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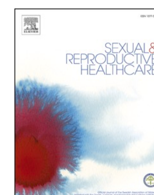

Labour ward midwives' experiences of remote video calls with women during early labour

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A R T I C L E I N F O

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Virtual waiting room

A B S T R A C T

Background: The shortage of midwives makes it difficult to meet healthcare needs in early labour, a phase when professional support and personal evaluation are crucial. Digitalisation has transformed healthcare, offering new communication and support methods. Although still uncommon, the use of a virtual waiting room with video calls by midwives during early labour could provide vital support for pregnant women and their partners. This study aimed to describe labour ward midwives' experiences of remote video calls with women during early labour.

Methods: A qualitative descriptive study with seven semi-structured interviews followed by a qualitative content analysis was conducted.

Results: The findings revealed that remote video calls enabled the midwives to work flexibly with chosen working hours and become involved in a challenging new e-function. They interacted with the women and their partners and experienced that they created a supportive relationship and simultaneously gained an overview of the situation. They felt secure in their professional role when providing the necessary care and had confidence in their competence.

Conclusion: The potential benefits of integrating remote video calls into midwives' tasks during early labour care include flexible working hours and fostering supportive relationships with women and their partners at home.

Introduction

An alarming deficiency of midwives is evident all over the world, which is emphasised both by the United Nations Population Fund (UNFPA) and in previous research [1,2]. In Sweden, the National Board of Health and Welfare has declared a shortage of midwives across all 21 regions, posing a challenging situation for the midwifery profession that reports high demands and a lack of organisational resources [3]. The lack of midwives impairs the ability to meet the need for healthcare services within the sexual, reproductive, maternal, newborn and adolescent health field [1]. In the reproductive and perinatal care midwives' practice includes professional support and a personalised evaluation of the woman's resources and requirements are crucial during the whole childbirth process, including early labour. An individualised approach is essential when providing information and guidance to women and their partners throughout the early stages of labour [4]. In standard care, women in the early labour phase are generally advised to stay at home for as long as possible, resulting in multiple calls and trips to the labour ward to obtain support and confirmation of the labour phase. The professional support available during early labour is often limited [5] due to lack of resources [6]. A scoping review [7] states that during early labour women experience fear, worries and dissatisfaction with care, indicating a need for improved professional support.

The early stage of labour, also known as the latent phase, marks the beginning of the birthing process. However, accurately determining the duration of early labour can be challenging for midwives and women, as pinpointing the exact onset of labour and the transition to the active

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phase is not always straightforward [8]. Contractions are widely recognised as the primary indication of the onset of labour. However, additional physical symptoms are often reported, including sporadic pain, discharge, loosening of the mucus plug, gastrointestinal symptoms and disrupted sleep [9]. Despite their prevalence, these symptoms are not typically acknowledged as part of early labour. Consequently, when healthcare professionals overlook these signs, women may feel uncertain and insecure [10]. Their anxiety can be relieved through different types of support, e.g., from a midwife, partner or friend who provides security [11].

Support from a midwife is crucial for women in early labour and requires a combination of knowledge, time and prerequisites for women-centred support. The principle of woman-centred care constitutes a central objective within midwifery, serving as a value base to guide practice [5]. Woman-centred care promotes women's self-determination, underscoring a collaborative partnership and embracing normalcy [12]. The centralised care model contributes to a growing distance between pregnant women and healthcare services, prompting the exploration of innovative solutions to ensure comprehensive support for expectant parents. Technology-driven solutions such as remote video calls have been proposed as family-centred, safe and accessible if the organisation allocates dedicated resources [13].

Healthcare has undergone a digital transformation in recent years. Digitalisation offers promising opportunities to enhance women-centred care in midwifery by providing new avenues for communication and personalised support to empower women to actively participate in their care.

To evaluate digital transformation in the midwifery context, the six key factors associated with the success and sustainability of e-health services – equipment, efficiency, vision, ownership, adaptability, and financial aspects – were used [14].

Midwives have expressed a positive attitude towards an implementation of video-call services to enhance effective and high-quality care for women in early labour. video calls were regarded to be a feasible option for assessing women in early labour, albeit with certain challenges associated with its implementation, such as need for a private space and training for the staff [13,15]. The experience of women receiving support from labour ward midwives during early labour has been described [16]. However, no studies have yet been found that examine the experiences of labour ward midwives conducting video calls to support women during early labour. Hence, the aim of this study was to describe labour ward midwives' experiences of remote video calls with women during early labour.

