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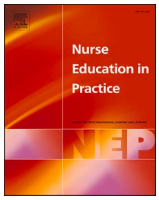

# Contextual factors influencing implementation of a university-based midwifery education programme in Central Africa: A qualitative study

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ABSTRACT

*Aim:* To investigate contextual factors and their influence on implementing a 90-credit midwifery education programme for nurses at a university in the eastern DRC.
*Background:* To improve maternal and neonatal health, there is a government policy in the Democratic Republic of Congo (DRC) to educate midwives at a higher education level according to international norms. This study investigates contextual factors and their influence on the implementation of a midwifery education programme which is based on national curriculum and has a profile of person-centred care, simulation-based learning pedagogy and information and communication technology.
*Method:* A qualitative study was conducted with data collected through semi-structured interviews with 22 participants who were directly or indirectly involved in establishing the midwifery education programme. Transcribed interviews were analysed using content analysis.
*Results:* The factors influencing the implementation of the new midwifery education programme comprise facilitating and hindering factors. Facilitating factors were: (i) awareness that midwives educated at a higher education level can deliver higher-quality health care, (ii) women are motivated to seek care from well-educated midwives, (iii) the planned programme is attractive and (iv) the university has a stable academic administration and established collaborations. Hindering factors were: (i) Students' lack of prerequisites for study; (ii) objections to educating midwives at a higher education level; (iii) inadequate teaching resources; and (iv) inadequate working conditions for midwives.
*Conclusion:* The facilitating factors strengthen the belief that it is possible to implement this midwifery education programme, while the hindering factors need to be addressed to run the programme successfully. The findings can guide higher education institutions starting similar midwifery education programmes in the DRC and elsewhere, although it is crucial to conduct a context study in those specific contexts.

## 1. Introduction

Providing high-quality care is crucial to support goal 3 on good health and well-being for all within the Sustainable Development Goals (SDG) and, specifically, to increase maternal and newborn health (Callister and Edwards, 2017; Lee et al., 2016). Sexual and reproductive healthcare interventions delivered by well-educated midwives can save millions of lives per year worldwide (Nove et al., 2021). Operating qualified midwifery education programmes developed in accordance with current requirements is paramount to achieving good sexual and reproductive, maternal, newborn and adolescent health outcomes (Kuruvilla et al., 2016;) and is recommended in the World Health Organization (WHO) strategic directions for nurses and midwives (World Health Organization, 2021).

The Democratic Republic of Congo (DRC) is among the countries with the highest maternal and neonatal mortality. The latest Demographic Household Study in 2013–14 found a maternal mortality rate in the DRC of 846 per 100,000 live births (Ministère du Plan et Suivi de la Mise en œuvre de la Révolution de la Modernité Democratic Republic Of Congo, 2014). Although statistics from 2017 show a decline to 473

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deaths (World Health Organization UNICEF UNFPA World Bank Group United Nations Population Division, 2019), this is still far from the SDG's goal for the year 2030, which calls for a reduction to fewer than 70 maternal deaths per 100,000 live births (Callister and Edwards, 2017). Another challenge in the DRC, especially in its eastern region, is the high rate of sexual violence, with associated physical, emotional and social injuries (Bress et al., 2019). The midwife profession is one leading care provider group that can tackle these challenges (de Klerk et al., 2022).

The DRC does not have enough midwives educated according to international professional standards (Bogren et al., 2020). As an essential strategy for achieving better sexual, reproductive, maternal, newborn and adolescent health outcomes, in 2013 the DRC government decided to increase the number of midwives who have received higher education and in line with international standards, i.e., completing a 3-year direct entry programme or, for nurses who have already completed 3 years of higher education, a 18-month programme. There is no official information about the number of existing midwives educated according to this intention (Bogren et al., 2021; Bogren et al., 2020), nor about how many midwives are needed to be educated.

At time of this study, the 18-month reconversion programme was given at three higher-education institutions in the DRC. To address the lack of qualified midwives identified in the South Kivu province in 2021 (Midwife Association in South Kivu of Democratic Republic Congo, 2021), the Evangelical University in Africa (UEA) will implement an 18-month/90-credit reconversion midwifery education programme. For the implementation to be successful, it is important to carefully adapt it to the context.

