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Women's Perceptions of Midwifery Continuity of Care Provided by Bachelor of Midwifery Students from a Public University in Northern Uganda: A Descriptive Qualitative Study

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Abstract

Background

Domiciliary care is a midwifery continuity of care given to a mother by midwives in the hospital, clinic, or home during pregnancy, labor, and puerperium. While evidence exists on the benefits of continuity of midwifery care models to women and neonates, little is known about the perceptions of women who received domiciliary midwifery from midwifery students in Uganda.

Aim

This study explores women’s perceptions of midwifery continuity of care provided by Bachelor of Midwifery students.

Methods

An exploratory, descriptive qualitative study was conducted in Lira city, Uganda, from April to August 2024. Individual in-depth interviews were conducted using semi-structured interviews among eighteen purposively selected postnatal women who received domiciliary care from Bachelor of

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Midwifery students. Data was transcribed verbatim and analysed using the thematic technique and NVivo version 20.

Findings

The analysed data revealed that women appreciated the continuity of care received. Thematic analysis identified four themes: experience of care, empowerment through knowledge and skills, access to the health care system, and innovation approach to care, as well as 12 sub-themes from the study.

Conclusion

The study's findings show that women had positive experiences with the rendered care as it provided an opportunity for continuity of information and care. They felt empowered with knowledge, skills and information that they had not received in their previous deliveries and wished for the continuation of this care. There is also a need for stakeholder involvement and support to ensure continuation, maximize the impact of the care, and ensure the sustainability of the program.

Keywords: Early post-partum care, Domiciliary midwifery, Home based-care, Experience, Perception, Continuity of care, Midwifery-led care, Midwifery Care Model

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Background

The International Confederation of Midwives (ICM) and World Health Organisation (WHO) recommended a transition to a continuity of midwife care models previously known as midwifery-led continuity of care models to ensure access to quality midwifery care [(1)]. Continuity of care refers to the extent to which individuals experience a series of distinct healthcare events as coherent and interconnected over time, aligning with their needs and preferences [(2)]. Current studies reveal that continuity of care models reduce the rate of cesarean section by 16%, use of regional analgesia by 15%,

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instrumental birth by 10%, episiotomy by 16%, preterm birth by 24%, neonatal death by 19% and increases the rate of vaginal deliveries by 5% [3].

Domiciliary care is a midwifery continuity of care given to a mother by midwives in the hospital, clinic, or home during pregnancy, labor, and puerperium [4]. This continuity of care is practiced in some countries worldwide, including Uganda. However, in Uganda this care is only practiced by midwifery training institutions and not by in-service midwives. Data is not readily available on the number of graduate midwives in Uganda but it is estimated that Uganda in total has roughly 48,000 midwives and nurses in active employment at a ratio 7 midwives per 1000 live births [5]. Continuity of care experiences are an integral component of preregistration midwifery programs in Uganda and other parts of the world like the United Kingdom, Canada, Australia, and New Zealand [6-8]. In Uganda, Bachelor of Midwifery students are required to undertake domiciliary midwifery which is a mandated pre-registration requirement. This care is seen as a tool not only to expand students learning but also to provide women the opportunity to experience individualised care from labour to puerperium. In the current curriculum, midwifery students are paired with three low-risk women in their third year of study. This domiciliary philosophy is seen as a gold standard of maternity care mandated by the midwifery registering authority and has buy-in from our practice partners like Seed Global Health. The midwifery curriculum in Uganda at bachelors, diploma and certificate supports domiciliary midwifery, where pregnant women are paired with midwifery students in conjunction with qualified midwives who oversee the activities of the students. Continuity of care with midwifery students in this study is in partnership with a qualified midwife who acts as a supervisor.

Evidence shows discrepancies in the content, implementation, facilitation, and evaluation of continuity of care education among midwifery students globally [7]. The continuity of midwifery care in most developed countries starts from ante-natal to the post-partum period [9, 10]. However, the

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midwifery student's continuity of care in Uganda starts on admission for delivery to seven days post-natal and is only a component of third-year midwifery students' education. In contrast, midwifery students in Australia are exposed to the continuity of care from years one and three of study [9]. This care aims to extend the continuum of midwifery care, as the early neonatal period is critical for the mother and baby. The postnatal period is a very crucial phase in the lives of new families, and receiving professional support plays an important role [11].

Continuity of midwifery care using the Bachelor of Midwifery students benefits both women and students. By allowing midwifery students to participate in domiciliary care, they gain valuable hands-on experience and exposure to a diverse range of cases which is not always available in the narrow context of healthcare facilities [12]. This practical training enhances their skills and knowledge and fosters a deeper understanding of the importance of personalized care in improving maternal and newborn health outcomes. It also helps to address the shortage of healthcare professionals in underserved areas, ensuring that women have access to quality care regardless of their location [13].

For the women, domiciliary midwifery supports breastfeeding initiation and support, considering that most women are discharged before the proper onset of lactation [14, 15]. A systematic review and meta-analysis revealed that through community midwifery programs, women experienced more personalized care, trust and felt more empowered to make decisions for their health needs [16]. In a meta-analysis study focusing on the experiences of women from Indigenous communities, it was found that the women reported to have built better relationships with the midwives, and their cultural norms were respected [17]. In another study on birth experiences about continuity of care, it was found that women had more psychological trust and a feeling of teamwork with the student midwives who supported their deliveries from home [18]. An Australian study on the clinical outcomes of women who

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received continuity of care from midwifery students showed reduced tobacco use, episiotomy, and tears during childbirth [19].

According to ICM, Uganda is implementing various forms of midwife-led continuity of care in the different health facilities. However, little is known about women's experience and perception of this care in Uganda. Therefore, this study aimed to explore the women's perceptions of midwifery continuity of care provided by Bachelor of Midwifery students.

Methods

Study design and setting

This study is part of a bigger mixed-method study titled "impact of community midwifery practice on the postpartum women and bachelor of midwifery science students in Lira city", where a descriptive exploratory qualitative study was chosen to explore women's perceptions of midwifery continuity of care provided by Bachelor of Midwifery students from Lira University. A purposive sampling was used to recruit women who received midwife-led continuity of care from midwifery students. This was a community study carried out in Lira city located in Northern Uganda.

Study participants

Inclusion criteria considered women who: (a) received midwife-led continuity of care from the midwifery students within six months after delivery, (b) could speak the native language (Leb Lango) or English, (c) lived within 10-kilometre radius from the participating health facilities. Women were excluded if they did not consent to the study or if they or their babies were seriously ill.

Data collection

Potential participants were contacted on the day of discharge from domiciliary care. All mothers who received domiciliary care from the Bachelor of Midwifery students were recruited to participate in a patient satisfaction survey which is the quantitative aspect of the bigger mixed-

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method study. Subsequently, participants for this qualitative aspect were purposively selected based on the inclusion criteria for this study. The Qualitative semi-structured interviews were conducted between April 2024 and August 2024 by the first and last author at a time and day preferred by the participants. The length of the interviews varied between 12 and 55 minutes, with the average interview taking 23 minutes. The interviews followed an interview guide that invited them to share a story about their perceptions of domiciliary care. The following questions were used as a guide:

- “How and where did you meet the midwife who delivered you”
- “How was your perception about the care provided to you”
- “Tell us your views about the care and some of the new things you learned from this care”
- “Could you tell me about things that you did not like about the care and ways we could make it better”.

All the participants were encouraged to be themselves and to speak freely without reservations. The women chose where they were interviewed within their homes away from third parties, and some women were interviewed together with their partners according to their preference. All participants approached participated in the study and no one withdrew their participation. The first and last authors have extensive experience in qualitative methods. The interviewers are independent and did not participate in the care of these women during their postnatal care period. The participants were not given any form of incentive to participate in the study.

Data analysis

The interviews were transcribed verbatim by the second and last authors. To check the transcribed interviews for accuracy, these authors examined each other’s transcripts by listening to the original interviews. The first author checked the transcripts translated from Leb Lango to English and back to Leb Lango to ensure accuracy. A few corrections were then made to the

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transcripts where necessary. Transcripts were read to some participants for correction to maintain the accuracy and credibility of the findings. Transcripts were then exported to NVivo version 20 (QSR International, Doncaster, Australia) for organisation, coding, and analysis. The thematic analysis approach was used for data analysis following the six steps proposed by Braun and Clarke [20]. The six steps include (i) reading through the data several times to enable immersion, (ii) producing initial codes from the data, (iii) sorting different codes to form themes, (iv) reviewing and refining themes, (v) defining and naming themes (vi) producing a report using data extracts in a concise, coherent, logical way. Data were coded by two independent coders and verified by the third author. Modifications were made where necessary to provide clarity or to remove redundant words. The Consolidated Criteria for Reporting Qualitative Research (COREQ) guideline was followed to report findings [21]**.** Participants' demographic characteristics are reported using descriptive statistics such as numbers.

Trustworthiness

The trustworthiness criteria prescribed by Guba and Lincoln were followed to ensure the rigor of the study's findings, [22]. This includes credibility, confirmability, dependability, and transferability. All the aspects of trustworthiness were ensured as follows. Credibility was achieved through member checking with some research participants and co-investigators. This is to confirm research findings and interpretation ensuring that no pertinent information was excluded. At the same time, confirmability was ensured by involving two independent coders in the coding process to exclude subjectivity and a third person who verified the codes. Dependability was ensured by using participants' verbatim quotes to support the findings' interpretation to confirm that information was not distorted.

