# QUALITY IMPROVEMENTS CONTRIBUTING TO EFFECTIVE MIDWIFE-LED CARE

A Minor Field Study in Nairobi, Kenya

# KVALITETSFÖRBÄTTRINGAR SOM BIDRAR TILL EN EFFEKTIV BARNMORSKELEDD VÅRD

En fältstudie i Nairobi, Kenya

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**SAMMANFATTNING**

Denna delstudie var baserad på programmet MIDWIZE capacity building för ledare inom offentlig förvaltning med inriktning på kvinnors och barns hälsa. Det är ett program avsett för ledarskap, där deltagarna i respektive land utför ett kvalitetsförbättrande arbete på angiven sjukvårdsinrättning. Att implementera kvalitetsförbättrande arbete med evidensbaserade metoder som dynamiska positioner, perinealskydd och intrapartum stöd kan ha positiva effekter på utfallen hos mödrar och nyfödda, nödvändigt för att nå angivna mål i Agenda 2030.

Studien ämnar beskriva sjuksköterskors upplevelser av att implementera kvalitetsförbättringar på en sjukvårdsinrättning i Nairobi, Kenya.

Designen tillämpad för denna studie var en kvalitativ metod med nio individuella semistrukturerade intervjuer. Deltagarna var sjuksköterskor som jobbade på antenatal-, förlossnings- och postnatal avdelning på sjukvårdsinrättningen, Kianda 42. Dataanalysen genomfördes med hjälp av en induktiv innehållsanalys.

Resultatet sammanställdes till två huvudkategorier, den första benämndes *Att implementera dynamiska positioner, perinealskydd och intrapartum stöd* med underkategorierna *Det kvalitetsförbättrande arbetets positiva effekte*r och *Utmaningar med att implementera det kvalitetsförbättrande arbetet.* Den andra kategorin benämndes *Nödvändigheter för att fortskrida* med underkategorierna *Emotionella nödvändigheter* och *Materiella och politiska nödvändigheter* samt *Förslag på hur kunskapen ska spridas vidare.*

Genom att implementera kvalitetsförbättringar får sjuksköterskorna tillfälle att utvecklas professionellt. Med metoder som dynamiska positioner, perinealskydd och intrapartum stöd minskar risken för interventioner och komplikationer hos mödrar och nyfödda. Studien är av värde då den speglar sjuksköterskornas upplevelser av att implementera kvalitetsförbättringar, vilket kan effektivisera detta projekt och liknande projekt i framtiden.

**Nyckelord: Barnmorskor, Kenya, Kvalitetsförbättring, Sjuksköterskor, Upplevelser**

## ABSTRACT

This study was a sub-study based on the MIDWIZE capacity building program for public health officials in maternal and child health. This is a leadership program where participants conduct a quality improvement project at a selected health facility in their respective country. Implementing quality improvements with evidence-based methods such as dynamic positions, perineal protection, and intrapartum support can have a positive effect on the mothers and newborns outcomes, essential to reach the relevant goals of Agenda 2030.

The study aimed to describe maternity nurses' experiences of implementing a quality improvement project at a health facility in Nairobi, Kenya.

The chosen design for this study included a qualitative method with nine individual semi-structured interviews. The participants were maternity nurses working in the antenatal, labour, and postnatal ward at the facility, Kianda 42. Data analysis was processed through inductive content analysis.

The findings resulted in two main categories, where the first category was titled *Implementing dynamic positions, perineal protection, and intrapartum support* with the subcategories *The quality improvements positive effects,* and *Challenges with implementing the quality improvements* The second category was titled *Necessities needed to move forward* with the subcategories *Emotional necessities, Material and political necessities,* and also *Proposals on how to spread knowledge onwards.*

Through implementing quality improvements, the maternity nurses had the opportunity of developing professionally. With methods such as dynamic positions, perineal protection, and intrapartum support there is a big possibility of reducing interventions and minimising complications for mothers and newborns. This study is of great importance due to it presenting the maternity nurses' experience of implementing quality improvements, which can improve this project and future similar projects.

**Keywords: Experiences, Kenya, Maternity nurses, Midwives, Quality Improvement**

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## INTRODUCTION

A quality improvement project was established in Kenya with the purpose to enhance professional competence among nurses and midwives, where the goal was to decrease maternal and neonatal morbidity and mortality. United Nations Children's Fund (UNICEF, 2021) describes maternal mortality ratio as complications from pregnancy or childbirth leading to death. Implementing quality improvements with methods such as dynamic positions, perineal protection and intrapartum support can have a positive impact on mothers and newborns outcome, moving one step closer to reaching relevant goals of agenda 2030. Kenya is one of the most rapidly growing countries in the world with a current maternal mortality ratio of 530 per 100,000 live births. Kianda 42 was the facility chosen for the project, which is located in Kibera, one of Africa's largest slums. Kibera is according to Schouten and Mathenge (2010) characterised by a large population with a high poverty incidence and lack of services such as clean water, sanitation services, waste management, electricity, and roads. By increasing knowledge for the maternity nurses at the clinic and providing free sustainable methods it can drastically improve the quality of care and outcomes for mothers and newborns. Exploring the maternity nurses experience of implementing a quality improvement project can have a profitable impact on future similar projects in developing countries.

## BACKGROUND

This essay is a sub-study based on the MIDWIZE capacity building program for public health officials in maternal and child health. This is a leadership program where participants conduct a quality improvement (QI) project at a selected health facility in their respective countries. The following chapter will describe concepts of relevance for this study.

### MIDWIZE conceptual framework

"MIDWIZE is a conceptual framework based on Multi-sectoral collaboration to enhance evidence-based practices through Midwife Led Care and Interdisciplinary Teamwork" (Lindgren & Erlandsson, 2022). The MIDWIZE conceptual framework is funded by the Swedish institute and was launched in Ethiopia, Kenya, Malawi, and Somalia (Erlandsson et al., 2021), where this study chose to target Kenya. According to Lindgren and Erlandsson (2022) Sweden's maternal and neonatal mortality ratio is one of the lowest in the world, one of the reasons being midwife-led care as a phenomenon. The Swedish midwife led care has been proven successful, therefore the MIDWIZE conceptual framework was proposed as a "guide" based on several elements. The elements are for example evidence-based practice, midwife-led care, and continuous QI. The aim with the framework is to implement a Swedish equivalent to a midwife led model in other countries to increase the quality of care. In this framework the team provides evidence-based care with a continuity of QI within reproductive health. By optimising the quality of care for women and their newborns and increasing the quantity of midwives approximately 4.3 million lives can be saved by 2035 (Lindgren & Erlandsson, 2022).

