27,28]. There is everything from properly salutogenic to extremely pathogenic approaches [29]. Institutional healthcare is often based on pathological risk approaches, likely because it is provided by physicians [28]. The professional midwife has a declared philosophy. This includes to promote, protect and support women's human, reproductive and sexual health and rights, and that midwifery takes part in partnership with women [30,31]. These parts were mentioned by some of the participants. Other important parts of the philosophy comprise to conduct holistic care grounded in understanding of the social, emotional, cultural, spiritual, psychological and physical experiences of women, and to base the care on a belief that pregnancy and birth comprise a normal physiological process that should be promoted and supported [30,31]. These basic beliefs were not explicitly present among the interviewed midwifery educators and clinical preceptors. This is a pivotal finding, as these important beliefs will not be transferred to the midwifery students and will thus not inform their practice as midwives. The whole epistemological basis for the professional midwife needs to be kept alive and expressed in the DRC context, not only in the education but also by the professional organization – also in order to advocate for legislation for the midwife profession vis-à-vis the government that establishes that midwifery is a professional body with a unique identity and philosophy, different to nursing and different to the medical, pathological perspective. It will also mitigate the discrimination against midwives reported in educational and workplace contexts.

To effectively facilitate competency among midwifery students, midwifery educators and clinical preceptors need adequate resources such as libraries, computers, anatomical models for simulation-based learning, and clinical equipment and supplies [5]. The shortage of critical resources and equipment such as access to evidence-based literature, simulation-based and clinical equipment, as found in this study, acts as a barrier to providing high-quality midwifery education. Similar findings have been reported in other countries in East and Southern Africa [11]. The midwifery education programmes in this study, as in the DRC in general [13], may risk preparing future midwives who are not fully capable of performing high-quality midwifery services or of developing

towards excellence. This finding raises serious concerns, given the fact that midwives are extremely scarce in the DRC health services: on average, in the DRC, there are two midwives per 1000 live births [17]. According to a recent survey, 82.7% of women who give birth in the DRC report having been seen by a health worker for a first antenatal visit. However, only 19% of these health workers are midwives [25]. This means that it is unlikely that the pregnancy monitoring is of acceptable quality.

The poor communication links between the ISTMs and the clinical education sites included unstandardized routines for how the clinical preceptor should guide, follow up, and assess the midwifery students' clinical learning experience. As Bharj et al. [32] have stressed, preparing midwifery students for their future midwifery practice requires close collaboration between the education programmes and the practice settings. Such collaboration entails equal partnerships between educators and clinical preceptors, but also collaboration with institutions such as hospitals, universities, and other places of learning as well as government departments responsible for population health and education [32]. Thus, we propose that pedagogical routines concerning students' clinical education be formulated and implemented. Such routines should encompass everything from the students' arrival at their clinical placement to planned dialogues between clinical preceptor and student concerning how to achieve learning objectives, and a so-called three-party model to evaluate students' achievements in which the student, an educator, and the clinical preceptor meet and discuss the student's learning progress.

It is important to situate the weakness in the midwifery education, including poor communication between education and clinical sites, against the background of the general systemic weakness in the higher education sector in the DRC, which is struggling to address a multidimensional web of irregularities and inefficiencies. In 2011, the government of the DRC initiated the organizational audit and viability survey of public and private higher education institutions. The results of this audit revealed that 21% of the establishments were viable, 44% were of intermediate viability, and 35% were non-viable and therefore were ordered to be closed. The evaluation criteria included, among other things, the availability of scientific equipment and libraries. It was found that only 39% of education institutions had laboratories or workshops, of which 30% had libraries that met international standards. In the digital domain, the institutions are landlocked digitally, mainly due to a lack of connection to optical fibre and a glaring shortage of IT tools, with an average of only five computers per 100 students [18]. Several institutions training clinical personnel had no connection whatsoever to clinical practice sites.

Strengths and limitations

The key strength of this study is that it is the first of its kind to address barriers to delivering high-quality midwifery education in the DRC. The main limitation, and threat to the credibility, of the study is that the data was collected at just a quarter of the 16 ISTMs, and at clinical education sites affiliated to only two of the included ISTMs. Hence, the findings may not be representative of all the ISTMs in the DRC. However, the trustworthiness of the data was secured by the fact that the ISTM in the capital was included in the study. As this Kinshasa-based ISTM works closely with all ISTMs in the country, they could confirm data credibility. A further limitation related to the generalization of these study results is that interviews were conducted only with midwifery educators and preceptors who had midwifery credentials. Another limitation is that not all clinical educational sites affiliated with the four ISTMs included in the study were invited to participate; this was due to logistical challenges. However, the information obtained from the participating clinical preceptors was considered abundantly rich and comprehensive. The first and last authors (MBo

and MBe) are two Swedish researchers and midwifery experts, both familiar with the DRC context and with conducting research in low-income settings. In this study, being a foreigner proved to be a strength in the sense that the participants were keen to explain their experiences involving the barriers to delivering midwifery education in the DRC to someone who was not from there. The third author (BK), who has grown up in the DRC and is a researcher and an expert on systems strengthening, took part in the steps of the research process and acted as an outsider in the data collection, analyses, and interpretation of the results, and encouraged the first and last authors to be aware of any preconceived notions.

Conclusions

Barriers to achieving high-quality sustainable midwifery education in the DRC include deficient competence in midwifery educators and clinical preceptors, a shortage of resources and equipment, and poor communication links between the education institutions and clinical education sites. Together, these barriers serve as major risks to providing the next generation of midwives with all the competencies they need in order to care for women and newborns for sustainable development, and thus hinder the progress across the SDGs, especially regarding health. Based on the lessons learned from this study, and in accordance with the WHO framework for action for strengthening quality midwifery education [1], we recommend that the DRC and other settings with similar conditions, ensure:

- ✓ that the competencies of midwifery educators and clinical preceptors meet internationally established standards for midwifery competencies, education and regulation, and that the midwifery educators have an education at least one academic level above the programme they are teaching in.
- ✓ continuing professional development opportunities which prepare midwifery educators and other midwives with evidence-based competencies and clinical skills.
- ✓ that midwifery education institutions and clinical education sites are adequately equipped to enable effective teaching and learning.
- ✓ standardized routines for communication between the higher education institutes and the clinical sites, and for assessing students' clinical practice.
- ✓ strong national associations for midwifery, including its provincial representations, in order to promote a legislatively autonomous midwifery profession which in turn will contribute to a required and deserved national and social recognition.

Author contributions

MBo and MBe designed the study, collected and analysed the data, and MBo prepared the first draft of the paper, to which MBe and BK contributed important revisions. All authors read and approved the final manuscript.

Ethical statement

Ethical clearance was obtained from The Research Ethics Committee at the Congo Protestant University 13/08/2019 with the reference number: CEUPC 0059.

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Conflict of interest

One author (BK) is employed by the funder. The authors alone are responsible for the views expressed in this publication, which do not necessarily represent the decisions or policies of the funder.

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.wombi.2020.06.004>.

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