Methods

Study design

The research paradigm was within sexual, reproductive, and perinatal health care. A qualitative, descriptive approach was used in this pilot study [17]. The study explored labour ward midwives' experiences of encounters with women during video calls in early labour. An interview guide was designed and the dataset consisted of semi-structured individual interviews with midwives. The analysis was conducted using qualitative content analysis, followed by interpretation of and reflection on the results [18].

The digital video calls during the early labour project

A pilot project, entitled *Digital video calls during early labour*, was implemented at a labour ward from February to May 2023. It took place in a region of nearly 300,000 inhabitants within the healthcare catchment area in western Sweden, including both rural and urban areas. Around 3,300 births are handled by the hospital each year. In the context in which this study was carried out, a midwife is assigned the role of shift coordinator at the labour ward. The coordinator is an experienced midwife who answered the telephone and provided advice and information. The coordinator decides if a woman is ready for the labour ward, usually depending on whether the woman reports painful and regular contractions.

Experienced midwives serving as coordinators in the labour ward were recruited to provide digital video calls during early labour. Two of the midwives had retired but were working on a part-time basis. In this project, midwives worked from home or other remote places, which enabled them to focus solely on the woman/couple in front of them without being disturbed by regular labour ward work.

A virtual waiting room was designed to support women and enhance communication and mutual understanding between pregnant women and midwives. By providing a shared digital space, the platform enabled both women and midwives to access the same information, promoting transparency. Pregnant women in early labour were offered the option to participate in video calls through "My Care Meeting", as an e-service. Women and their partners were able to download a digital application on their phone or tablet before calling the service. The digital application provided instructions on how to initiate video calls with the on-call midwife. The service was available through a digital drop-in function, where the experienced labour ward midwives provided advice and support to the women and their partners. Due to limited resources, the virtual waiting room in this pilot project was provided for an hour on four occasions each day from Monday to Sunday at 8h00, 14h00, 18h00 and 23h00. Seven experienced labour ward midwives rotated the video call service during various shifts. Each of the midwives was provided with a laptop. They had access to the women's labour ward records, in which they documented the video calls. The midwives also had a shared application for communication where they could contact each other for support.

Pregnant women received information about the video call service from antenatal healthcare unit. Women from pregnancy week 35 were approved to use this service. The information about the video call service was also disseminated on various channels such as the Internet, websites and social media. The project was also highlighted in newspapers, radio and television as the first attempt to use e-health in labour ward care in Sweden.

Participants and recruitment

All seven labour ward midwives who participated in this pilot project of the video call service were invited to participate in an interview and all seven accepted. They were all women. In qualitative methodology, a sample of at least six to seven research subjects is recommended to capture the majority of experiences around a specific phenomenon in a homogeneous group of individuals, i.e. to achieve data saturation [19]. Including the experienced midwives who had been stand-by for video calls made it possible to gain a variety of responses about the phenomenon. The midwives also served as coordinators in the labour ward at the hospital, implying that they were familiar with telephone calls from women in early labour (Table 1). They had conducted a total of 32 video calls.

Table 1
Study participants.

Midwife	Age	Current workplace	Years in labour ward	Number of video calls
1	42	Labour ward	6	0
2	41	Labour ward	5	4
3	66	Labour ward/retired	31	5
4	54	Labour ward/ antenatal unit	17	8
5	67	Labour ward/retired	45	4
6	48	Labour ward/ antenatal unit	5	8
7	61	Labour ward	28	3

Data collection

The data were collected between the end of June and beginning of July 2023. A video conferencing tool was used as recommended by Archibald et al. [20]. The data collection method was semi-structured individual interviews with open-ended questions. The midwives were, for example, asked what worked well and what worked less well during the video calls, as well as how the technology was supportive or hindering in their interactions with women in early labour. An interview guide was used so that the same questions were asked at each interview. Since the interviews were conducted in a semi-structured format, the midwives were able to share nuanced insights from their experiences. To ensure objectivity and transparency in the data collection process, all interviews were carried out by a researcher with a background in social science and informatics. This disciplinary distance from the field of midwifery was deliberately chosen to minimise potential biases arising from preconceptions related to the participants' professional domain. The interviews contained questions about how the midwives perceived the video calls, if the technology constituted an opportunity or obstacle, differences between video and telephone calls and what could be improved. Follow-up questions were used to confirm, reflect on and gain a deeper understanding of the participants' stories [17]. Thus, the data collection focused on acquiring an insight into and understanding of the midwives' experiences of the video calls with women in early labour. The interviews lasted between 15 and 45 min and were recorded. Informed written consent to participate in the study was obtained from all participants, who had received information about the study beforehand by email.