### MIDWIZE capacity building program and quality improvement

According to Karolinska Institutet (2023) the intention with the capacity building program is to implement strategies for QI in health care settings with the purpose to

strengthen the midwifery nurses where the goal is to target relevant areas of Agenda 2030. Specifically, the third goal of Agenda 2030 has its focus on reducing maternal mortality ratio to less than 70 per 100,000 live births and neonatal mortality rate to 12 per 1,000 live births (World Health Organization, n.d.). Cooperating with academic leaders can contribute to changes in the national guidelines and eventually on clinic level. To enable this, Swedish midwifery leaders created a capacity building program with the MIDWIZE conceptual framework as a base (Erlandsson et al., 2021). The project aims to implement evidence-based care within maternal and neonatal health. In this study the focus is on three chosen QI initiatives being, supporting the women's right to choose birthing positions, improving the support during the intrapartum period, and the importance of improving the usage of perineal protection (Centre of Excellence for Sustainable Health, 2023).

The capacity building program was initiated for the third time in September 2022 and will end in May 2023. The program is primarily internet-based with online lectures, workshops, seminars, pre-recorded webinars, and videos. On top of this physical workshops and clinical visits will be conducted (Karolinska Institutet, 2023). As of February 2023, two Swedish midwifery leaders came to Kianda 42, to educate the maternity nurses in dynamic positions, perineal protection, and intrapartum support.

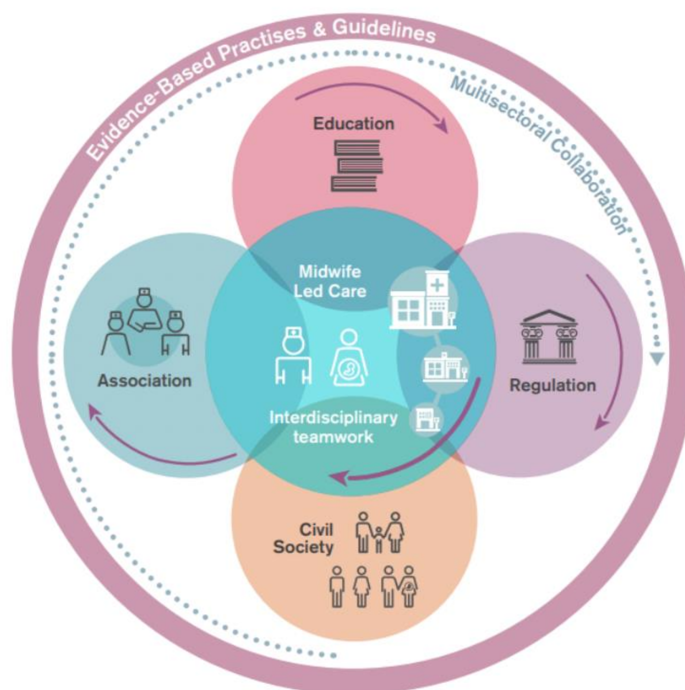



Figure 1. The MIDWIZE conceptual framework (Lindgren & Erlandsson, 2022). Verbal approval received from Helena Lindgren 8 March 2023.

### Midwifery care

Midwives have a crucial role when it comes to providing high quality maternal- and newborn care and are associated with more efficient use of resources. Midwifery care is primarily performed by registered midwives, but in some countries, the care is also provided by inadequately trained attendants (Renfrew et al., 2016). Globally it was estimated that 84 percent of births were performed by skilled health professionals, such

as nurses, midwives, and doctors. Sub-Saharan countries have 20 percent fewer healthcare professionals attending births than the global average (United Nations, 2022). Midwives have special skills and education in supporting these women and promoting good reproductive health. The aim is for midwifery care to strengthen these women's abilities and provide respectful care (Renfrew et al., 2014). The midwife provides care for women with uncomplicated pregnancies and births, and is also trained in conception counselling, abortion, intra- and postpartum, and women in menopause (Lindgren & Erlandsson, 2022). At Kianda 42 there were no midwives, only nurses trained in maternity care.

### Dynamic birth positions

The position in which the woman chooses to give birth affects the occurrence of perineal tears. Lateral, on-the-side, and upright positions are called dynamic positions, and have a protective effect on tears. In these positions the pelvis is allowed to be flexible, the women can often then follow the spontaneous contractions and slow labour is promoted, which reduces the risk of a tear (Lindgren et al., 2019). The birth stool can be helpful when pursuing upright positions since it helps with supporting and balancing the woman during labour. The stool is low to the ground which encourages the legs to be brought into a flexed position, expanding the pelvis (Edqvist, 2022). Lithotomy position is the most used position during childbirth in Kenya, implying the woman lying on her back with hips and knees flexed with the thighs separated. This position is associated with negative consequences such as an increased risk of perineal tears (Diorgu et al., 2016; Mutinda et al., 2020).

### Perineal protection

Perineal trauma is according to Bulchandani et al. (2015) common in vaginal births, and 85 percent sustain perineal tears in different degrees. It can be associated with short- and long-term complications. Perineal tears are classified from mild to severe in four different degrees depending on the placement and depth of the tear. The fourth degree involves the perineal skin, perineal muscles, and the anal sphincter complex including epithelium or rectal mucosa. Both third- and fourth-degree tears have a collected name which is obstetric anal sphincter injuries (OASIS). More severe tears are associated with problems socially, psychologically, and physically. Several factors determine the risk of perineal trauma, some predetermined before labour such as ethnicity, parity, and size of the baby. Factors that modify the risk of tears during labour are birth positions, warm compresses, episiotomy policy, and manual perineal support (Bulchandani et al., 2015)

Edqvist (2022) mentioned that the midwife can apply and combine different methods to reduce the risk of a perineal tear, where the aim is to prevent a tear with a slow birth so that the woman's pelvic tissue has time to stretch. An example of perineal protection is massaging the vagina and perineum with oil or putting warm towels against the perineum. The midwife can promote a slower birth by controlling the baby’s speed by placing a hand on its head and simultaneously put pressure on the mother’s perineum. The midwife then leads the biggest pressure from the baby's head away from the perineum to the labia which can reduce the risk of severe tears in the perineum (Edqvist, 2022).