In implementation research, context includes internal and external factors and these may act as facilitating or hindering factors in implementing or modifying an intervention. Hence, understanding context – including identifying what the contextual factors are and how they influence the implementation of evidence-based interventions – is essential as implementation varies from one context to another (Moore et al., 2015). This study investigates contextual factors and their influence on the implementation of a midwifery education programme which is based on national curriculum and has a profile of person-centred care, simulation-based learning pedagogy and information and communication technology. The study is a multidisciplinary collaborative research project involving researchers from Sweden and the DRC and is part of a larger DRC project designed to support improved care related to sexual, reproductive, maternal, newborn and adolescent health.

## 2. Methods

### 2.1. Design

This context study is based on the principles of a process evaluation framework described by Moore et al. (2015). Using a qualitative research design, interviews were conducted with strategically chosen participants who were directly or indirectly involved in the implementation of the midwifery education programme. Interviews were held individually to reduce conflicts of interest and minimise the effect of power differences between participants. All participants gave signed informed consent. As the study was conducted in a limited context, participants' anonymity has been protected and no detailed information about them is presented. Ethical approval was obtained from the National Ethical Committee of Public Health (No Ref 069/CNES001/DPSK/2022).

### 2.2. Setting and intervention

The UEA is operated by Christian denominations and is situated in the capital city Bukavu in the South Kivu province. The midwifery education programme is being implemented at the Faculty of Medicine and Community Health and will lead to a Bachelor degree, being part of the recently introduced DRC's national higher education LMD system (L= Bachelor, M=Master, D= Doctor). The LMD system uses student active learning pedagogy. In addition to following the national curriculum, the midwifery programme at UEA has i) a strong profile of person-centred care based on human rights and includes a specific focus on care of survivors after sexual violence, ii) developed the use of simulation-based learning pedagogy and materials at both campus and clinical practice sites and iii) developed the use of digital tools.

Person-centred care is an ethical healthcare model that respects patients and their families and engages them in care and health-promotive actions. It includes listening to the patients' narratives and establishing and documenting care plans in partnership between care providers and patients/families (Britten et al., 2020).

The midwifery education programme follows the ICM global education standards, with 50 % theory and 50 % clinical practice and simulation-based training. Theoretical and simulation-based education is conducted at the UEA. Clinical practice combined with simulation-based training is delivered at five hospitals selected to represent a wide geographic distribution: from Uvira 194 km south of Bukavu to Goma 122 km north of Bukavu.

### 2.3. Data collection

Individual interviews were conducted between December 2021 and February 2022, before the midwifery education programme started. Potential participants were identified by the first author and an assistant. Inclusion criteria were working either at the UEA, at the hospitals selected for clinical practice courses, at a higher education institute offering a 3-year direct entry midwifery education programme in the city, at the provincial healthcare ministry, or at the provincial midwifery association. All participants gave their consent to participate after receiving verbal and written information about the study and they were informed that participation was voluntary and that they could withdraw at any time without explanation.

Twenty-one interviews were conducted with 22 participants. At one interview, two invited persons showed up and insisted on being interviewed together; after consideration, this interview was included in the study. Several participants represented more than one function. Three were working at the provincial health division, two were leading the local midwife association. Thirteen were working at the hospitals chosen where midwifery students will do their practical training and five of those were hospital directors. Six participants had different leading positions at the UEA.

The interviews were based on an interview guide (Appendix 1) with open questions in defined areas to answer the overall research question: Which contextual factors influence the implementation of a 90-credit midwifery education programme, and which have a profile of person-centred care, simulation-based learning pedagogy and use of information and communication technology? The interviews lasted on average 25 min. They were audio-recorded and conducted in French by the first author (MBe) who transcribed them to French and then translated into Swedish, as two co-authors (MBo and ECL) do not understand French.

### 2.4. Data analysis

The analysis of the interviews followed principles of the inductive qualitative content analysis process as described by Elo Kyngäs. This method is appropriate to use when seeking a contextualised understanding within a topic on which little is known (Elo and Kyngäs, 2008). The following procedure was conducted:

- To gain a sense of the whole content, two of the authors who understand French (MBe and FKN) listened to the audio-recorded interviews and two authors read the Swedish-translated interview texts.