Data analysis

A qualitative content analysis was conducted, with a focus on latent content that involved interpreting the implicit messages conveyed [21]. The interviews were transcribed verbatim. All authors read, reread and discussed the transcripts to gain an understanding of the data. Meaning units were identified based on the study's aim. The meaning units were collected in computer tables, condensed into descriptive text and labelled with codes. Codes were then grouped based on similarities following Graneheim and Lundman's [18] approach to qualitative content analysis. Subsequently, subcategories were identified and grouped into higher-level abstraction categories, capturing the meaning of the statements. The main categories were classified by categorising and abstracting the data (Table 2). The analysis involved continuous back-and-forth movement between the data and categories, where all authors were involved. The research group's diverse professional backgrounds, including expertise in midwifery and social science informatics, contributed to a multifaceted understanding of the collected data. This diversity mitigates the risk of one-sided preconceptions and enhances objectivity, thereby reducing the likelihood of interpretive bias. Recognising that researchers often study areas of personal interest or connection, efforts to maintain neutrality were supported by a conscious awareness of one's own preconceptions and preunderstandings. Throughout the process, all authors engaged in ongoing discussions until consensus was reached. Relevant quotations were included in the result section to illustrate the categories.

Results

The results revealed that working in the virtual waiting room with remote video calls enabled labour ward midwives to work flexibly from a remote location, choose their own working hours, and engage in a new e-function. When interacting with the women in early labour and their partners at home, they experienced that they created a supportive relationship and simultaneously gained a visual overview of the situation. Midwives felt secure in their professional role when providing the necessary care and had confidence in their competence (Table 3).

Table 2
Example of the analysis process.

Condensed Units	Code	Subcategory	Category
Helped by interacting through the screen to answer questions about the normal birth process	Support through the screen, interaction	Creating a supportive relationship	Interacting visually
The video call was akin to seeing the woman in person, enabling them to engage in more meaningful dialogue and gauge the impact of contractions in firsthand	A meaningful dialogue when seeing the woman in person		
Video call assessment clarifies bleeding severity, as phone descriptions can be unclear	Visual assessment clarifies, for example, bleeding	Gaining a professional overview	
Video call provided valuable insight into the woman's movements and her reactions to the contractions	Visual insight into the woman's movements and responses during the contractions		

Table 3
Labour ward midwives' experiences of remote video call with women during early labour: an overview of categories and subcategories.

Categories	Subcategories
Working flexibly	• Enabling remote work • Choosing working hours • Using a new e-service function
Interacting visually	• Creating a supportive relationship • Gaining a professional overview
Feeling secure in the professional role	• Providing necessary care • Having confidence in one's own competence

Working flexibly

Enabling remote work

The introduction of e-services has improved how midwives can carry out their duties, offering opportunities for remote work. This flexibility allows midwives to work from home, a particularly appealing prospect for those facing long commutes to their workplace. Unlike the constraints imposed by traditional labour ward settings, where one's location is fixed during shifts, e-services liberate midwives from such restrictions. With the introduction of video calls, midwives could participate in consultations and meetings from any location, providing a previously impossible level of flexibility. The midwives reported that they could manage video calls even during periods of reduced hours or while on extended sick leave, enabling them to remain involved with their professional responsibilities. Circumstances such as post-operative recovery or injuries may temporarily limit a midwife's ability to work in a traditional setting. The availability of e-services ensured that midwives could continue to contribute meaningfully to their profession, even during periods of physical incapacity.

I'm going to have a hip operation this autumn and it would be excellent for me to sit and have such conversations at home (Interview 3).

Choosing working hours

The midwives appreciated having the autonomy to tailor their work schedules to their personal needs. The flexibility empowered them to maintain a harmonious work-life balance. Furthermore, the option to

undertake shorter shifts, even on days off, reflects adaptability to the diverse demands of their time. However, the challenge of integrating work shifts amidst planned activities during days off underscores the delicate balance required to maximise flexibility without compromising personal time.