### Intrapartum support

There is strong evidence that a good relationship between the midwife and the woman giving birth provides a sense of trust (Edqvist, 2022). A good relationship has a meaningful value and when trust is built the midwife can guide the woman through the birth which can have an impact on keeping the perineum intact. Supporting the woman by keeping eye contact, getting the woman to concentrate on the midwife's voice, and helping control the woman's breathing helps to slow down the birth of the baby's head (Begley et al., 2019). Guiding the woman's breathing can conspire relaxation which acts as a non-pharmacological pain relief (Edqvist, 2022). An effective non-invasive pain-relieving method is the “rebozo” which involves a companion or midwife placing fabric around the woman's hips, creating side-to-side movements (Langeland Iversen et al., 2017). The midwife has an important job to support the woman's birth to reduce pain and perineal tears (Edqvist, 2022).

### Problem statement

Kenya is one of the most rapidly growing countries on earth with a population of 51,4 million. In retrospect, the rates of maternal and neonatal mortality have been rising, but Kenya along with other countries has made great progress in reducing the mortality rate within the last ten years. Though excessive measures will be needed if Agenda 2030 has a chance of being reached. By educating leaders in the program and implementing QI for maternity nurses the hopes are to improve the quality of intrapartum care. This study aims to get a deeper understanding of how the maternity nurses experience the QI that has been initiated at the clinic, to determine whether the ongoing internet-based capacity building program contributes to effective midwifery care. Implementing the program and the MIDWIZE conceptual framework within the labour ward could potentially support countries to receive suitable maternity care for every woman and child, where no one is left behind.

## AIM

The study aimed to describe maternity nurses’ experiences of implementing a quality improvement project at a health facility in Nairobi, Kenya.

## METHOD

In the following chapter, the chosen method for this study is presented.

### Design

Since this study aimed to describe the maternity nurses' subjective thoughts, a qualitative design was implemented, and the data was collected through individual semi-structured interviews. According to Friberg (2017) a qualitative study can be used since its main purpose is to raise awareness of the chosen phenomenon. The method is also of relevance when a deeper perception is needed to understand, for example, a maternity nurse's expectations, needs, and experiences (Friberg, 2017). This sub-study was enabled through Minor Field Studies (MFS), and for that the authors are greatly appreciative.

## Participants

In the maternity ward at Kianda 42, nurses trained in maternity care and no educated midwives are employed. Therefore, this study entitled the participants as “maternity nurses" working in the antenatal, labour, and postnatal ward. The participants interviewed were both male and female, within the age range 24-56 years, and had varied work experience between two to eighteen years. All maternity nurses at the clinic took part in the QI project, which was introduced by the nurse in charge. Nine of them participated in this sub-study.

## Settings

The authors met the participants at the clinic before the interviews took place, with the purpose to make the participants more comfortable. The data was collected at a familiar location to make the settings as neutral as possible and to maintain continuity. The participants' busy schedule was considered; therefore the interviews took place after a staff meeting held by the nurse in charge. The interviews took place in a facility close to the clinic, due to the lack of space at Kianda 42. The rooms did not have the possibility of being completely isolated, therefore background noises appeared in the recordings. Although, the authors did not find that the background noises interfered with the audio recordings, or later in the transcriptions. According to Polit and Beck (2021) the settings should be quiet when interviewing but background noise can sometimes be inevitable.

## Data collection

Interview as a data collecting method was applied since Danielsson (2017) state that it is appropriate when the purpose is to understand a phenomenon or a given situation. Semi-structured interviews are described as interviews with open questions that do not need to be asked in a certain order. The interviewer can adapt as the interview goes on and follow-up questions can be added (Danielsson, 2017). Individual semi-structured interviews are the recommended approach since it leaves space for the participant to freely discuss and elaborate on the predetermined questions (Larsson & Holmström, 2017; Polit & Beck, 2021). The interview guide was made for the MIDWIZE capacity building program but was adjusted by the authors to fit the purpose for this sub-study. The guide contained 16 questions, some including follow-up questions and the authors ended the interview by asking the participants if they had anything else to add.

According to Polit and Beck (2021) a pilot interview is essential when testing the interview guide to see if the questions are appropriate or in need of adjustments. It is also necessary to evaluate if chosen method is appropriate. Initially the authors planned for one pilot and eight interviews but decided to include the pilot interview due to it being rich in content and answering the purpose of the study.

The interviews were done one on one, and audio recorded with an application on the authors' mobile phones. Before the interviews, the participants received a randomly picked number for confidentiality. The recordings were then transcribed into text on the authors computers, with only the participants’ number to identify them. This was made without internet to prevent leakage. According to Danielsson (2017) there are advantages of transcribing the interviews, by listening and writing simultaneously the content of the interviews is replicated. The transcriptions were written in a verbatim way to see the nuances, and to get a better understanding of the material.

### Data analysis

Content analysis with an inductive approach was the chosen method for this study which according to Elo and Kyngäs (2008) is beneficial in nursing studies. They also mention that an inductive approach is used when the chosen phenomenon has restricted knowledge or when the knowledge is fragmented. It is a method used for systematically describing a phenomenon with the purpose of applying new insights. The data analysis was based on Elo and Kyngäs (2008) article written on how to conduct a content analysis.

The initial step was to read the transcription multiple times to get a sense of the context. Then the text was divided into smaller fragments to find meaning units, these needed to be further condensed by creating codes. This was made by translating codes into subcategories and categorising them by similar content. The subcategories then formed categories based on their common ground. To simplify the process the information was organised by creating a table (table 1).