Findings

As seen in Table 1, eighteen women participated in the individual in-depth interview. Their age ranged from 23 to 40 years, and their number of children

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ranged from one to four. Most of them are married and unemployed; only three had a tertiary level of education, and the majority delivered at a hospital.

Table 1: Socio- demographics characteristics of the participants

Code	Age	Marital status	Number of children	Employment status	Highest educational level	Place of delivery
W1	23	Married	1	Self-employed	Primary	Hospital
W2	23	Cohabiting	2	Self-employed	Primary	Hospital
W3	27	Cohabiting	2	Self-employed	Primary	Hospital
W4	34	Married	2	Unemployed	Tertiary	Hospital
W5	32	Married	3	Unemployed	Primary	Hospital
W6	28	Married	2	Self-employed	Primary	Hospital
W7	33	Single	2	Employed	Secondary	Hospital
W8	33	Single	2	Self-employed	Secondary	Hospital
W9	33	Married	4	Self-employed	Secondary	Hospital
W10	29	Single	2	Unemployed	Primary	Hospital
W11	26	Married	1	Unemployed	Secondary	Hospital
W12	23	Married	1	Unemployed	Primary	Clinic
W13	40	Married	4	Employed	Tertiary	Clinic
W14	24	Married	2	Employed	Primary	Clinic
W15	30	Married	4	Unemployed	Primary	Clinic
W16	29	Single	3	Self-employed	Primary	Hospital
W17	27	Married	1	Unemployed	Tertiary	Hospital
W18	27	Single	1	Unemployed	Secondary	Hospital

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Women's perceptions of domiciliary midwifery

From the data regarding women's perceptions and experience of domiciliary midwifery care, four themes and 12 sub-themes as seen in emerged from the analysis (Table 2). The four main themes were: experience of care;

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empowerment through knowledge and skills; accessing the health care system; innovative approach to care.

Table 2: Summary of themes and Sub-themes

Themes	Sub-themes
Experience of care	Continuity of care
	Woman-centered care and services
	Best practice with extra care
Empowerment through knowledge and skills	Exclusive breastfeeding knowledge and practices
	Postpartum care and support better than last time
	Sustainable cord care practices
Accessing the healthcare system	Fosters hospital-based care
	Peer referral initiative
	Adherence to the immunization schedule
Innovative approach to care	Wish for continuation with attention to some priority group
	Education focused
	Community involvement

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Theme 1: Experience of care

The theme "experience of care" was developed from the data. The experience of care in this study refers to the individual's overall experience with the healthcare system. From this theme, we identified the following sub-themes: "continuity of care," "woman-centered care and services," and "best practice with extra care".

Sub-theme 1.1: Continuity of care

In the current study, most women who received domiciliary midwifery care during the intrapartum and post-natal period described it as a continuum of care provision and information.

> *"When I went to the hospital, the student took care of me from the time of labor up to when I delivered. I delivered well, and she brought me back home. She kept on checking me, the baby, and our health. Up till*

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> *now, she could phone to check that everything is okay with us"* (W3, 27-years-old mother of two)

Another study participant stated that receiving postnatal care and support from one reliable person ensures continuity of information and support.

> *"Right from when I arrived in the hospital, she took me, examined me, and taught me everything to do to make the delivery successful. She delivered me, I got a tear, and she sutured me. At home, because she already knew my issues, she showed me what to do to heal up well. She took care of the baby and regularly checked the baby. She taught me how to take care of the baby and how to clean the cord, and the baby is so healthy up to now" (W14*, 24-year-old mother of two*)*

Another participant added that this continuity of care enabled the early detection of abnormalities and prevented unnecessary hospital visits for minor ailments. According to some participants, this service enabled prompt healthcare referral, attention, and follow-up for the baby if sick. This service is for low-risk women and babies, but there are few instances where complications developed requiring immediate attention or admission. With the help of midwives, these issues were promptly identified, and patients were urgently referred to the most appropriate healthcare facilities.

> *"…like this yellow eye here (jaundice), I was supposed to go to the hospital again to explain to the doctor, but she told me everything. She showed me how to expose the baby to early morning sun and how adequate breastfeeding will help to clear it, and it went away after few days" (W10*, 29-year-old mother of two*)*

> *"…following mother and baby home is good. Because if the baby is not feeling well, it can be noticed. And if the mother or the baby is not feeling well, it will be noticed early. For me when I came back home, if it was not for her, I would not know that my blood pressure was high, but she kept on taking the readings, and she advised me on what to do. So, I have realized that this follow-up is very good" (W6*, 28-year-old mother of two*)*

Sub-theme 1.2: Woman-centered care and services

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A woman-centered approach to care considers the uniqueness of each woman's needs while ensuring that the holistic needs of each woman are taken care of. The findings of this study revealed that the participants experienced individualized care provision.

> *"I did not know those things. She taught me what to do to protect the baby if there is a wound on the breast. The small information given to us was general. I did not have that knowledge, and because I did not have the disease in my last pregnancy, I did not know the proper way of giving the medicine (ARVs). So, I was not knowing anything. Those people did not explain to me the way the students did. So, I was just blind, but now my eyes are open. I know where to go. I have learned how to breastfeed the kid. How to give the medicines. And if you don't give, what will happen, the time of giving it. That's why I even set the alarm. Because I know that I may forget, you know, human beings, when you are stressed out, you can forget. That's why I set the alarm. When I hear the alarm, I just give the medicine" (W7*, 33-year-old mother of two*)*

Sub-theme 1.3: Best practice with extra care

The women described this care as the best care they have ever received, including so many extras. According to the women, the service came with respectful, compassionate care, companionship, kindness, patience, and proper communication. Most participants highlighted that being taken care of by the midwifery students meant they received extra care, attention, information, respect, and love. Regarding companionship and friendship, most participants expressed their satisfaction with their midwifery students.

> *"Actually, I didn't think I would meet someone who would help me the way she did, the way she took care of me from the hospital and then to home up to now she is still coming is so good. It has helped me to learn new things The student showed me love and helped me" (W4*, 34-year-old mother of two*)*

> *"The students can take good care of people. They took very good care of me. They handle women well as mothers, they are friendly to us, and they have respect for mothers (W9*, 33-year-old mother of four*)*

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Due to urbanization, many women live far from their family members, which means that some of them will not receive the support of their families after delivery. According to the women, their relationship with the student grew into friendship and companionship, and some even regarded their student as a mother figure. They appreciated the efforts the students made to visit them daily during the postnatal period. In some woman's words:

> *"It was a good experience. Actually, she treated me as her sister. She's just like my mother, she would treat me with so much love and care, everything was good" (W1)*

> *"She gave us her time and would treat us as her family members. If all students were like her, there would be a lot of changes" (W15*, 30-year-old mother of four*)*

> *"Like now I don't have someone who is mature to take care of me, but I'm taking her as someone who is taking care of me, so I'm safe, I'm also happy, I don't have to stress about taking care of the baby and monitoring her. Like when she came now, she can monitor the baby and me, so when she leaves, I feel free, like my baby is fine and me I'm fine also"* (W10, 29-year-old mother of two)

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According to the participants, communicating with the students was easy as they would listen and respond to their concerns and needs, unlike other health professionals who usually do not take them seriously or mistreat them, and this made a big difference in the women's experience.

> *"I went to be checked, and she conducted it very well so that is how we met each other and she became my friend, from there whatever I wanted I could just rush to her, and she now started from there she monitored me until I delivered because of her being so caring instead of going to the other midwife - the usual one in the hospital for me I was trusting her and she was very okay with me, she talked to me in a mild mood and she convinced me do things just the way she talked to me" (W17*, 27-year-old mother of one*)*

Theme 2: Empowerment through knowledge and skills

Women described their perceptions of domiciliary midwifery as that of empowerment. Three sub-themes of "exclusive breastfeeding knowledge and

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practices," "postpartum care and support for the mother and newborn," and "sustainable cord care practices' became apparent from the data.

Sub-theme 2.1: Exclusive Breastfeeding knowledge and practices

Women were equipped with knowledge and skills of exclusive breastfeeding, proper lactation, positioning, and attachment. It is noteworthy that all the participants in the current study exclusively breastfed their babies. They were supported during the initial stage of breastfeeding initiation which is very critical for the baby and the mother. The students were always there to answer all their questions and to guide them.

> *"I am doing exclusive breastfeeding, it was not easy initially, but she guided me and told me to give the baby breast milk for at least six months without adding any supplement either water, soup, porridge, or honey then after six months I can now add those things but continuing to breastfeed until whenever I can even up to two years or so" (W17*, 27-year-old mother of one*)*

> *"She showed me how to breastfeed the baby. With my first baby, I was not able to breastfeed because I have so many issues, but with this one, she supported me and taught me food that can help with milk production. She helped me not to give up, now I have enough milk for the baby. She told me that I should breastfeed the baby at least eight times every day" (W3*, 27-year-old mother of two*)*

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Sub-theme 2.2: Postpartum care and support better than last time

The participants attested to the degree of support and care they received during the postnatal period. The participants who received domiciliary care attested to the wealth of knowledge, support, and care that they received. The multiparous women attested that the present care was better than what they received in their previous pregnancy.