> *I am used to managing my time and am quite used to working digitally. So, I think it's been great (Interview 6)*

The significant opportunity afforded to midwives on parental leave enabled them to contribute during specific hours, perhaps while their partners were available to care for the children. This not only supported their professional development but also facilitated a transition back into the workforce. Moreover, for midwives nearing retirement, an invaluable benefit was being able to prolong their careers by working from home. Additionally, this adaptable approach to working hours accommodates retirees who prefer shorter working hours, ensuring that experienced professionals can continue to contribute without the constraints of a traditional workday.

> *If you are retired, you may not want to work eight hours, but you may want to do an hour in the morning and one in the afternoon* (Interview 5).

Using a new e-service function

The integration of technology was initially perceived as a supportive platform by the midwives, offering new possibilities for communication and coordination. However, concerns arose regarding its reliability, particularly evident when updates coincided with crucial digital video calls, leading to interruptions and necessitating swift adjustments to ensure continuity by trying to contact another midwife in the project.

> *I remember when I was going to turn on the computer once, it started doing an update, and then …can someone else take my call now? (Interview 1)*

The inability of the technology to adapt the update to daylight saving time further highlighted potential functional limitations. Additionally, some midwives encountered challenges with internet connectivity while documenting journal notes, highlighting potential vulnerabilities in the digital infrastructure. Despite these obstacles, the use of a unified journal system facilitated coordination with the labour ward, ensuring communication and oversight of video call activities. Despite these technological issues, the midwives were satisfied with the reliability of computer logins, which consistently functioned well, even when accessing systems remotely from home or alternate location. This provided a sense of stability amid technological uncertainties, underscoring the importance of robust and dependable systems in modern healthcare practices.

> *For me, the technology was not a problem, but I know that a few of the midwives had trouble connecting* (Interview 6).

Interacting visually

Creating a supportive relationship

The midwives provided insights into visual interaction via screens when women exhibited a sense of security while staying at home during childbirth. Seeing each other in the eyes was specifically imperative for the possibility of creating a relationship between the woman and her partner. Observing the woman's gestures and expressions in real-time, served to strengthen the sense of relationship and engagement in the interaction. The midwives observed a sense of relief among women and their partners and noted their expressions of gratitude for the mental support received. This heightened level of engagement and observation contributed to a sense of deeper connection between the midwife and the woman, fostering an environment of trust and understanding. Moreover, the midwives noted that this interaction was involved in normalising aspects of the childbirth process, such as the latent phase and potential concerns like the normal bleeding in the beginning of labour.

> *Should it be like this?… is it normal?… yes, it's normal, and we talked about it, so, of course, it probably helped her* (Interview 4).

Observing the woman's reactions and body language provided a wealth of information, allowing midwives to gain insights into the woman's condition and emotional state. They noted that subtle changes in the woman's facial expression and breathing patterns served as valuable indicators of her emotional state and level of comfort. The visual cues afforded by video calls provided a level of detail that surpassed auditory communication alone, enabling midwives to better assess how distressed the women were. Therefore, they responded effectively to any emerging issues, such as vaginal bleeding or amniotic fluid leakage.

> *If I can see the pad, because when we ask on the phone, has it bled a lot, it is very difficult to say. Then maybe it's the size of a small spot, while the woman on the phone says it's a large bleed, or vice versa* (*Interview 7).*

Gaining a professional overview

The professional visual overview introduced a new dimension to the midwives' communication, offering invaluable insights that surpassed the limitations of a phone call. One midwife described it as akin to seeing the woman in person, enabling them to engage in more meaningful dialogue and gauge the impact of contractions firsthand.

> *It's just like I had met her in real life* (Interview 4).

The consistency in the questions, concerns and worries expressed by women further underscored the universal needs in this transformative time. The support extended beyond guidance, with midwives also recommending direct access to the labour ward when necessary, ensuring that women received timely and comprehensive care throughout their childbirth journey. The visual overview via screens emerged as a powerful tool for grasping the situation. Technology has a crucial role in enhancing the birthing experience for women during the latent phase of labour. Being able to visually assess the severity of these situations not only reassured both the midwife and the woman but also facilitated prompt and appropriate interventions when necessary. In essence, video calls elevated the quality of care provided by midwives during early labour, underscoring the indispensable role of visual communication in enhancing both clinical assessment and emotional support.

> *But it also gives a lot of information when you see the woman, how she moves and how she is affected by the contractions* (Interview 6).