**Table 1**. An example of how the analysis process was conducted.

<table>
<tr><th>Meaning units</th><th>Code</th><th>Subcategories</th><th>Categories</th></tr>
<tr><td>"Yes, it has helped me to easen my work because when you only have one option it frustrates you but when you learn something new you have a plan A and a plan B, so the work will be easier."</td><td>Easier</td><td>The quality improvements positive effects</td><td rowspan="2">Implementing dynamic positions, perineal protection, and intrapartum support</td></tr>
<tr><td>"...we only have one delivery bed and it can be a bit challenging because it's a bit high so giving birth and all four can sometimes be a challenge."</td><td>Challenge</td><td>Challenges with implementing the quality improvements</td></tr>
</table>

### Ethical consideration

This study was conducted to evaluate the implementation of the QI components in the selected facility, which is part of the capacity building program, and as such, ethical approval was not required. According to the World Medical Association (2013) the participant must be informed about the context of the study and have the right to decline or withdraw participation. The maternity nurses at the clinic chose freely if they wanted to participate in this study. At any given time, they had the possibility of withdrawing their attendance without having to give a reason for it. Before the interviews took place the participants were well-informed about the study's aim. Information was given verbally both from the authors of this study and the nurse in charge at the staff meeting before the interviews took place. When the interviews were done the participants had the option of getting feedback about the state of the study if desired. The interview guide was also approved by the individuals in charge of the program. As mentioned in the data collection the authors preserved the participants confidentiality by taking away all personal data. Gathered data was kept safe, only authorised had access to this information.

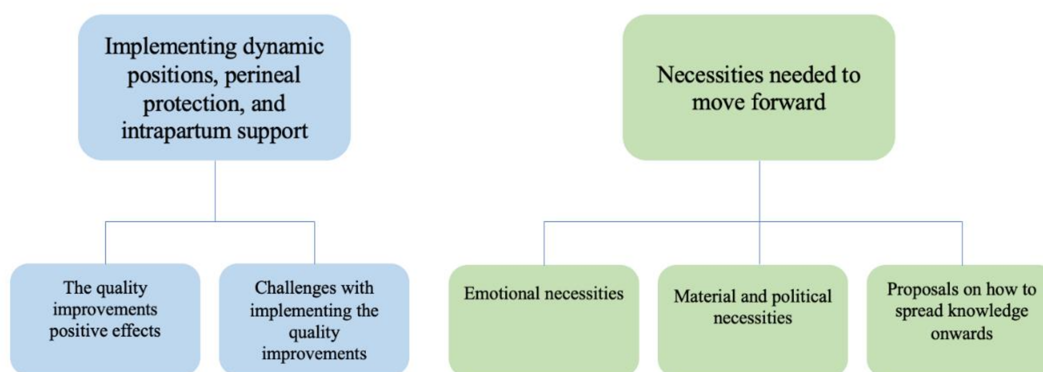
The authors need to reflect on the study's motive and its usefulness for it to be considered ethical (Kjällström, 2017). According to the World Medical Association (2013) medical research where humans are involved can only be conducted if the research subject is more beneficial than the risks and burdens. This was taken into consideration but was not considered a risk due to the participation being voluntary.

Due to the study describing the participants' experience the benefits would outweigh the risk and burdens since the study presents proposals for further similar projects.

## FINDINGS

The analysis resulted in the following categories *Implementing dynamic positions, perineal protection, and intrapartum support* and *Necessities needed to move forward*. The categories were then further distributed into subcategories. The results are based on the interviews including quotes from the participants. The categories with accompanying subcategories are presented in figure 2.

*Figure 2. Categories and Subcategories*




### Implementing dynamic positions, perineal protection, and intrapartum support

This category presents the maternity nurses' experiences with implementing the project.

The quality improvements positive effects

All participants stated that the project had advantageous effects when implementing dynamic positions, perineal protection, and intrapartum support. Since applying these the maternity nurses were united about it easing the assistance of birth. For one, they experienced that uncomplicated vaginal births progressed smoothly due to the different positions. Because of the dynamic positions, the maternity nurses felt that they had choices when assisting the mothers' births. The mothers' right to deliver in whatever position they preferred and the importance of educating the mothers about the dynamic positions was expressed as advantageous, so when giving birth the mothers would be more engaged. Before the project started the participants only practised the lithotomy position. Now they expressed that after implementing dynamic positions they had a "plan B", described as an option they didn't have before.

> *"Yes, it has helped me to easen my work because when you only have one option it frustrates you but when you learn something new you have a plan A and a plan B, so the work will be easier."* (Interview 6).

By implementing beneficial positions in more complicated cases, such as patients with preeclampsia or cord prolapse, the participants could prevent further interventions, like referring to a hospital with a theatre. For example, a participant described, when

assisting a mother where the baby had a diagnosed umbilical cord- prolapse, that using the taught “chest knee position” decreased the pressure and prevented further interventions.

The participants experienced that after implementing the project the extent of perineal tears decreased when applying perineal protection and dynamic positions simultaneously. Several mentioned that positions such as squatting, on all fours, and lateral, did not cause as much tension on the perineum which reduced the need for physical perineal protection.

*“...but with the introduction of the new dynamic positions sometimes we find that it is not even necessary to support the perineum. The baby just comes out.”* (Interview 8).

Before the project, the participants did not have much knowledge of how to support the perineum during labour. But since implementing the project the maternity nurses noticed the value of protecting the perineum during labour. For example, some applied a warm compress on the perineum or used their hands as support.

Since gaining knowledge about the importance of intrapartum support during labour they used different alternatives for pain management, such as the rebozo and massaging the woman’s back. By using intrapartum support, the participant sensed that they got a deeper relationship by being present. Before the project, companions did not participate during the labour for different reasons, but now they encourage the company if possible. For example, the participants taught the companion how to use the rebozo, to proceed with it when they were occupied.

*“As a nurse and midwife, you are the one who is close to the mother. So, you're able to provide what is needed for these mothers, you feel that you're the one who is closer to the mother.”* (Interview 1).