> *"So, the midwife treated me well and taught me many things that I didn't know in my previous deliveries. The care is too good, and the students have good attitudes. They are not like those government workers who can shout at people. I wish God also could make them continue with that heart as they are now" (W5*, 32-year-old mother of three*)*

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> *"After delivery, I was taught how to breastfeed the baby, how to wash the baby, how to exercise, the food to eat, and how to keep myself and the baby clean. On my own, I would not know these skills. She has taught me a lot of things that when I'm going to deliver again even if she is not there I can manage" (W1*, 23-year-old mother of one*)*

The participants revealed an increase in their knowledge and skills for newborn's care.

> *"If it were not for her, I would have gone back to the hospital when I saw some discharge from my daughter's private part and also some secretions from her breasts. By the way in my culture, they will squeeze the breast, but she explained the cause to me which I did not know before" (W17*, 27-year-old mother of one*)*

> *"I didn't know how to clean the cord, how to take care of myself, I didn't know how to breastfeed the baby and how to position the baby during breastfeeding. But I was taught, and I was continuously examined. She also taught me exercise that helped me heal up very fast" (W5*, 32-year-old mother of three*)*

Sub-theme 2.3: Sustainable cord care practices

The recommendations by WHO for a daily application of 7.1% chlorhexidine digluconate aqueous solution or gel, delivering 4% chlorhexidine to the umbilical cord stump during the first week of life for new-borns. This recommendation applicable to babies born at home or in settings with high neonatal mortality of 30 or more neonatal deaths per 1,000 live births is not always possible in Uganda. This is due to the unavailability of these solutions in low and middle-income countries. Moreover, in Uganda, women are tempted to apply other herbal remedies if the cord is left untreated. The participants were assisted in using a solution that was generally available to them. Women were taught to make and use the saline solution on the cord stump of the neonates.

> *"She told me that I should boil the water after boiling it first gets cold. Then I get a piece of cotton if I have five of them. Then, I put a pinch of salt in the water and mix it with the salt. Then I start cleaning. I can also clean it with a soft cloth. I now have to dip the cloth in that solution,*

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and then I put it from the bottom of the cord to the tip. I cleaned the cord three times a day. There were no issues with the cord, and it fell off on day five" (W11, 26-year-old mother of one*)*

"I learned how to take care of the cord. Those days, if the cord had delayed falling off, we would get leaves, roast them, and apply them to the cord. However, it would still take a long time to fall off. But now, I was taught how to keep the cord clean, and the cord would fall in less than one week" (W15, 30-year-old mother of four*)*

Theme 3: Accessing health care system

Women reported how the care provided by midwifery students had increased access to healthcare facilities by reducing the fear they developed about institutional delivery due to the negative attitudes of the healthcare workers. Therewith, the subthemes "fosters hospital-based care," "peer referral initiative," and "adherence to immunization schedule" emerged from the data, each subtheme including different thematic aspects.

Sub-theme 3.1: Fosters hospital-based care

Three delays contribute to maternal mortality, and these delays are associated with deciding to seek care, reaching the healthcare facility, and receiving care. In most cases, women prefer to deliver at home or in the care of traditional birth attendants due to myths about healthcare facilities or the negative attitudes of healthcare workers. Participants in the current study confirmed that the program increased their willingness to access the healthcare system and use healthcare facilities. Women compared their experiences of care within this model to their previous births where they were not treated well. They confirmed that the present experience had increased their willingness to deliver in the hospital. They further highlighted that it has reduced their fear of hospital delivery, which is partly due to the attitude of healthcare workers.

"I had no interest in going to deliver from the Hospital due to my experience in 2017. Health workers were mistreating us at the hospital. At least in this current delivery, I had a good experience and would be happy to go back there again" (W16, 29-year-old mother of three*)*

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> *"The first and second deliveries I was not treated this way. If you go to the hospital, they ask you for things like a mama kit, yet we know the government provides them. And immediately after delivery, you are discharged, and sometimes, we are abused, making us fear going to the hospital. Sometimes we contemplate on whether to go to the hospital or not because we would be fearing such experience but all those have changed with this experience" (W5*, 32-year-old mother of three*)*

Another participant highlighted that even her neighbours were amazed by the care she received:

> *"It was a good experience, and I liked it too. Because, those days, I used to fear the main hospital. But since I went there this time, it was my first time, and I liked the service. But those days, they could shout at you, even your attendants. That's why most people dodge when you say you're going to the main hospital. Because they shout at people there. But this time, we have gotten a lot of peace out of this service. I liked it. That's why even, there are lots of people that are saying, Hey, this time you're blessed. They have even brought you up to home. They even check on your baby. Hey, the baby is blessed" (W8*, 33-year-old mother of two*)*

Sub-theme 3.2: Peer referral initiative

The participants of the present study confirmed that due to the respectable care they received, they have encouraged more women and friends to seek care from the hospital and to request to be provided with students who will provide domiciliary care to them.

> *"I told one of my friends when she came here, I told her when you are going to deliver, go to the hospital and allow the students to come to your place. Because I learned a lot of things, I was happy. My baby, she's monitoring my baby every time, I mean every day. Like the way I told you, I told my friend, you need to go there, and when they come to you, you allow them to come up to your place, that program is good" (W10*, 29-year-old mother of two*)*

This participant approached the team in the community after hearing testimonies about the care from her neighbour. The student and the supervisor went the extra mile to provide this continuity of care to her even outside the university's time frame, and she also became an ambassador of the care.

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> *"A friend of mine who was also pregnant told me about her experience with a midwife who came differently compared to what we knew, how she was cared for, and I also got interested. I have also shared my experience with other women" (W5*, 32-year-old mother of three*)*

Sub-theme 3.3: Adherence to the immunization schedule

Data from the present study highlighted how this care has fostered compliance with recommendations for immunization. In our setting, vaccines are sometimes unavailable, and women are advised to go back later to see if they are available. For instance, some mothers in the current study were sent home with their babies, not receiving the lifesaving BCGs. These mothers were followed up to ensure they returned to the healthcare facility for this vaccine.

> *"BCG was not there when the baby was born, I told the student to monitor for me when it is there. Then she called me the other day that the thing had reached. That's how I went there, and she immunized the baby" (W7*, 33-year-old mother of two*)*

The mothers were further given a thorough health education about each vaccine the baby is supposed to receive, its timing, and its implications. This information encouraged adherence to the immunization schedule.

> *"I remember the student taught about measles that if the baby is immunized even if it gets it, the baby will not be affected so much. Polio, whooping cough, and others. For us we don't look at the card. For us, when the baby is vaccinated, we take the card, put it in the bag, and come home. However, the student taught me about those immunizations very well. I remember the baby being immunized against whooping cough, polio, and Rubella. I can't now remember others, but measles vaccine has not yet been given, the student told me that it will be given at nine months*" (W4, 34-year-old mother of two)

Theme 4: Innovative approach to care

This theme focused on how women viewed the postnatal continuity of care and was explained by three sub-themes of "education-focused," "wish for continuation with attention to some priority group," and "community involvement' became apparent from the data.

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Sub-theme 4.1: Wish for continuation with attention to some priority group

Most participants wished that these services be continued and extended to every woman. One participant attested that women should receive this service at least once in their reproductive journey. Others even mentioned that they would assist and educate other women in the community the same way they were assisted.

> *"You should continue to help other women; you should continue with the program and should be at the hospital so that if the other women come to deliver, they can find you, and you help them. Even me I can be able to help my friends and neighbours now"* (W2, 23-year-old mother of two)

> *"The advice I would give is that the program you people came up with is very good and will help us the citizens of Uganda. So, you should continue doing to other women the way you cared for me" (W3*, 27-year-old mother of two*)*

The participants further identified some groups of women that they think will benefit more from this service. The primigravida, teenage mothers, and those staying away from their families and husbands were among this identified priority group.

> *"So, I'm telling you to continue with this program because, you know, like there are teenage and first-time mothers, they don't know how to take care of themselves. Some people don't have their mother, and they don't stay together with their mother; like me now, my mother came here, then she left, and no one to take care of me, no one to give me advice, but the student was giving me advice. Because this program will help many mothers, not me only" (W10*, 29-year-old mother of two*)*

Another participant also asked for the extension of the time frame for the postnatal follow-up:

> *"…maybe if you come, at least not only seven days. It is seven days, and now you're going to go back. You can keep on checking on me for a month. I will be staying at home for about one month. Then I begin going from my workplace. I still need you around" (W9*, 33-year-old mother of four*)*

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Sub-theme 4.2: Education focused

In this study, most postnatal women stated that receiving care from midwifery students improved the quality and quantity of education. They highlighted that they were guided on the daily care of the baby and themselves. Study participants highlighted that midwife health education regarding the care of the baby, cord care, nutrition, and postnatal exercise increased their satisfaction with the care provided.

> *"This project is good, and it has helped me. There were a lot of things I didn't know before, like breastfeeding the baby, I was taught how to do exercise, how to bath, how to wash the baby and how to clean the cord" (W1*, 23-year-old mother of one*)*

This finding demonstrated that receiving domiciliary midwifery care improves the consistency of education and information about danger signs to look out for during the neonatal and postnatal period. Which included but was not limited to health education on care and danger signs for themselves and the baby.