- The detailed analysis was conducted, using the Swedish text version, by MBo and ECL in close collaboration with MBe until agreement was reached. First, the transcripts were read several times. Meaning units were identified, answering the research question. The meaning units were then compared and sorted into codes based on similar content and these were compared and clustered into categories. In subsequent readings, these categories were organised into two generic categories, facilitating and hindering factors.
- The final phase of the analysis was done in English, involving all four authors.

## 3. Results

The factors influencing the implementation of the new midwifery education programme comprise facilitating and hindering factors, each sorted into four categories. An overview of these categories is given in Table 1. In the presentation of the results, quotations from the 21 interviews are labelled 1–21.

### 3.1. Facilitating factors

#### 3.1.1. Awareness that midwives educated at a higher education level can deliver higher-quality health care

Participants showed keen interest in the new midwifery education programme. Prioritising education at a higher education level for nurses to become midwives, meeting international standards, was assessed as a strength:

> *Most of those who conduct and lead pregnancy and childbirth care in the Congo are nurses with a 3-year higher education qualification; not all are midwives. … Therefore, an educational programme training nurses to become midwives is much needed. (6)*

The participants were convinced that the planned education programme would add a pool of qualified midwives who could contribute to better sexual, reproductive, maternal, neonatal and adolescent health in the DRC. Most examples of midwives' critical roles were given in relation to childbirth care. A midwife who is more knowledgeable about promoting and facilitating a normal physiological childbirth and about identifying and treating complications in time could significantly reduce morbidity and mortality rates.:

> *We are very optimistic about this education programme. Because maternal and newborn mortality continues to be high in this country, the programme will affect the quality of care. It will be an innovation in the province that will impact women's health.* (18)

The importance of implementing a midwifery education programme of a high standard was stressed. This would ensure that the students could fulfil the programme and enable a high level of education that guaranteed the graduation of highly competent midwives. Therefore, applying nurses were expected to have basic theoretical and practical knowledge and skills in maternity care and these would be evaluated before the nurses would be accepted into the programme:

> *It is important to be rigorous in the selection criteria for recruitment. It is essential to select students of good quality; otherwise, it can have a negative effect. A test measuring the students' knowledge needs to be performed. The fact that those recruited have studied to become nurses at the higher education level does not mean that everyone can attend the training. Recruiting the right students with the abilities to complete the training programme is vital.* (21)

**Table 1**
Overview of categories.

| Facilitating factors |
|---|
| Awareness that midwives educated at a higher education level can deliver higher-quality health care |
| Women are more motivated to seek care from well-educated midwives |
| The planned programme is attractive |
| The university has a stable academic administration with established collaborations |
| **Hindering factors** |
| Students' lack of prerequisites for study |
| Objections to educating midwives at a higher education level |
| Inadequate teaching resources |
| Inadequate working conditions for midwives |

#### 3.1.2. Women are more motivated to seek care from well-educated midwives

Another factor motivating the midwifery education programme was the users' perspective. Women are aware of the quality of the care they receive. They will notice differences in care and treatment when well-educated midwives provide a higher quality of care and they will be motivated to choose the same healthcare facility again. For instance, if women have a positive experience of health care when giving birth for the first time, they are likely to choose the same facility for subsequent births. They will also inform their peers about care they received. Thus, midwives providing good care will contribute to a favourable reputation of the healthcare facilities:

> *If we acquire midwives with this training, it is a big win for the hospital, not least for the women who come to receive care. The women often ask, "Do you have qualified midwives?" It is an important issue for women.* (3)

In addition, community workers, often women, were reported to play an important role in motivating women to seek timely and safe care. With more well-educated midwives available at certain health facilities, the community workers would encourage women to seek care at those facilities:

#### 3.1.3. The planned programme is attractive

With its specific profile, the planned midwifery education programme was seen as attractive. In particular, the profile of person-centred care was described as having a high value in the local healthcare environment and the whole country. It would secure holistic quality care based on human rights principles, including respectful, individualised, humanised care. It would fill a gap in the existing care behaviour that does not always meet women's preferences and needs and that can sometimes be disrespectful and abusive. A holistic approach treats pregnancy and childbirth, for example, not only from a strictly medical perspective but also includes psychological dimensions and socio-economic life conditions, such as education or income. Having this person-centred approach could thus lead to better health outcomes and an improved relationship between patient and care provider:

> *I think it is the lack of this* [person-centred] *approach that gives us problems. People are different and we need to relate to and understand them to provide good care. For example, we sometimes have women screaming in the labour ward. Someone comments, "Shut up. Why are you screaming? There are others here who hear you. Calm down." In this case, as a professional, you instead have to ask yourself: Why is she screaming like that? What is her story? And what should I do to relate this behaviour to care?* (7)

Combining theoretical education, simulation-based learning activities and practice on patients in the courses was seen as an excellent approach. It would, for example, promote healthy physiological births and vaginal instrumental births instead of caesarean sections. To transfer this competence into practice, care providers at clinical practice sites needed the same training:

> I am delighted that this new education will be both theoretical and practical and that you will instruct students using simulation. It is an innovation in itself. Theoretical education directly followed by

sending students to clinics to care for women is not ideal. But with training through simulation, the education will give the students much more knowledge, making them better prepared for the practical aspects of the education (10)

The intention to further use digital tools in education was perceived as enhancing students' active learning process. This included developing skills to find new, evidence-based, knowledge:

*Via the Internet, students gain knowledge about new findings. It is good. We old people also need to seek knowledge in this way.* (17)

#### *3.1.4. The university has a stable academic administration with established collaborations*

After years of delivering education, including for medical students, the UEA has a good reputation for running high-quality education and having a dependable administration. This comprises a functioning central administration and established collaborations with the reference hospital in the health zone where the university is situated. This reputation convinced the participants that the university could also successfully run a midwifery education programme:

*A facilitating factor to starting a midwifery education programme is that the university, with its close collaboration with the reference hospital, is well integrated into the healthcare system* (1)

An effective and dependable administration also included cooperation with the university owners (i.e., the Christian denominations), which run numerous healthcare facilities in the DRC. Furthermore, a close collaboration with the provincial health division and the provincial midwife association was mentioned as facilitating the implementation of the midwifery education programme. The importance of involving all such actors in the planning and operating of the programme was stressed:

*Careful planning of the education programme is required before its initiation. For example, all educational actors must know and respect its principles, timetable and profile.* (21)

### *3.2. Hindering factors*

#### *3.2.1. Students' lack of prerequisites for study*

Several barriers hindering students from studying were mentioned. Lack of financial means was one such obstacle. As with all higher education in the DRC, students need to pay a fee to study. Given that all students are nurses with established adult lives, including mothers who are largely responsible for supporting their families, there were concerns about how to bear education costs. There was also some concern that it would not be possible to combine work with studies and thus there was a fear of losing regular income and employment:

*I am thinking about how it will be possible to work and study simultaneously. The cost of studying can be an obstacle.* (12)

The participants from the midwife association stressed that students needed to have contracts with their respective work sites, ensuring that they would not lose their jobs during the study period and that they could return to work after graduating. Further, it was mentioned that it would be ideal for students to be compensated for study costs and lost wages. The midwife association emphasised the need for these discussions and worked hard to achieve these goals:

*Because there is some degree of unemployment among nurses and midwives, it is a threat if they are not allowed to keep their position and thus be able to return to work after completing their education. …. We in the Midwives Association will act to influence politicians. A letter has been written that says that a nurse who furthers her education during these 18 months will not lose her position and, when returning, will get a position as a midwife at the bachelor's level.* (6)

Another hindrance was a lack of access to digital resources such as personal computers, smartphones and even a stable Internet connection. Such resources were essential to enabling students to complete the requirements of the study programme:

*The idea itself is good, but for those who do not have the opportunity to acquire a computer, it becomes a problem. I may have the desire and will to study, but my studies are adversely affected without the means to buy a computer or phone or to pay Internet fees.* (3)

Another obstacle to using digital tools was that most students did not have sufficient skills in the English language. Because knowledge of English is crucial to access research and other educational resources, it was stressed that lessons in the English language must be part of the education programme:

*English is a barrier for all of us, not only for the students but also for the teachers. It is a significant barrier for us as a francophone country.* (20)

#### *3.2.2. Objections to educating midwives at a higher education level*

Another hindering contextual factor was that a few participants had general objections to educating midwives at a higher academic level. They assessed the planned midwifery education as too advanced for midwives in the DRC, at least for those working in remote areas with minimal resources. It was considered impossible to educate all the midwives to such a high level. Another argument was that highly educated midwives would prefer not to work in remote settings. It was suggested that higher educated nurses studying to become midwives at a higher level of education would serve better as managers and leaders:

*It is an important education* [programme]*, but the country has some challenges. And the education must be adapted to the specific conditions and needs of the country.* (13)

#### *3.2.3. Inadequate teaching resources*

It was stressed as crucial that the educators in the midwifery education programme should have skills to fulfil the programme's profile and this was not the case for all. Not least, the educators needed essential knowledge in person-centred care, to base their teaching on the philosophy and ethics of person-centredness. This competence should also include the clinical preceptors:

*The clinical practice sites must have the same care philosophy of person-centredness as being educated in the programme. It is impossible to send students to a care facility that shows a duality between what is taught at the UEA and how care is conducted in practice.* (19)

Another impeding factor was a lack of material, equipment and space for simulation training at the clinical practice sites. The importance of acquiring materials and being trained in using simulation-based learning was emphasised:

These healthcare units need to be strengthened. Trainers must be selected and trained first to use simulation-based instruction for their staff. (9)

Another mentioned barrier was that not all the clinical sites had a specialist in gynaecology and there was a lack of midwives educated at the prescribed level to function as supervisors for the students:

*Patients are available but we* [the clinic] *do not have many clinical preceptors with the right competence to supervise midwife students. It is a barrier.* (1)

#### *3.2.4. Inadequate working conditions for midwives*

Participants representing the midwife association noted that the current working environment for midwives obstructed the implementation of the education programme. The midwife profession was not yet legislated. The need to create a professional status and agency for

midwives within an enabling environment, including sanctioned positions to practise to their full scope after graduation, was underlined:

> *So far, the midwife is not registered in the Congo, but there is work in progress to be completed shortly.* (9)

## 4. Discussion

Our investigation on contextual factors influencing the implementation of a 90-credit post-graduate midwifery education programme at the university in the DRC identified facilitating and hindering factors that need to be carefully analysed and considered. The planned education programme was assessed as being attractive and innovative. The participants were mindful that midwives educated at a higher education level can deliver higher-quality health care and that women tend to seek care where midwives are well educated. Factors hindering successful implementation were the lack of resources required for studying and objections to educating midwives at a higher academic level. Limitations in the competences among some educators and clinical preceptors, a lack of simulation-based materials at the clinics and an inadequate working environment for midwives hindered successful implementation of the programme.

These contextual factors have been identified using principles of a process evaluation framework (Moore et al., 2015). To understand and discuss the findings, we are using the Consolidated Framework for Implementation Research (CFIR) and three of its five domains: intervention, outer setting and inner setting. Intervention refers to features, quality and how an intervention is perceived by persons responsible for behaviour changes within an intervention. The outer setting is the economic, political and social contexts where the organisation resides. The inner setting comprises the structural, political and cultural contexts where the implementation occurs (Damschroder et al., 2009).

The intervention in our study is the implementation of a new midwifery education programme at the university level in the eastern region of the DRC. In addition to following the national curriculum, the programme will have a strong profile of person-centred care, simulation-based learning pedagogy and information and communication technology.

It is crucial to find that this more innovative programme, with the profile of person-centred care, increased use of simulation-based learning activities and the internet and communication technology, was assessed as effectively supporting students to become better prepared as midwives to deliver higher-quality healthcare. The use of person-centred care was the most commented part of the programme's profile. To our knowledge, health care structured according to ethical principles of person-centredness is not common in the DRC, except in a holistic, person-centred care model for victims of sexual violence (Mukwege and Berg, 2016). In addition, the concept of person-centred care is not mentioned in the national curriculum of the 90-credit midwifery education programme at the higher education level, although there are dimensions of it, such as being empathic and respectful (Republique Democratique du Congo Ministère de l'énseignement supérier et universitaire, 2022). However, providing person-centred care entails more than being empathic and respectful. It is founded on ethics that needs to influence the healthcare system, including macro-, meso- and micro levels (Ekman, 2022). Thus, the new programme's extended profile of person-centred care will fill a need that, when well-validated, can also be integrated into the national curriculum.