<u>Challenges with implementing quality improvements</u>

One of the biggest challenges with assisting birth in dynamic positions was the fact that the lithotomy position was deeply rooted for the mothers. It was exclusively taught and practised by the maternity nurses. The main obstacle was therefore to encourage the mothers to try different positions, especially if they had given birth in a lithotomy position previously. This caused the mothers a lot of frustration due to them not understanding the advantages of changing positions when necessary. The participants expressed a difference when it came to introducing new positions to mothers with high education versus low education. For example, a maternity nurse mentioned that sometimes women with high education could absorb the information easier than women with illiteracy.

*“When they come to the maternity, we try to implement new positions. Those that agree to try the birth position and give it a chance, or the ones that just not like to try them, they keep using the lithotomy position. You cannot force a mother, but we try to encourage them.”* (Interview 7).

Problems occurred when implementing dynamic positions, one of the reasons being the habit of assisting births only on delivery beds. Because of this the participants sometimes felt restricted when trying other positions. This led to a dilemma when trying to implement new positions due to the bed being too high and narrow, therefore physically it was troublesome for the mother to attempt giving birth in a different way

than lithotomy. The maternity nurses expressed difficulties with assisting birth in other positions than lithotomy because it was not ergonomic for them. The combination between the new positions and perineal protection gave an absence of visualising the perineum, for example, they did not know how to apply perineal protection when the patient is squatting or in a lateral position. Before the project, they were used to lithotomy where they could clearly visualise the perineum. It appeared that many participants also found it difficult to protect the perineum, due to the lack of training.

*"Okay the problem when it comes to perineum I think change with the positions. Because if a mother squats, she is likely to get a tear, because you are not in a good vision on how stretch it is."* (Interview 5).

Many of the participants pointed out the fact that they were understaffed, meaning more than one active labour per maternity nurse, which was one of the reasons why intrapartum support was not always possible. It could be exhausting for the maternity nurses both physically and mentally not to be able to support the mother when needed. The participants wanted to support the mothers by example introducing breathing techniques and massage for pain management but could not find the time.

*"The problem is staff shortage. You know if you are less, you are not going to do the best for these mothers. Even if we want to rub their back, we can't rub the back on each and every mother. You're not able to support them all, it's very tiresome."* (Interview 2).

The lack of space and the spreading of Covid-19 where examples of why companions did not get the opportunity to attend when the mothers were admitted to the labour ward. After the release of the project, the participants were aware of the benefits of a companion's presence but due to the women sharing a common space, it could interfere with the other mothers' integrity. Childbirth, often associated with nudity and the clinic's limited space could cause issues when male companions presented as support.

**Necessities needed to move forward**

This category will include the maternity nurses' opinion of what is necessary to move forward in the project emotionally, materially, politically, and the willingness of spreading the knowledge.

<u>Emotional necessities</u>

All the participants required more training within the project's QI. For the project to fully be embraced the maternity nurses would need more practical and theoretical training. To execute the content of the project the participants stated the need for workshops, preferably in larger groups. They wished for teamwork activities, where the aim would be to learn from each other and practice in groups, for the healthcare workers to provide equal quality of care for the mothers. Some participants expressed the value of exchange programs in other countries, visiting clinics and observing where the project is already established to retrieve knowledge back to the facility. They also mentioned that it could be valuable for one or more maternity nurses to gain knowledge and training in a specific area within the project. This would be profitable for the facility in the big picture.

It was stated that when the program was implemented the participants received training on how to practically conduct the positions but not theoretically how to use them. For example, confusion appeared regarding how to receive the baby from different angles,

how to prepare the bed for the positions, and how to safely hand over the baby to the mother's chest for skin-to-skin contact.

*"We didn't know who was to hold the baby and at what time she was supposed to stand so she could hold the baby skin to skin. So it was really hard for us…"* (Interview 1).

For the positions to be smoothly implemented they wished for the mothers to be more prepared for their upcoming birth, for example by educating the mothers antenatal. One example was to introduce antenatal workshops. The suggestion implied that the mothers would be more prepared and have valuable tools for the upcoming births. The participant pointed out the matter of mothers being informed about the different positions, this strengthened their autonomy and created a sense of satisfaction among the mothers.

*"So when the mother comes to the maternity ward, as a maternity nurse you have to help her to decide how she wants to deliver. So I think regular training on these mothers to talk to them in the antenatal…"(*Interview 8).

The participants required available research, especially on dynamic positions and perineal protection. Another gap identified was the absence of guidelines. The maternity nurses needed relevant information connected to dynamic positions rather than just physical positioning. The knowledge they gained from the project so far did not make them feel content.

Material and political necessities

Delivery beds were one of the most requested material items the participants wished for. This was due to the facility only having one delivery bed, and the bed they have was not appropriate for dynamic positions during labour. Hence why, the maternity nurses wished for a more advanced delivery bed that could be adjusted to the different positions. Women attempting a standing position did not have support for the upper body or something to hold on to. Sometimes they proposed to the mothers to hold on to the window shield, which was placed inconveniently in the room. Therefore, a bed with a support board was requested, or a bed that can be adjusted in height. Another item that would improve the possibility of dynamic positions was a birth stool, this was especially for the mothers who preferred the squatting position when in labour. A birth stool would also benefit the maternity nurses and their vision when protecting the perineum. When the maternity ward was busy with more than one mother in active labour, the participants expressed the need for more than one delivery bed.

*"Our facility, there's also some bed positions that you cannot do according to the geographical way, how the bed is. So, if you want the mother to do the squatting you don't have the stool there. If she needs support, she is not near a window."* (Interview 2).

For the mothers who preferred giving birth on the floor, the participants thought a mattress would be a good resource, both for hygienic reasons, and for comfort. The participants pointed out the importance of pain management, and for this a rebozo was a helpful tool. It was the mother's responsibility to bring commodities like these but for various reasons, they did not bring them. Therefore, they wished for the facility to have these in stock. For the participants to have easy access to the QI they wished for printed charts and books to have in the delivery room.

*"And also material, printed books to keep the knowledge and training."* (Interview 6).