> *"I was taught the danger signs of the baby if there is a high fever if the baby is over crying, if the baby is not breastfeeding well, and if the colour of the eyes has changed to yellow, and if vomiting, I should take the baby to the hospital" (W4*, 34-year-old mother of two*)*

> *"On myself, the danger signs are when I feel severe headaches and bleeding if the blood that is coming out there is smelly, and if I have pains in my legs" (W9*, 33-year-old mother of four*)*

Sub-theme 4.3: Community involvement

From the different interview texts, it became apparent that the women would appreciate community involvement and participation in this program to ensure that information gets to all the women in the childbearing age. They highlighted that community members should be given the correct information and taking care of the baby and postnatal women.

> *"Me I want to say that this program is good, and it should be continued. Yes, and not only that, actually I was suggesting that if*

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possible. a venue should be gotten that all pregnant women assemble, and they are talked to" (W13, 40-year-old mother of four*)*

"To make this service reach other mothers, there will be a need to create awareness, you first have to create awareness in the community through any means of communication that can make the message reach all the mothers, so it can be through the radio or even distributing posters like in the health centres" (W17, 27-year-old mother of one*)*

Discussion

The current qualitative study explored the perceptions of women who participated in a midwife-led, continuity of care model by midwifery students. The benefits of midwifery continuity of care by midwifery students are widely documented in developed countries, but not much is known about this care in developing countries where the burden of maternal and neonatal mortality is greatest. Women in the current study perceived this continuity of care as satisfactory, with many positive benefits. Studies among United Kingdom and Ethiopian women revealed that they had a positive perception with continuity of care models with a great sense of trust, respect, communication, access, advice, and support [23, 24].

Participants from the current study revealed that receiving professional, postnatal support promoted continuity of information and care. Australian women who received continuity of care from midwifery students also described their experience as extremely satisfying [9]. In this study, trusting relationships between the women and students encouraged them to ask questions. Similar to a previous systematic review on what women value in midwifery continuity of care [16], the current study found that the participants attested to receiving tailored care with proper communication based on their needs. This is also consistent with a Swedish study that explored father's experience of home-based postnatal care [25], where they confirmed that the midwives were there for them as individuals and communicated and engaged with them during the postnatal visits. Women in an Australian study also confirmed that in their continuity of care, they were supported in their own

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way, and their midwives knew them on a personal level, and there was no need for them to retell their stories each time, which enhanced the continuity of information [26].

Most women with previous children explained that they have gained much new knowledge, making things easier for them during the visits. Some women explained that they could even assist their neighbors and friends with the information they gained. This is contrary to a Swedish study [25], where fathers with previous children explained that they did not participate in the postnatal visits because they believed they would not receive any new information. Some participants regarded their students as family or mother figures. This is similar to the findings of an Australian study that looked at women's experience of continuity of care where midwifery students were reported to provide support to mothers [27]. In the Swedish study, women explained that the professional, social, and personal characteristics of the students played a crucial role in access and quality of care they received [25]. Initiation and continuation of breastfeeding in the early postnatal days posed a serious challenge for women. Similar to previous Australian studies on breastfeeding initiation and support among women [14, 15], the current study found that in this service, women were assisted in initiating and maintaining breastfeeding. Notably, all the participants in the present study exclusively breastfed their babies. Furthermore, extra care, advice, support, and ongoing health education during the postnatal period were emphasized as important aspects of the experience by many women in the current study. Women confirmed they desired the care at professional and personal levels. This is consistent with a Swedish study where fathers affirmed that receiving home-based continuity of care created a feeling of trust, which eased communications, and midwives were viewed as family [25]. Similar to a previous Australian study among women in a continuity of care model [26], the current study found that women confirmed that this care was better than what they received in their previous pregnancy. The cord care

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recommendations for a daily 7.1% chlorhexidine solution are not always possible in our settings due to the unavailability of these solutions. Considering that women in the local settings are often tempted to apply other herbal concoctions that may predispose the cord to infections, sustainable ways of cord care were devised as a homemade saline solution [28, 29].

There have been various strategies to improve the quality of care in maternal newborn health in sub-Saharan Africa, such as improved access to health facilities, training of healthcare providers, and awareness creation on the importance of facility utilization. In the current study, women reported that they feared giving birth in the hospital due to the attitudes of the midwives towards them, but their encounters with midwifery students have changed this narrative. They also highlighted the need for a change in healthcare workers' attitudes toward them. The participants from a Spanish study and a Ugandan study on the utilization of maternal and child health services shared the same sentiment that midwives in the health facilities were so disrespectful and dehumanized them [30, 31]. This continuity of care is needed in Uganda and other sub-Saharan African countries due to various evidence of distrust of the healthcare system, lack of women empowerment, poor attitude, and harmful health practices in this region [31, 32]. Respectful maternity care is needed in Africa, and this continuity of care provision would go a long way to ensure that. According to WHO quality and respectful care for women and babies is needed to achieve universal health coverage. Quality of care provision also encompasses experience of care, effective communication, support, respect, and preservation of dignity [33]. The findings of this study point to aspects of increased quality of care through domiciliary visits and continuity of care.

Peer support, referrals, and testimonies from women who received care from midwifery students encouraged other women to ask for the same care, while others reported that they had encouraged their friends to seek care from the healthcare facilities where they can benefit from the continuity of care.

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Furthermore, this continuity of care assisted women in adhering to immunization schedule as almost all the women were updated with their immunization. All the midwifery students in Uganda participate in this continuity of care, bringing many benefits to women, newborns, and students. Many women expressed strong opinions regarding the need for continuation of this approach to care. These findings highlight the need for support for midwifery training institutions to ensure that this program continues and is expanded to reach as many women as possible. Similar to a United Kingdom study among women in the continuity of care model [23], the current study revealed an improved childbirth experience. In the current study, women were asked if there were any aspects of the care that they were not happy with, but they all agreed that the care was just perfect. This is contrary to the findings of an Australian study where women have aspects of the continuity of care that they are unhappy with [26]. The possible justification might be that they affirmed that the present care with midwifery students is far better than it used to be.

Strengths and limitations of the study

To the best of our knowledge, this is one of the first studies to explore women's perceptions of midwifery continuity of care provided by Bachelor of Midwifery students in Uganda. Individual in-depth interviews were conducted through face-to-face interviews, which allowed for a deeper exploration of the subject matter while observing their non-verbal communication and the setting. Interviews were conducted not long after postnatal care ended, which might have resulted in a better recall of their experience.

The use of the purposive sampling method potentially affects the transferability of the study findings. This study is also limited to women from a small city in Northern Uganda who participated in the continuity of care.

Conclusion and recommendation

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This study shows that domiciliary midwifery, which involves pairing a woman with a student as a form of midwifery-led continuity of care, is highly appreciated by mothers and could be a pathway to increased quality of maternal and newborn health care. Women reported a positive perception as it provides an opportunity for continuity of information with valued extra care and respectful care which is very much needed in Sub Sharan Africa which bears the highest burden of maternal and neonatal morbidity and mortality. It empowers women with postnatal care skills and knowledge, and they described their perception of the current care to be better than their previous delivery. It increases access to the health care system, and women wish for its continuation. It is a special aspect of our undergraduate curriculum that allows women to contribute to student's learning.

As women in the current study prefer this continuity with the added in-home attention and education, but it is rather random if a woman receives this type of additive care in the larger healthcare system, we recommend extension of this care to practicing midwives in the workforce. If scaled across the healthcare system, the health outcomes will definitely positively shift nationally for mothers and neonates. We recommend that the International Confederation of Midwives, in its midwifery competency, add an aspect of continuity of care to ensure standardized practice globally. Women's previous perception of hospital birth indicates the need for urgent intervention in training midwives on women-centered care and patient rights which are central in the domiciliary continuity of care model. Professional bodies could be instrumental in implementing and promoting woman-centered care and other policy requirement. There is also a need for stakeholder involvement and support to ensure continuation to maximize the impact of the continuity of care and to ensure the sustainability of the program.

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Ethics approval and consent to participate

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Ethical approval to conduct the study was obtained from the Lira University Research and Ethics Committee before data collection (Ethics number LUREC-2023-56). Participation in the study was voluntary and informed consent was obtained from all participants by the first and last authors before the interviews. Confidentiality and privacy were ensured and all the participants informed about their right to withdraw their participation at any time without affecting access to routine health care.

Consent for publication

Not applicable

Availability of data and materials

Data will be made available on request.

Competing interests

The authors declare no conflict of interest.

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Author’s contributions

Conceptualization, FA, WCU, RI, RM; CA Methodology FA, WCU, and RI; Software, WCW.; Validation, FA, WCU, RI, JM; Formal analysis, WCU, and RI; Investigation, FA, WCU, RI, RM; Resources, AA, IA, and BA; Data Curation, FA, WCU, RI; RM Writing – original draft, FA, WCU, and RI; Writing – review and editing, FA, WCU, RI, RM, JM, CA, AA, IA and BA; Visualization, WCU, and JM; Supervision, WCU, RM, AA, IA, and BA; Project administration FA, WCU, and RI.