Further, researching this implementation of person-centred care in the education programme and at the clinical practice sites can fill a knowledge gap, as a literature review showing statistically proven improvements in different patient groups when using person-centred care did not include care related to sexuality and reproduction (Britten et al., 2020).

Furthermore, the approach of linking theoretical education with simulation-based learning activities was assessed as crucial by the interviewed participants. It is also in accordance with research. A literature review found that integrating theory and simulation-based learning in midwifery education programmes has an educational and clinical impact and has advantages over other didactic approaches. The review was completed several years ago and the identified studies mainly focused on using simulation-based training in emergency obstetrics (Cooper et al., 2012). Additionally, our research group recently conducted a three-pillar training intervention in the DRC where theoretical and simulation-based education was integrated and combined with group reflections. This training aimed to promote a healthy physiological birth and introduced an evidence-based theoretical basis and tools to achieve this goal. One year after the training programme was completed, an evaluation found improved care routines, including planning, teamwork, having a respectful encounter and allowing a companion to be present with the birthing woman. It also increased the self-reflection skills of the providers. Finally, the proportion of emergency caesareans decreased, and vaginal births increased without an increase in maternal and neonatal complications (Berg et al., 2022). These promising results motivate extended simulation-based learning in the planned midwifery education programme and in the clinical practice sites as a way to improve maternal and neonatal health in the DRC.

Student financial barriers could threaten the successful and sustainable implementation of the midwifery education programme. One reason for this financial problem was that the student group comprises practising nurses, often with children and families to support. Financial barriers have been reported elsewhere, as in a study in Bangladesh, where students studying midwifery were promised that they would be paid by the government. The payments were often delayed, hindering effective study (Bogren et al., 2018). Finding ways to solve students' financial issues is thus crucial for the students' success and for the programme's sustainability.

*Factors in the outer setting*: Facilitating factors in outer settings identified in our study were that the midwifery education programme would result in well-educated midwives and that women are motivated to seek care where these midwives work. That women in the DRC context are well informed and want to get the best available care is a powerful resource and is consistent with fundamental values in person-centred care models, stressing the importance of including patients in their own care. For example, a midwifery model of woman-centred childbirth care includes considering the woman/patient as a person with the necessary knowledge and competence to assess her own situation and need for care. In addition, care should be planned in partnership with the woman (Berg et al., 2012). Our current study also found a hindrance in the outer setting. The working environment did not offer sufficient conditions to enable well-educated graduated midwives to conduct good care practices after graduating from the programme. This finding is in accordance with an earlier study in the DRC identifying midwives' lack of regular payment for their work. Midwives were challenged in that they were not paid fixed amounts for their services and their salaries were too low to allow them to support themselves sustainably. This meant that sometimes the midwives had to take a second job to meet their everyday needs, which resulted in increased stress and feelings of being underappreciated (Bogren et al., 2020; Bogren et al., 2021).

Another barrier in the outer setting was that some participants working in the healthcare sector felt that the planned education, although consistent with international and national standards and recommendations, was too advanced to accommodate a Congolese context. They held this opinion even though they were aware that midwifery education at the bachelor's level is recommended for nurses and midwives in the WHO strategic directions (World Health Organization, 2021). In a systematic review, efficient and effective ways for low- and middle-income countries to conduct pre-service and in-service midwifery education and training were explored. None of the in-service midwifery education programmes fulfilled the international standards with the full scope of competencies (Gavine et al., 2019).

Hence, it can be argued that countries should strive to meet the WHO's recommendation for midwifery education at a high level of quality to ensure that international standards are satisfied with the full scope of midwife competencies.