There was a shortage of basic hygiene products and because of this, it was hard to follow the basic hygiene routine. Instead, the mothers were meant to bring these necessities, but for economic reasons, it was sometimes ruled out. An often-occurring problem in Kenya is power outage, which leads to the sterilising machine not functioning. In the worst case, this led to the clinic having to refer the patients to other facilities, when not having clean tools. Therefore, a generator would be of great value to the facility.

Many maternity nurses experienced a lack of support from both management and the government. For example, the support could be shown by providing the clinic with an operating theatre. This would decrease the need to refer the mothers to other facilities when emergencies occurred. Other types of financial support were also desirable.

*"We would wish the government to support our facility to get a theatre. When we get an emergency and we've tried different birth positions and we still have difficulty delivering then you are able to rush the mother to the theatre".* (Interview 2).

Proposals on how to spread knowledge onwards

The participants were united that the project had a positive impact on the work environment at the clinic. They looked forward to seeing the statistical outcomes after implementing the project. The participants were asked how the project could be implemented in other facilities and many of them stated the importance of knowledge being spread to other facilities. The maternity nurses saw a change in their daily work and were optimistic about the project being established in other facilities. There were different suggestions about how this would be pursued. One of them was maternity nurses from the clinic leading workshops in other facilities, alternatively nurses from other facilities visiting the clinic to observe their way of working.

*"We can encourage them to come and see, if they can't practise in their place they can come and see in our facility. And then they can implement it in their facility. So, the knowledge can be spread out and practised in these positions."* (Interview 9).

As mentioned previously the participants handled uncomplicated deliveries but when complications appeared a doctor was involved. Therefore, the maternity nurses highlighted the value of doctors and other involved healthcare workers being aware of the knowledge brought by the project. A gap was identified in the nursing program since the students were not taught about the usefulness of dynamic positions, intrapartum support, and perineal protection. Therefore, the participants commented that it would be relevant for the universities to emphasise this in the nursing program. When the students were out practising in the facility the maternity nurses wanted to make sure they partook in the new information. This is to make sure the knowledge will be practised and taught to future students and healthcare workers.

*"My next step is to pass the information to the young students who are growing, and they want to learn. To pass that information to them so that they will learn something new that has not been taught in our medicine program in Kenya. And also, for the new staff that don't have the new information, i will also share."* (Interview 4).

Due to the project's positive impact on the facility and the maternity nurses' role, the participants mentioned that they would keep on practising the knowledge they were taught.

> *"I continue with the project, like I will continue even if you are not here, I will continue to practise on what we're taught in the project."* (Interview 3).

## DISCUSSION

In this chapter discussion of findings and methodological considerations will be presented.

### Discussion of findings

The study aimed to describe maternity nurses' experiences of implementing a QI project at a health facility in Nairobi. The main findings were that the participants were positive about implementing the QI project, thus there were obstacles due to the lack of training and knowledge within the project. Another experienced barrier was the embedded traditional position when giving birth, which inhibited the participants from practising what they were taught in the project. The final finding was the experiences of having a companion during labour where the companion acted as an important part of intrapartum support for the mothers and a good asset for the maternity nurses.

The participants were all united that the project brought them valuable tools and new knowledge that would be implied in future practice. They stated that because of the project they practically knew how to proceed with dynamic positions but were missing a theoretical understanding of why the positions were beneficial. Therefore, they desired further training in dynamic positions, perineal protection, and intrapartum support to provide high quality care for the mothers. According to Kemei and Etowa (2021) nurses working in maternity in Kenya undergo three to four years of basic nursing training, due to this, further professional education is essential when aiming to enhance the quality of care within maternity. However, for a facility located in a rural area, in a developing country, it can be unrealistic for nurses to invest in professional development. Kianda 42 is a facility located in one of Africa's largest slums, where few nurses have the possibility of further education. Hence why the participants in this study possessed knowledge of maternity care based entirely on experience. Because of this, the participants were greatly appreciative of getting the opportunity to partake in the project. Taken into consideration, the project was newly implemented with its initiation in September 2022. This meant they had not yet received the full essence of the project. Shortly after the interviews were held, two midwifery leaders came to Kianda 42 for educational purposes. This included two days of workshops and support for the maternity nurses during their daily work.

For health care providers, professional development is a continuing learning process since the subject is ever-changing, this implies that the individual develops skills required throughout their career (Kemei & Etowa, 2021). However, based on the information gathered from the interviews they mentioned that they didn't have the opportunity to do research. The authors assume that the reasons for this could involve the clinic not being provided with computers that are available for the maternity nurses, or that they did not know how and what to search for to find the knowledge. Therefore, it could be difficult for the participants to personally take control of their professional development. They wished for the facility to provide them with updated information

and guidelines since finding relevant information themselves could be difficult. Kemei and Etowa (2021) emphasise the importance of the nurses being well-prepared with evidence-based knowledge since this most likely would improve the mother's care.

Lithotomy position was according to the participant the most used birthing position at the clinic. This was due to the unawareness regarding other positions before the project started. The reason was the absence of education in different birthing positions in nursing school and oftentimes the mothers only knew about the lithotomy position. Another argument as to why lithotomy was the most used position was the lack of resources, for example, a birth stool or an adjustable bed. Even with the new knowledge, the participants had difficulties applying the knowledge since the lithotomy position was deeply embedded. Mutinda et al. (2020) researched birth positions done at a hospital in Kenya where 84.6 percent of births were conducted in a lithotomy position. The reasons why included a lack of knowledge and training on birth positions among the nurse-midwives, the mother's experience of previous birth, and the mother's educational level. Many nurse-midwives preferred the lithotomy position, even though other alternatives had been presented. This was because they thought it was easier to assist delivery, visualising the perineum, and when suturing if tears appear. They continued using the lithotomy position even though they knew it could result in poor outcomes for the patient. Diorgu et al. (2016) correspond with the fact that the nurses choose positions to ease their work, which affects the mothers negatively. After the project was implemented the participants in this study knew the benefits of dynamic positions but sometimes choose not to apply the knowledge due to similar reasons Mutinda et al. (2020) present, that it makes the assistance of birth easier. Diorgu et al. (2016) claim this makes the care "staff-centred" rather than "women-centred" which can lead to the mother being passive in her care. International Confederation of Midwives (2014) reports that midwives should base their care on up-to-date evidence and practise safe midwifery in all cultures and environments. This will lead to the women making informed choices and a sense of consent in the plan of care.