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Women's Perceptions of Midwifery Continuity of Care Provided by Bachelor of Midwifery Students from a Public University in Northern Uganda: A Descriptive Qualitative Study

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Abstract

Background

Domiciliary care is a midwifery continuity of care given to a mother by midwives in the hospital, clinic, or home during pregnancy, labor, and puerperium. While evidence exists on the benefits of continuity of midwifery care models to women and neonates, little is known about the perceptions of women who received domiciliary midwifery from midwifery students in Uganda.

Aim

This study explores women’s perceptions of midwifery continuity of care provided by Bachelor of Midwifery students.

Methods

An exploratory, descriptive qualitative study was conducted in Lira city, Uganda, from April to August 2024. Individual in-depth interviews were conducted using semi-structured interviews among eighteen purposively selected postnatal women who received domiciliary care from Bachelor of

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Midwifery students. Data was transcribed verbatim and analysed using the thematic technique and NVivo version 20.

Findings

The analysed data revealed that women appreciated the continuity of care received. Thematic analysis identified four themes: experience of care, empowerment through knowledge and skills, access to the health care system, and innovation approach to care, as well as 12 sub-themes from the study.

Conclusion

The study's findings show that women had positive experiences with the rendered care as it provided an opportunity for continuity of information and care. They felt empowered with knowledge, skills and information that they had not received in their previous deliveries and wished for the continuation of this care. There is also a need for stakeholder involvement and support to ensure continuation, maximize the impact of the care, and ensure the sustainability of the program.

Keywords: Early post-partum care, Domiciliary midwifery, Home based-care, Experience, Perception, Continuity of care, Midwifery-led care, Midwifery Care Model

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Background

The International Confederation of Midwives (ICM) and World Health Organisation (WHO) recommended a transition to a continuity of midwife care models previously known as midwifery-led continuity of care models to ensure access to quality midwifery care [(1)]. Continuity of care refers to the extent to which individuals experience a series of distinct healthcare events as coherent and interconnected over time, aligning with their needs and preferences [(2)]. Current studies reveal that continuity of care models reduce the rate of cesarean section by 16%, use of regional analgesia by 15%,

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instrumental birth by 10%, episiotomy by 16%, preterm birth by 24%, neonatal death by 19% and increases the rate of vaginal deliveries by 5% [3].

Domiciliary care is a midwifery continuity of care given to a mother by midwives in the hospital, clinic, or home during pregnancy, labor, and puerperium [4]. This continuity of care is practiced in some countries worldwide, including Uganda. However, in Uganda this care is only practiced by midwifery training institutions and not by in-service midwives. Data is not readily available on the number of graduate midwives in Uganda but it is estimated that Uganda in total has roughly 48,000 midwives and nurses in active employment at a ratio 7 midwives per 1000 live births [5]. Continuity of care experiences are an integral component of preregistration midwifery programs in Uganda and other parts of the world like the United Kingdom, Canada, Australia, and New Zealand [6-8]. In Uganda, Bachelor of Midwifery students are required to undertake domiciliary midwifery which is a mandated pre-registration requirement. This care is seen as a tool not only to expand students learning but also to provide women the opportunity to experience individualised care from labour to puerperium. In the current curriculum, midwifery students are paired with three low-risk women in their third year of study. This domiciliary philosophy is seen as a gold standard of maternity care mandated by the midwifery registering authority and has buy-in from our practice partners like Seed Global Health. The midwifery curriculum in Uganda at bachelors, diploma and certificate supports domiciliary midwifery, where pregnant women are paired with midwifery students in conjunction with qualified midwives who oversee the activities of the students. Continuity of care with midwifery students in this study is in partnership with a qualified midwife who acts as a supervisor.

Evidence shows discrepancies in the content, implementation, facilitation, and evaluation of continuity of care education among midwifery students globally [7]. The continuity of midwifery care in most developed countries starts from ante-natal to the post-partum period [9, 10]. However, the

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midwifery student's continuity of care in Uganda starts on admission for delivery to seven days post-natal and is only a component of third-year midwifery students' education. In contrast, midwifery students in Australia are exposed to the continuity of care from years one and three of study [9]. This care aims to extend the continuum of midwifery care, as the early neonatal period is critical for the mother and baby. The postnatal period is a very crucial phase in the lives of new families, and receiving professional support plays an important role [11].

Continuity of midwifery care using the Bachelor of Midwifery students benefits both women and students. By allowing midwifery students to participate in domiciliary care, they gain valuable hands-on experience and exposure to a diverse range of cases which is not always available in the narrow context of healthcare facilities [12]. This practical training enhances their skills and knowledge and fosters a deeper understanding of the importance of personalized care in improving maternal and newborn health outcomes. It also helps to address the shortage of healthcare professionals in underserved areas, ensuring that women have access to quality care regardless of their location [13].

For the women, domiciliary midwifery supports breastfeeding initiation and support, considering that most women are discharged before the proper onset of lactation [14, 15]. A systematic review and meta-analysis revealed that through community midwifery programs, women experienced more personalized care, trust and felt more empowered to make decisions for their health needs [16]. In a meta-analysis study focusing on the experiences of women from Indigenous communities, it was found that the women reported to have built better relationships with the midwives, and their cultural norms were respected [17]. In another study on birth experiences about continuity of care, it was found that women had more psychological trust and a feeling of teamwork with the student midwives who supported their deliveries from home [18]. An Australian study on the clinical outcomes of women who

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received continuity of care from midwifery students showed reduced tobacco use, episiotomy, and tears during childbirth [19].

According to ICM, Uganda is implementing various forms of midwife-led continuity of care in the different health facilities. However, little is known about women's experience and perception of this care in Uganda. Therefore, this study aimed to explore the women's perceptions of midwifery continuity of care provided by Bachelor of Midwifery students.

Methods

Study design and setting

This study is part of a bigger mixed-method study titled "impact of community midwifery practice on the postpartum women and bachelor of midwifery science students in Lira city", where a descriptive exploratory qualitative study was chosen to explore women's perceptions of midwifery continuity of care provided by Bachelor of Midwifery students from Lira University. A purposive sampling was used to recruit women who received midwife-led continuity of care from midwifery students. This was a community study carried out in Lira city located in Northern Uganda.

Study participants

Inclusion criteria considered women who: (a) received midwife-led continuity of care from the midwifery students within six months after delivery, (b) could speak the native language (Leb Lango) or English, (c) lived within 10-kilometre radius from the participating health facilities. Women were excluded if they did not consent to the study or if they or their babies were seriously ill.

Data collection

Potential participants were contacted on the day of discharge from domiciliary care. All mothers who received domiciliary care from the Bachelor of Midwifery students were recruited to participate in a patient satisfaction survey which is the quantitative aspect of the bigger mixed-

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method study. Subsequently, participants for this qualitative aspect were purposively selected based on the inclusion criteria for this study. The Qualitative semi-structured interviews were conducted between April 2024 and August 2024 by the first and last author at a time and day preferred by the participants. The length of the interviews varied between 12 and 55 minutes, with the average interview taking 23 minutes. The interviews followed an interview guide that invited them to share a story about their perceptions of domiciliary care. The following questions were used as a guide:

- “How and where did you meet the midwife who delivered you”
- “How was your perception about the care provided to you”
- “Tell us your views about the care and some of the new things you learned from this care”
- “Could you tell me about things that you did not like about the care and ways we could make it better”.

All the participants were encouraged to be themselves and to speak freely without reservations. The women chose where they were interviewed within their homes away from third parties, and some women were interviewed together with their partners according to their preference. All participants approached participated in the study and no one withdrew their participation. The first and last authors have extensive experience in qualitative methods. The interviewers are independent and did not participate in the care of these women during their postnatal care period. The participants were not given any form of incentive to participate in the study.

Data analysis

The interviews were transcribed verbatim by the second and last authors. To check the transcribed interviews for accuracy, these authors examined each other’s transcripts by listening to the original interviews. The first author checked the transcripts translated from Leb Lango to English and back to Leb Lango to ensure accuracy. A few corrections were then made to the

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transcripts where necessary. Transcripts were read to some participants for correction to maintain the accuracy and credibility of the findings. Transcripts were then exported to NVivo version 20 (QSR International, Doncaster, Australia) for organisation, coding, and analysis. The thematic analysis approach was used for data analysis following the six steps proposed by Braun and Clarke [20]. The six steps include (i) reading through the data several times to enable immersion, (ii) producing initial codes from the data, (iii) sorting different codes to form themes, (iv) reviewing and refining themes, (v) defining and naming themes (vi) producing a report using data extracts in a concise, coherent, logical way. Data were coded by two independent coders and verified by the third author. Modifications were made where necessary to provide clarity or to remove redundant words. The Consolidated Criteria for Reporting Qualitative Research (COREQ) guideline was followed to report findings [21]**.** Participants' demographic characteristics are reported using descriptive statistics such as numbers.

Trustworthiness

The trustworthiness criteria prescribed by Guba and Lincoln were followed to ensure the rigor of the study's findings, [22]. This includes credibility, confirmability, dependability, and transferability. All the aspects of trustworthiness were ensured as follows. Credibility was achieved through member checking with some research participants and co-investigators. This is to confirm research findings and interpretation ensuring that no pertinent information was excluded. At the same time, confirmability was ensured by involving two independent coders in the coding process to exclude subjectivity and a third person who verified the codes. Dependability was ensured by using participants' verbatim quotes to support the findings' interpretation to confirm that information was not distorted.