*Factors in the inner setting*: A facilitating factor identified in our study is that the university was known to have an effectively managed administration with established partnerships in the higher education system and with healthcare institutions. On the other side, the study identified that many educators involved in the programme lacked the capacity to educate according to the programme's profile, not least a deep understanding of the philosophy of person-centred care and its application in a healthcare setting. Possessing essential competence in the elements of person-centred care was judged to be a necessary precondition for teaching the programme. Similar opinions were found among programme directors in Sweden when they were interviewed about their opinions on implementing person-centred care in higher education for various healthcare professionals (Björkman et al., 2022).

Another identified hindrance in the inner setting when implementing the planned midwifery education programme was the lack of resources at the clinical practice sites to combine practice with simulation-based training. The need to have mannequins and other essential materials was identified as a prerequisite to conducting simulation-based education. A poor teaching environment including, for example, a lack of teaching materials has been identified as a challenge to delivering high-quality midwifery education in an earlier study from the DRC (Bogren et al., 2021).

Also, at some clinical practice sites there was a lack of supervisors and the necessary resources to educate midwife students according to evidence-based standards.

It is therefore important to actively work to improve the conditions of the working environment, both for the midwife students and for all midwives in Congo. A suggestion was to make contracts giving students the opportunity to study and then, after graduating, to continue at the working site. This would also guarantee that the new competence would be spread and that new midwife students would be supervised by midwives educated according to standards. The midwifery education programme would thus not only increase the number of qualified midwives but would increase the number of qualified supervisors at the clinical practice sites.

### 4.1. Methodological strengths and limitations

Using a process evaluation framework (Moore et al., 2015) made it possible to identify contextual factors critical for designing, planning and implementing the midwifery education programme.

A methodological consideration in the study is that we as researchers have preunderstandings of the study topic, which are advantageous, but which also can negatively influence the study's objectivity. To minimise this negative influence, the interviews contained open questions and, in accordance with research guidelines, we were guided by our reflexivity throughout the research process (Day, 2012). Thus, the text analysis was conducted individually and in close collaboration between us. We also practised a continuous movement from details in the interviews to the developed analysis.

A strength of the study was the inclusion of 22 participants, a number that could be considered a representative sample of stakeholders and increases the possibilities of capturing a variety of perspectives on the investigated topic.

A limitation is that we as authors did not have a common language to communicate with (i.e., not all knew French and not all knew Swedish). This language issue was solved because we all had access to the data, either through audio-recorded interviews or transcribed and translated text. A strength of the study is that the interviewed participants represented a diversity of key persons in the university, healthcare system and society. As regards the usefulness of our study, it is worth noting that the findings are context-specific, which must be considered when interpreting and transferring results to other contexts.

## 5. Conclusion

The findings underline the benefit of scientifically studying the effects of contextual factors on implementing an intervention such as the midwifery education programme. The results may also be helpful in similar contexts when designing and implementing a higher education midwifery education programme. However, we recommend conducting specific context studies. For us, the next step is to consider the identified facilitating and hindering factors and also to do further research on the implementation process of the midwifery education programme, including mechanisms of impact and outcomes.

## Authorship contribution statement

All authors designed the study. FKN completed the work of obtaining acquiring ethical approval. MBe conducted the interviews. ECL and MBo conducted the detailed analysis and refined the analysis together with MBe. MBe, ECL, and MBo prepared the first drafts of the paper. All authors have read and approved the final manuscript.

## Consent for publication

All participants have given consent for publication.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

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## Appendix 1. Interview guide

**Background information**: date, interview duration, name, age, sex, profession, academic qualifications, work, and function.

*Questions*

1. Please discuss the usefulness of starting a 90-credit midwife education programme on higher education level, and the usefulness of having a strong profile of person-centred care, simulation-based learning, and information and communication technology.
2. Please describe the facilitating factors for implementing the 90-credits midwife education programme and how these facilitators can impact the implementation? Please consider internal (at your health

facility) and external factors (outside your health facility). Please give examples.

3. Please describe the barriers that impede the implementation of the 90-credits midwife education the education programme? Please consider internal (at your health facility) and external factors (outside your health facility). Please give examples.

4. In your opinion, what is needed to enable a successful implementation of the 90-credit midwifery education programme? Please give examples.

5. Is there anything else you would like to add?

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