A sense of control and decision-making power during labour and childbirth is an overall desire for many women. This can be done by involving the women and their partners in the decision-making and by informing them continuously about the progress and the well-being of their baby. The partner had an important role when the mother was not able to process the information during labour and make her own decisions due to the pain (Westergren et al., 2019). The findings in this study displayed that a companion during labour most often had a positive outcome for the mother and was also beneficial for the maternity nurse due to them not often having the time or resources to support the mothers in the way they wanted. World Health Organization (2020) reported that it is strongly recommended to involve a companion during labour and childbirth, with the purpose to strengthen the mother. According to Kabakian-Khasholian and Portela (2017) a continuous presence by a companion was valuable for both nurse and mother due to the lack of staff at the facility. The companions could act as support when the nurse could not. Although it appeared that a companion could be a disadvantage and interfere with the nurses' work, due to the small spaces in the facility. The results found in this study align with the article written by Kabakian-Khasholian and Portela (2017) who mentioned that lack of resources and limited space was a common argument as to why the companions were not invited. Thus, they both implied that the positive outcomes outweigh the negative aspects due to the companion's important role in supporting the mother. For example, the companion provided the mother with pain-

relieving techniques, mental support, and assisted with necessities such as food and liquids during the stages of labour.

The women in an article written by Westergren et al. (2019) enhance the need for privacy during labour where they could choose who was present in the room. The reason for this was the vulnerable position due to nudity. To preserve women's autonomy, it was important to close the door and keep the amount of people in the room as low as possible. The participants agreed with the previous article about the mother’s autonomy being important, thus, limitations regarding space in the facility interfered with this possibility.

### Methodological consideration

For the aim of this study, a qualitative design was the most appropriate approach since exploring maternity nurses’ experiences of a newly implemented project. A qualitative approach leads to a broad variety of information since the interviews contained open questions. According to Billhult (2017) a quantitative method would not answer the aim of the study due to it mainly being applied when measuring statistics while a qualitative method gathers information to then describe a subject. Polit and Beck (2021) state that research is trustworthy when the authors consider multiple aspects such as credibility, dependability, confirmability, transferability, and authenticity.

Since this study was a sub-study the participants in the capacity building program were predetermined. Furthermore, the interviewees were chosen by the nurse in charge at the clinic based on their availability after a staff meeting and were aware of the project. Because of this, the authors of this study did not have any specific inclusion or exclusion criteria. This could act as a weakness for this sub-study due to the authors not taking part in the selection of the participants. However, all the maternity nurses at the clinic were part of the capacity building program and therefore the selection would most likely not differentiate. Some of the participants went to medical school and others went to university to study nursing, both equally accepted. According to the World Medical Association (2013) the participant must be given adequate information on the aim, methods, and source of funding. When the participants have understood the given information, they should give consent, preferably in writing. The interviews were held after a staff meeting since it was scheduled by the nurse in charge and the staff was gathered. The authors then informed the participants regarding the study and its context. A weakness could be that there was no written consent from the participants which the World Medical Association (2013) proposes. Although, the maternity nurses gave verbal consent after receiving information regarding the study, which was recorded at the beginning of the interviews.

There were nine participants included in the study with mixed gender, ages, and experiences. Henricsson and Billhult (2017) mention that differences in gender and age result in varied data. The mix of participants in this study can therefore be seen as beneficial. According to Graneheim et al. (2017) the sample of participants is valuable, together with a well-described context of the study, this will gain transferability and according to Graneheim and Lundman (2004) it can also contribute to credibility. A varied group of participants with different ages and gender contributes to a broad perspective, which adds to the phenomena due to it being rich in content. It is possible that with a more extensive group of participants, the transferability would have been strengthened, although Henricsson and Billhult (2017) state otherwise. They mention that it is more important to include fewer participants with various experiences, rather

than a larger group with less experience. A large group of participants often leads to extensive data collection that can make the process difficult.

Ideally, the interviews should have been held at Kianda 42, but there was no space for enclosed interviews, therefore they were held at a facility very close by, where most of the participants had been before. The authors did not choose the location themselves but did not believe this would affect the content of the interviews since the participants seemed comfortable with the location. Before the interviews, the authors tried to meet as many staff members as possible, to feel more comfortable during the data collection. Polit and Beck (2021) state that the interviews should be conducted in a quiet setting without disruption. Due to the rooms not being completely isolated, there was both background noise and interruption with people coming in and out. This could interfere with the process of transcription, but the authors did not believe it affected that due to the recordings being clear enough. Although the participants could have been affected by the interruptions. Another element that could affect the content of the interview was the fact that one maternity nurse had been working the night shift and two were going to work the following night shift. Exhaustion and stress could affect the content. As mentioned, when conducting the interviews background noises occurred. This could possibly interfere with the participants honesty and could also make them uncomfortable or stressed.

As mentioned, the data collection was based on semi-structured interviews which the authors believed created a deeper perception that was relevant to answer the aim of the study. For the aim of the study focus group interviews could have been an appropriate way of collecting the data due to it generating a discussion among the participants. Polit and Beck (2021) also mention the perk of focus group interviews, thus all participants may not be comfortable with expressing their thoughts and feelings in bigger groups. This was the reason semi-structured was the chosen method. According to Polit and beck (2021) the usage of a predetermined interview guide, the same questions could be asked in a similar context, therefore the dependability was contained. This was considered during the process of creating the interview guide. The interview guide in this study contained 16 questions, some including follow-up questions. This made room for the participant to speak freely and for the authors to ask questions along the way. The interview guide was created for the capacity building program, although the authors adjusted the questions to be more suitable for this sub-study. Initially, the authors thought the questionnaire included too many questions, but all were kept due to them being valuable for the data collection. A pilot interview was done mainly to test the interview guide and to get an estimate of the longevity of the interviews, it was not intended to be included in the findings. Although the pilot interview was successful and rich in information and was therefore included, the interview guide was retained.