Findings

As seen in Table 1, eighteen women participated in the individual in-depth interview. Their age ranged from 23 to 40 years, and their number of children

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ranged from one to four. Most of them are married and unemployed; only three had a tertiary level of education, and the majority delivered at a hospital.

Table 1: Socio- demographics characteristics of the participants

Code	Age	Marital status	Number of children	Employment status	Highest educational level	Place of delivery
W1	23	Married	1	Self-employed	Primary	Hospital
W2	23	Cohabiting	2	Self-employed	Primary	Hospital
W3	27	Cohabiting	2	Self-employed	Primary	Hospital
W4	34	Married	2	Unemployed	Tertiary	Hospital
W5	32	Married	3	Unemployed	Primary	Hospital
W6	28	Married	2	Self-employed	Primary	Hospital
W7	33	Single	2	Employed	Secondary	Hospital
W8	33	Single	2	Self-employed	Secondary	Hospital
W9	33	Married	4	Self-employed	Secondary	Hospital
W10	29	Single	2	Unemployed	Primary	Hospital
W11	26	Married	1	Unemployed	Secondary	Hospital
W12	23	Married	1	Unemployed	Primary	Clinic
W13	40	Married	4	Employed	Tertiary	Clinic
W14	24	Married	2	Employed	Primary	Clinic
W15	30	Married	4	Unemployed	Primary	Clinic
W16	29	Single	3	Self-employed	Primary	Hospital
W17	27	Married	1	Unemployed	Tertiary	Hospital
W18	27	Single	1	Unemployed	Secondary	Hospital

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Women's perceptions of domiciliary midwifery

From the data regarding women's perceptions and experience of domiciliary midwifery care, four themes and 12 sub-themes as seen in emerged from the analysis (Table 2). The four main themes were: experience of care;

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empowerment through knowledge and skills; accessing the health care system; innovative approach to care.

Table 2: Summary of themes and Sub-themes

Themes	Sub-themes
Experience of care	Continuity of care
	Woman-centered care and services
	Best practice with extra care
Empowerment through knowledge and skills	Exclusive breastfeeding knowledge and practices
	Postpartum care and support better than last time
	Sustainable cord care practices
Accessing the healthcare system	Fosters hospital-based care
	Peer referral initiative
	Adherence to the immunization schedule
Innovative approach to care	Wish for continuation with attention to some priority group
	Education focused
	Community involvement

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Theme 1: Experience of care

The theme "experience of care" was developed from the data. The experience of care in this study refers to the individual's overall experience with the healthcare system. From this theme, we identified the following sub-themes: "continuity of care," "woman-centered care and services," and "best practice with extra care".

Sub-theme 1.1: Continuity of care

In the current study, most women who received domiciliary midwifery care during the intrapartum and post-natal period described it as a continuum of care provision and information.

> *"When I went to the hospital, the student took care of me from the time of labor up to when I delivered. I delivered well, and she brought me back home. She kept on checking me, the baby, and our health. Up till*

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> *now, she could phone to check that everything is okay with us"* (W3, 27-years-old mother of two)

Another study participant stated that receiving postnatal care and support from one reliable person ensures continuity of information and support.

> *"Right from when I arrived in the hospital, she took me, examined me, and taught me everything to do to make the delivery successful. She delivered me, I got a tear, and she sutured me. At home, because she already knew my issues, she showed me what to do to heal up well. She took care of the baby and regularly checked the baby. She taught me how to take care of the baby and how to clean the cord, and the baby is so healthy up to now" (W14*, 24-year-old mother of two*)*

Another participant added that this continuity of care enabled the early detection of abnormalities and prevented unnecessary hospital visits for minor ailments. According to some participants, this service enabled prompt healthcare referral, attention, and follow-up for the baby if sick. This service is for low-risk women and babies, but there are few instances where complications developed requiring immediate attention or admission. With the help of midwives, these issues were promptly identified, and patients were urgently referred to the most appropriate healthcare facilities.

> *"…like this yellow eye here (jaundice), I was supposed to go to the hospital again to explain to the doctor, but she told me everything. She showed me how to expose the baby to early morning sun and how adequate breastfeeding will help to clear it, and it went away after few days" (W10*, 29-year-old mother of two*)*

> *"…following mother and baby home is good. Because if the baby is not feeling well, it can be noticed. And if the mother or the baby is not feeling well, it will be noticed early. For me when I came back home, if it was not for her, I would not know that my blood pressure was high, but she kept on taking the readings, and she advised me on what to do. So, I have realized that this follow-up is very good" (W6*, 28-year-old mother of two*)*

Sub-theme 1.2: Woman-centered care and services

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A woman-centered approach to care considers the uniqueness of each woman's needs while ensuring that the holistic needs of each woman are taken care of. The findings of this study revealed that the participants experienced individualized care provision.

> *"I did not know those things. She taught me what to do to protect the baby if there is a wound on the breast. The small information given to us was general. I did not have that knowledge, and because I did not have the disease in my last pregnancy, I did not know the proper way of giving the medicine (ARVs). So, I was not knowing anything. Those people did not explain to me the way the students did. So, I was just blind, but now my eyes are open. I know where to go. I have learned how to breastfeed the kid. How to give the medicines. And if you don't give, what will happen, the time of giving it. That's why I even set the alarm. Because I know that I may forget, you know, human beings, when you are stressed out, you can forget. That's why I set the alarm. When I hear the alarm, I just give the medicine" (W7*, 33-year-old mother of two*)*

Sub-theme 1.3: Best practice with extra care

The women described this care as the best care they have ever received, including so many extras. According to the women, the service came with respectful, compassionate care, companionship, kindness, patience, and proper communication. Most participants highlighted that being taken care of by the midwifery students meant they received extra care, attention, information, respect, and love. Regarding companionship and friendship, most participants expressed their satisfaction with their midwifery students.

> *"Actually, I didn't think I would meet someone who would help me the way she did, the way she took care of me from the hospital and then to home up to now she is still coming is so good. It has helped me to learn new things The student showed me love and helped me" (W4*, 34-year-old mother of two*)*

> *"The students can take good care of people. They took very good care of me. They handle women well as mothers, they are friendly to us, and they have respect for mothers (W9*, 33-year-old mother of four*)*

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Due to urbanization, many women live far from their family members, which means that some of them will not receive the support of their families after delivery. According to the women, their relationship with the student grew into friendship and companionship, and some even regarded their student as a mother figure. They appreciated the efforts the students made to visit them daily during the postnatal period. In some woman's words:

> *"It was a good experience. Actually, she treated me as her sister. She's just like my mother, she would treat me with so much love and care, everything was good" (W1)*

> *"She gave us her time and would treat us as her family members. If all students were like her, there would be a lot of changes" (W15*, 30-year-old mother of four*)*

> *"Like now I don't have someone who is mature to take care of me, but I'm taking her as someone who is taking care of me, so I'm safe, I'm also happy, I don't have to stress about taking care of the baby and monitoring her. Like when she came now, she can monitor the baby and me, so when she leaves, I feel free, like my baby is fine and me I'm fine also"* (W10, 29-year-old mother of two)

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According to the participants, communicating with the students was easy as they would listen and respond to their concerns and needs, unlike other health professionals who usually do not take them seriously or mistreat them, and this made a big difference in the women's experience.

> *"I went to be checked, and she conducted it very well so that is how we met each other and she became my friend, from there whatever I wanted I could just rush to her, and she now started from there she monitored me until I delivered because of her being so caring instead of going to the other midwife - the usual one in the hospital for me I was trusting her and she was very okay with me, she talked to me in a mild mood and she convinced me do things just the way she talked to me" (W17*, 27-year-old mother of one*)*

Theme 2: Empowerment through knowledge and skills

Women described their perceptions of domiciliary midwifery as that of empowerment. Three sub-themes of "exclusive breastfeeding knowledge and

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practices," "postpartum care and support for the mother and newborn," and "sustainable cord care practices' became apparent from the data.

Sub-theme 2.1: Exclusive Breastfeeding knowledge and practices

Women were equipped with knowledge and skills of exclusive breastfeeding, proper lactation, positioning, and attachment. It is noteworthy that all the participants in the current study exclusively breastfed their babies. They were supported during the initial stage of breastfeeding initiation which is very critical for the baby and the mother. The students were always there to answer all their questions and to guide them.

> *"I am doing exclusive breastfeeding, it was not easy initially, but she guided me and told me to give the baby breast milk for at least six months without adding any supplement either water, soup, porridge, or honey then after six months I can now add those things but continuing to breastfeed until whenever I can even up to two years or so" (W17*, 27-year-old mother of one*)*

> *"She showed me how to breastfeed the baby. With my first baby, I was not able to breastfeed because I have so many issues, but with this one, she supported me and taught me food that can help with milk production. She helped me not to give up, now I have enough milk for the baby. She told me that I should breastfeed the baby at least eight times every day" (W3*, 27-year-old mother of two*)*

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Sub-theme 2.2: Postpartum care and support better than last time

The participants attested to the degree of support and care they received during the postnatal period. The participants who received domiciliary care attested to the wealth of knowledge, support, and care that they received. The multiparous women attested that the present care was better than what they received in their previous pregnancy.