According to Polit and Beck (2021) multiple analysts can amplify the trustworthiness of the content, because of this the authors collaborated during the analysing process. Thus, Danielsson (2017) states that it is beneficial for the authors to transcribe their own material since it can revive the interview situation and give a deeper perception of expressions, silences, and quotes. Therefore, the authors transcribed their own interviews. Before the recordings the participants were informed about their maintaining confidentiality. The authors cherished the participants' integrity by deleting the audio recordings and all personal data. During the process, the quotes in the findings were marked with a number to prove that every interview was rich in information and included in the findings. This amplifies the trustworthiness of the findings and

according to Graneheim and Lundman (2004) a way of gaining credibility is to use quotations from the transcription which the authors embraced in this study.

A weakness of the data collection was the fact that English was both parties' second language, this could lead to language deficiencies which could affect the interviews. It could be hard for the participants to express themselves and for the authors to give a correct explanation of the question which could affect the depth of the interview. The authors suspected the interviews would take approximately 30 to 40 minutes, but they took less time. This could depend on the language barrier or how the questions were asked. It could also depend on the fact that the authors did not have experience in interviewing and therefore they could have been abbreviated. Graneheim and Lundman (2004) state that when collecting data through interviews the amount of data can be broad and extend over time, which is why it is important to keep the interviews within the same element for every participant. Thus, they also mention that the interviews give the authors a new perspective that can affect what follow-up questions are asked. To establish dependability, it is important for the authors to have an open dialog throughout the ever-changing process (Graneheim & Lundman, 2004). The authors of this study have kept this mindset in hindsight. Although, it was the authors' first time making a qualitative study, and therefore their first time interviewing where follow-up questions evolved. It was ensured that the content of the interviews involved a similar context undependable of the follow-up question. Dependability was ensured through a constant dialog among the authors where they also listened to each other's transcriptions to make sure the content corresponded.

An inductive approach was chosen for this study which Elo and Kyngäs (2008) describe as appropriate when there is an absence of previous research on the phenomenon or when it is fragmented. Whereas a deductive approach is beneficial if the aim is to test a hypothesis or theory to see if it matches the findings. According to the authors, a deductive approach would not be appropriate since the aim was to study a new phenomenon. This study was based on a content analysis within an inductive approach which according to Erlingsson and Brysiewicz (2017) is a reflective process to systematically organise a generous amount of text and transform this into valuable meaning units. To gain a greater understanding of the collected data it should be read multiple times, to make sure the chosen data was accurate and relevant. After the meaning units were selected codes were created and furthermore, these codes were turned into subcategories and then categories. The authors of this study put a lot of effort into this process which was time-consuming but necessary for the outcome of the finding. The consensus of this is to strengthen the credibility that Graneheim and Lundman (2004) mentioned is to select meaning units that are not too big or small. Another way to gain credibility is to form categories and themes with relevant data. For this to apply the authors had to remove a subcategory due to its content not being unique enough and was instead included in a different category.

**Conclusion**

Maternal and neonatal mortality has reduced within the last decade, but is still unacceptably high in sub-Saharan countries, Kenya included. Through implementing QI, the maternity nurses have the possibility of professionally developing. With measures such as dynamic positions, perineal protection, and intrapartum support there is a big possibility of reducing interventions and minimising complications for the mothers and newborns. The maternity nurses showed great appreciation for the quality

improvement initiative, but still wished for more training and knowledge within the subject. A barrier to implementing the project was the absence of material resources at the clinic, which inhibited them to pursue dynamic positions. Companions to the mothers during labour and childbirth would increase the sense of support for the mothers and would help the maternity nurses by providing intrapartum support. To preserve the mother's autonomy and for them to make an informed choice the maternity nurses had to contribute with evidence-based knowledge.

Further research

This study is of great importance due to it presenting the maternity nurses' experience of implementing quality improvements, which offers the possibility of improving this project and future similar projects. For future quality improvements, it would be beneficial to evaluate the project midway to get a better understanding of the participants' experiences and needs in an early stage. It would also be of interest to compare the outcomes of the project in different countries where the participants are licensed midwives. If the quality improvement project is shown successful, there are reasons to believe this project should be implemented in other healthcare settings in Kenya.

**Clinical applicability**

Taking part in the findings presented in this study can help gain a deeper understanding of the importance of QI. Initiating professional development projects similar to this is critical for progress within health care, especially in developing countries and rural areas. The findings implied deficiencies in the maternity nurse's education, therefore the authors in this study wish for nursing schools in Kenya to educate in line with the latest evidence. This will contribute to safe and effective midwifery care, beneficial for mothers, newborns, and healthcare workers.

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## Interview guide maternity nurses

- How was the project introduced for you and was it voluntary to participate?
- In the Midwize project- what has worked well so far and what has worked less well?
- What knowledge did you have in perineal support, intrapartum support, and dynamic positions before the MIDWIZE project.
- Have you changed your way of working since the project started?
- Could your engagement in the project be improved?
    - If so, how?
- What problems have you experienced with using dynamic positions?
- What problems have you experienced with using perineal protection?
- What problems have you experienced with providing the recommended intrapartum support?
- How has the project affected the work environment at the clinics so far?
    - Hierarchy? Decision-making power? (e.g., do you call on the doctor as often? Do you feel that you make more decisions by yourself in the labor room and handle certain situations yourself?)
    - Has your position at the ward been affected? If so, how?
- Is there something you need to move forward in the project?
    1. Emotionally
    2. Materially
    3. Politically
    4. Other
- What is your next step for you to improve the quality of care within intrapartum support, perineal support, and dynamic positions.
    1. When?
    2. What?
    3. With whom?

- How can midwives' autonomy be improved in the future?
- How can women's birth in a dynamic birth position, intrapartum support, and perineal support be introduced/improved in more places in Kenya?
- What lessons can be learned from the project?
- What adjustments should be made for the future?
- Do you have any further questions or anything else to add?