> *"So, the midwife treated me well and taught me many things that I didn't know in my previous deliveries. The care is too good, and the students have good attitudes. They are not like those government workers who can shout at people. I wish God also could make them continue with that heart as they are now" (W5*, 32-year-old mother of three*)*

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> *"After delivery, I was taught how to breastfeed the baby, how to wash the baby, how to exercise, the food to eat, and how to keep myself and the baby clean. On my own, I would not know these skills. She has taught me a lot of things that when I'm going to deliver again even if she is not there I can manage" (W1*, 23-year-old mother of one*)*

The participants revealed an increase in their knowledge and skills for newborn's care.

> *"If it were not for her, I would have gone back to the hospital when I saw some discharge from my daughter's private part and also some secretions from her breasts. By the way in my culture, they will squeeze the breast, but she explained the cause to me which I did not know before" (W17*, 27-year-old mother of one*)*

> *"I didn't know how to clean the cord, how to take care of myself, I didn't know how to breastfeed the baby and how to position the baby during breastfeeding. But I was taught, and I was continuously examined. She also taught me exercise that helped me heal up very fast" (W5*, 32-year-old mother of three*)*

Sub-theme 2.3: Sustainable cord care practices

The recommendations by WHO for a daily application of 7.1% chlorhexidine digluconate aqueous solution or gel, delivering 4% chlorhexidine to the umbilical cord stump during the first week of life for new-borns. This recommendation applicable to babies born at home or in settings with high neonatal mortality of 30 or more neonatal deaths per 1,000 live births is not always possible in Uganda. This is due to the unavailability of these solutions in low and middle-income countries. Moreover, in Uganda, women are tempted to apply other herbal remedies if the cord is left untreated. The participants were assisted in using a solution that was generally available to them. Women were taught to make and use the saline solution on the cord stump of the neonates.

> *"She told me that I should boil the water after boiling it first gets cold. Then I get a piece of cotton if I have five of them. Then, I put a pinch of salt in the water and mix it with the salt. Then I start cleaning. I can also clean it with a soft cloth. I now have to dip the cloth in that solution,*

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and then I put it from the bottom of the cord to the tip. I cleaned the cord three times a day. There were no issues with the cord, and it fell off on day five" (W11, 26-year-old mother of one*)*

"I learned how to take care of the cord. Those days, if the cord had delayed falling off, we would get leaves, roast them, and apply them to the cord. However, it would still take a long time to fall off. But now, I was taught how to keep the cord clean, and the cord would fall in less than one week" (W15, 30-year-old mother of four*)*

Theme 3: Accessing health care system

Women reported how the care provided by midwifery students had increased access to healthcare facilities by reducing the fear they developed about institutional delivery due to the negative attitudes of the healthcare workers. Therewith, the subthemes "fosters hospital-based care," "peer referral initiative," and "adherence to immunization schedule" emerged from the data, each subtheme including different thematic aspects.

Sub-theme 3.1: Fosters hospital-based care

Three delays contribute to maternal mortality, and these delays are associated with deciding to seek care, reaching the healthcare facility, and receiving care. In most cases, women prefer to deliver at home or in the care of traditional birth attendants due to myths about healthcare facilities or the negative attitudes of healthcare workers. Participants in the current study confirmed that the program increased their willingness to access the healthcare system and use healthcare facilities. Women compared their experiences of care within this model to their previous births where they were not treated well. They confirmed that the present experience had increased their willingness to deliver in the hospital. They further highlighted that it has reduced their fear of hospital delivery, which is partly due to the attitude of healthcare workers.

"I had no interest in going to deliver from the Hospital due to my experience in 2017. Health workers were mistreating us at the hospital. At least in this current delivery, I had a good experience and would be happy to go back there again" (W16, 29-year-old mother of three*)*

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> *"The first and second deliveries I was not treated this way. If you go to the hospital, they ask you for things like a mama kit, yet we know the government provides them. And immediately after delivery, you are discharged, and sometimes, we are abused, making us fear going to the hospital. Sometimes we contemplate on whether to go to the hospital or not because we would be fearing such experience but all those have changed with this experience" (W5*, 32-year-old mother of three*)*

Another participant highlighted that even her neighbours were amazed by the care she received:

> *"It was a good experience, and I liked it too. Because, those days, I used to fear the main hospital. But since I went there this time, it was my first time, and I liked the service. But those days, they could shout at you, even your attendants. That's why most people dodge when you say you're going to the main hospital. Because they shout at people there. But this time, we have gotten a lot of peace out of this service. I liked it. That's why even, there are lots of people that are saying, Hey, this time you're blessed. They have even brought you up to home. They even check on your baby. Hey, the baby is blessed" (W8*, 33-year-old mother of two*)*

Sub-theme 3.2: Peer referral initiative

The participants of the present study confirmed that due to the respectable care they received, they have encouraged more women and friends to seek care from the hospital and to request to be provided with students who will provide domiciliary care to them.

> *"I told one of my friends when she came here, I told her when you are going to deliver, go to the hospital and allow the students to come to your place. Because I learned a lot of things, I was happy. My baby, she's monitoring my baby every time, I mean every day. Like the way I told you, I told my friend, you need to go there, and when they come to you, you allow them to come up to your place, that program is good" (W10*, 29-year-old mother of two*)*

This participant approached the team in the community after hearing testimonies about the care from her neighbour. The student and the supervisor went the extra mile to provide this continuity of care to her even outside the university's time frame, and she also became an ambassador of the care.

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> *"A friend of mine who was also pregnant told me about her experience with a midwife who came differently compared to what we knew, how she was cared for, and I also got interested. I have also shared my experience with other women" (W5*, 32-year-old mother of three*)*

Sub-theme 3.3: Adherence to the immunization schedule

Data from the present study highlighted how this care has fostered compliance with recommendations for immunization. In our setting, vaccines are sometimes unavailable, and women are advised to go back later to see if they are available. For instance, some mothers in the current study were sent home with their babies, not receiving the lifesaving BCGs. These mothers were followed up to ensure they returned to the healthcare facility for this vaccine.

> *"BCG was not there when the baby was born, I told the student to monitor for me when it is there. Then she called me the other day that the thing had reached. That's how I went there, and she immunized the baby" (W7*, 33-year-old mother of two*)*

The mothers were further given a thorough health education about each vaccine the baby is supposed to receive, its timing, and its implications. This information encouraged adherence to the immunization schedule.

> *"I remember the student taught about measles that if the baby is immunized even if it gets it, the baby will not be affected so much. Polio, whooping cough, and others. For us we don't look at the card. For us, when the baby is vaccinated, we take the card, put it in the bag, and come home. However, the student taught me about those immunizations very well. I remember the baby being immunized against whooping cough, polio, and Rubella. I can't now remember others, but measles vaccine has not yet been given, the student told me that it will be given at nine months*" (W4, 34-year-old mother of two)

Theme 4: Innovative approach to care

This theme focused on how women viewed the postnatal continuity of care and was explained by three sub-themes of "education-focused," "wish for continuation with attention to some priority group," and "community involvement' became apparent from the data.

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Sub-theme 4.1: Wish for continuation with attention to some priority group

Most participants wished that these services be continued and extended to every woman. One participant attested that women should receive this service at least once in their reproductive journey. Others even mentioned that they would assist and educate other women in the community the same way they were assisted.

> *"You should continue to help other women; you should continue with the program and should be at the hospital so that if the other women come to deliver, they can find you, and you help them. Even me I can be able to help my friends and neighbours now"* (W2, 23-year-old mother of two)

> *"The advice I would give is that the program you people came up with is very good and will help us the citizens of Uganda. So, you should continue doing to other women the way you cared for me" (W3*, 27-year-old mother of two*)*

The participants further identified some groups of women that they think will benefit more from this service. The primigravida, teenage mothers, and those staying away from their families and husbands were among this identified priority group.

> *"So, I'm telling you to continue with this program because, you know, like there are teenage and first-time mothers, they don't know how to take care of themselves. Some people don't have their mother, and they don't stay together with their mother; like me now, my mother came here, then she left, and no one to take care of me, no one to give me advice, but the student was giving me advice. Because this program will help many mothers, not me only" (W10*, 29-year-old mother of two*)*

Another participant also asked for the extension of the time frame for the postnatal follow-up:

> *"…maybe if you come, at least not only seven days. It is seven days, and now you're going to go back. You can keep on checking on me for a month. I will be staying at home for about one month. Then I begin going from my workplace. I still need you around" (W9*, 33-year-old mother of four*)*

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Sub-theme 4.2: Education focused

In this study, most postnatal women stated that receiving care from midwifery students improved the quality and quantity of education. They highlighted that they were guided on the daily care of the baby and themselves. Study participants highlighted that midwife health education regarding the care of the baby, cord care, nutrition, and postnatal exercise increased their satisfaction with the care provided.

> *"This project is good, and it has helped me. There were a lot of things I didn't know before, like breastfeeding the baby, I was taught how to do exercise, how to bath, how to wash the baby and how to clean the cord" (W1*, 23-year-old mother of one*)*

This finding demonstrated that receiving domiciliary midwifery care improves the consistency of education and information about danger signs to look out for during the neonatal and postnatal period. Which included but was not limited to health education on care and danger signs for themselves and the baby.

> *"I was taught the danger signs of the baby if there is a high fever if the baby is over crying, if the baby is not breastfeeding well, and if the colour of the eyes has changed to yellow, and if vomiting, I should take the baby to the hospital" (W4*, 34-year-old mother of two*)*

> *"On myself, the danger signs are when I feel severe headaches and bleeding if the blood that is coming out there is smelly, and if I have pains in my legs" (W9*, 33-year-old mother of four*)*

Sub-theme 4.3: Community involvement

From the different interview texts, it became apparent that the women would appreciate community involvement and participation in this program to ensure that information gets to all the women in the childbearing age. They highlighted that community members should be given the correct information and taking care of the baby and postnatal women.

> *"Me I want to say that this program is good, and it should be continued. Yes, and not only that, actually I was suggesting that if*

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possible. a venue should be gotten that all pregnant women assemble, and they are talked to" (W13, 40-year-old mother of four*)*

"To make this service reach other mothers, there will be a need to create awareness, you first have to create awareness in the community through any means of communication that can make the message reach all the mothers, so it can be through the radio or even distributing posters like in the health centres" (W17, 27-year-old mother of one*)*

Discussion

The current qualitative study explored the perceptions of women who participated in a midwife-led, continuity of care model by midwifery students. The benefits of midwifery continuity of care by midwifery students are widely documented in developed countries, but not much is known about this care in developing countries where the burden of maternal and neonatal mortality is greatest. Women in the current study perceived this continuity of care as satisfactory, with many positive benefits. Studies among United Kingdom and Ethiopian women revealed that they had a positive perception with continuity of care models with a great sense of trust, respect, communication, access, advice, and support [23, 24].

Participants from the current study revealed that receiving professional, postnatal support promoted continuity of information and care. Australian women who received continuity of care from midwifery students also described their experience as extremely satisfying [9]. In this study, trusting relationships between the women and students encouraged them to ask questions. Similar to a previous systematic review on what women value in midwifery continuity of care [16], the current study found that the participants attested to receiving tailored care with proper communication based on their needs. This is also consistent with a Swedish study that explored father's experience of home-based postnatal care [25], where they confirmed that the midwives were there for them as individuals and communicated and engaged with them during the postnatal visits. Women in an Australian study also confirmed that in their continuity of care, they were supported in their own

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way, and their midwives knew them on a personal level, and there was no need for them to retell their stories each time, which enhanced the continuity of information [26].

Most women with previous children explained that they have gained much new knowledge, making things easier for them during the visits. Some women explained that they could even assist their neighbors and friends with the information they gained. This is contrary to a Swedish study [25], where fathers with previous children explained that they did not participate in the postnatal visits because they believed they would not receive any new information. Some participants regarded their students as family or mother figures. This is similar to the findings of an Australian study that looked at women's experience of continuity of care where midwifery students were reported to provide support to mothers [27]. In the Swedish study, women explained that the professional, social, and personal characteristics of the students played a crucial role in access and quality of care they received [25]. Initiation and continuation of breastfeeding in the early postnatal days posed a serious challenge for women. Similar to previous Australian studies on breastfeeding initiation and support among women [14, 15], the current study found that in this service, women were assisted in initiating and maintaining breastfeeding. Notably, all the participants in the present study exclusively breastfed their babies. Furthermore, extra care, advice, support, and ongoing health education during the postnatal period were emphasized as important aspects of the experience by many women in the current study. Women confirmed they desired the care at professional and personal levels. This is consistent with a Swedish study where fathers affirmed that receiving home-based continuity of care created a feeling of trust, which eased communications, and midwives were viewed as family [25]. Similar to a previous Australian study among women in a continuity of care model [26], the current study found that women confirmed that this care was better than what they received in their previous pregnancy. The cord care

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recommendations for a daily 7.1% chlorhexidine solution are not always possible in our settings due to the unavailability of these solutions. Considering that women in the local settings are often tempted to apply other herbal concoctions that may predispose the cord to infections, sustainable ways of cord care were devised as a homemade saline solution [28, 29].

There have been various strategies to improve the quality of care in maternal newborn health in sub-Saharan Africa, such as improved access to health facilities, training of healthcare providers, and awareness creation on the importance of facility utilization. In the current study, women reported that they feared giving birth in the hospital due to the attitudes of the midwives towards them, but their encounters with midwifery students have changed this narrative. They also highlighted the need for a change in healthcare workers' attitudes toward them. The participants from a Spanish study and a Ugandan study on the utilization of maternal and child health services shared the same sentiment that midwives in the health facilities were so disrespectful and dehumanized them [30, 31]. This continuity of care is needed in Uganda and other sub-Saharan African countries due to various evidence of distrust of the healthcare system, lack of women empowerment, poor attitude, and harmful health practices in this region [31, 32]. Respectful maternity care is needed in Africa, and this continuity of care provision would go a long way to ensure that. According to WHO quality and respectful care for women and babies is needed to achieve universal health coverage. Quality of care provision also encompasses experience of care, effective communication, support, respect, and preservation of dignity [33]. The findings of this study point to aspects of increased quality of care through domiciliary visits and continuity of care.

Peer support, referrals, and testimonies from women who received care from midwifery students encouraged other women to ask for the same care, while others reported that they had encouraged their friends to seek care from the healthcare facilities where they can benefit from the continuity of care.

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Furthermore, this continuity of care assisted women in adhering to immunization schedule as almost all the women were updated with their immunization. All the midwifery students in Uganda participate in this continuity of care, bringing many benefits to women, newborns, and students. Many women expressed strong opinions regarding the need for continuation of this approach to care. These findings highlight the need for support for midwifery training institutions to ensure that this program continues and is expanded to reach as many women as possible. Similar to a United Kingdom study among women in the continuity of care model [23], the current study revealed an improved childbirth experience. In the current study, women were asked if there were any aspects of the care that they were not happy with, but they all agreed that the care was just perfect. This is contrary to the findings of an Australian study where women have aspects of the continuity of care that they are unhappy with [26]. The possible justification might be that they affirmed that the present care with midwifery students is far better than it used to be.

Strengths and limitations of the study

To the best of our knowledge, this is one of the first studies to explore women's perceptions of midwifery continuity of care provided by Bachelor of Midwifery students in Uganda. Individual in-depth interviews were conducted through face-to-face interviews, which allowed for a deeper exploration of the subject matter while observing their non-verbal communication and the setting. Interviews were conducted not long after postnatal care ended, which might have resulted in a better recall of their experience.

The use of the purposive sampling method potentially affects the transferability of the study findings. This study is also limited to women from a small city in Northern Uganda who participated in the continuity of care.

Conclusion and recommendation

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This study shows that domiciliary midwifery, which involves pairing a woman with a student as a form of midwifery-led continuity of care, is highly appreciated by mothers and could be a pathway to increased quality of maternal and newborn health care. Women reported a positive perception as it provides an opportunity for continuity of information with valued extra care and respectful care which is very much needed in Sub Sharan Africa which bears the highest burden of maternal and neonatal morbidity and mortality. It empowers women with postnatal care skills and knowledge, and they described their perception of the current care to be better than their previous delivery. It increases access to the health care system, and women wish for its continuation. It is a special aspect of our undergraduate curriculum that allows women to contribute to student's learning.

As women in the current study prefer this continuity with the added in-home attention and education, but it is rather random if a woman receives this type of additive care in the larger healthcare system, we recommend extension of this care to practicing midwives in the workforce. If scaled across the healthcare system, the health outcomes will definitely positively shift nationally for mothers and neonates. We recommend that the International Confederation of Midwives, in its midwifery competency, add an aspect of continuity of care to ensure standardized practice globally. Women's previous perception of hospital birth indicates the need for urgent intervention in training midwives on women-centered care and patient rights which are central in the domiciliary continuity of care model. Professional bodies could be instrumental in implementing and promoting woman-centered care and other policy requirement. There is also a need for stakeholder involvement and support to ensure continuation to maximize the impact of the continuity of care and to ensure the sustainability of the program.

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Ethics approval and consent to participate

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Ethical approval to conduct the study was obtained from the Lira University Research and Ethics Committee before data collection (Ethics number LUREC-2023-56). Participation in the study was voluntary and informed consent was obtained from all participants by the first and last authors before the interviews. Confidentiality and privacy were ensured and all the participants informed about their right to withdraw their participation at any time without affecting access to routine health care.

Consent for publication

Not applicable

Availability of data and materials

Data will be made available on request.

Competing interests

The authors declare no conflict of interest.

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Author’s contributions

Conceptualization, FA, WCU, RI, RM; CA Methodology FA, WCU, and RI; Software, WCW.; Validation, FA, WCU, RI, JM; Formal analysis, WCU, and RI; Investigation, FA, WCU, RI, RM; Resources, AA, IA, and BA; Data Curation, FA, WCU, RI; RM Writing – original draft, FA, WCU, and RI; Writing – review and editing, FA, WCU, RI, RM, JM, CA, AA, IA and BA; Visualization, WCU, and JM; Supervision, WCU, RM, AA, IA, and BA; Project administration FA, WCU, and RI.

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