Feeling secure in the professional role

Providing necessary care

The midwives emphasised the value of the ability to focus on women's and partner's needs, as it offered critical insights into their necessary care. This heightened awareness allowed them to tailor their advice in real time. The ability to be fully engaged and focused on the woman and partner on the screen during video calls was particularly empowering. Furthermore, compared to traditional telephone counselling, midwives found that video calls provided a superior platform for delivering professional guidance, enhancing both the sense of professional presence and the overall quality of the conversation.

> *It's that…being present and the quality of the conversation you have… and that's what's difficult about telephone counselling. // You need to be able to sit calmly and just focus on the one you have on the screen* (Interview 7).

Having confidence in one's own competence

The midwives perceived an insightful sense of assurance in their role

while conducting video calls with women and their partners, underpinned by their confidence in their professional knowledge and expertise. They emphasised that their decisions during these calls were firmly rooted in years of experience garnered from working tirelessly in the labour ward. Even in retirement, midwives viewed their continued engagement with professional knowledge as an opportunity to stay updated on developments in their field. This ongoing commitment to learning equipped them with the necessary insights to navigate complex scenarios and offer informed guidance during video calls. Despite their confidence, midwives remained committed to responsible practice, asserting that they would not make decisions during video calls that they were not fully confident about. If faced with uncertainty or ambiguity, midwives prioritised patient safety and wellbeing and referred women to the labour ward.

> *If I had felt the slightest doubt about the advice, I had given… uh… then I would have either said that I couldn't answer that question and referred her either to the antenatal unit or labour ward, the agency that I had felt was the most suitable* (Interview 2).

Discussion

The challenge of offering video call services in early labour to enhance childbirth experiences was explored over four months to describe how labour ward midwives experienced having remote video calls with women and partners during early labour. The midwives' experiences of the e-health service will be discussed concerning the following six key factors: *equipment, efficiency, vision, ownership, adaptability and financial aspects* [14].

Equipment – Consideration of technical infrastructure

The results show that integrating video calls and digital platforms enhances connectivity in midwifery. These technologies allowed midwives to engage remotely with women and their partners in early labour, facilitating communication and information sharing. However, technological challenges required quick adaptation. Despite the benefits of flexible work arrangements, the midwives' concerns about the reliability of technology persisted. Interrupted encounters due to software updates or connectivity issues highlight the need for robust technological infrastructure and support systems. Midwives must have access to reliable tools and resources to ensure uninterrupted communication and care delivery, particularly during critical digital interactions. Our findings align with previous research emphasizing that ease of use, performance, security and satisfaction are among the most important e-service qualities [22]. Our study did not reveal any worries or stress that the technology might not work, which is also emphasized by Shubber et al. [23], but instead, the e-service created strong feelings of connection over distance as well as interpersonal awareness and engagement, like in Han et al.'s study [24]. The picture and sound quality of the video calls were excellent in the project studied. However, midwives think that it is essential to minimise the need for technical support and avoid creating unnecessary service disruptions. This study confirms that midwives rely on these technologies to provide efficient and effective care.

Efficiency – Development of efficient and sustainable processes

The midwives in this study expressed that interacting visually provided valuable insights into the impact of interaction via screens on the supportive relationship between them and women during childbirth. Visual engagement emerged as a powerful tool for fostering a sense of security and connection, with women expressing significant reassurance when afforded the opportunity to visually engage with a labour ward midwife. Research shows that the ability to observe visual cues in real time strengthens the sense of relationship and engagement [25], contributing to a deeper connection between midwife, woman and partner, ultimately fostering an environment of trust and understanding. The interviewed midwives referred to the calls as an encounter, more than just a conversation. Furthermore, visual contact provided midwives with invaluable insights into the condition and emotional state of women, surpassing the limitations of phone calls and enabling more meaningful dialogue. Observing subtle changes in facial expression and body language facilitated a comprehensive assessment of women's wellbeing, enabling midwives to respond promptly and effectively to emerging issues. As this pilot project allocated time for the midwives to learn and practice the technique for conducting video calls, the midwives underlined that the video calls enhanced the efficiency and accessibility for the women in early labour.

Vision – A clear and realistic purpose of the e-service

The result revealed that, compared to traditional telephone counselling, the midwives experienced video calls as a superior platform for delivering the necessary guidance and creating a supportive relationship in early labour. The midwives expressed that it was valuable that the women felt the security and continuity of midwifery support. video calls enabled midwives to create a more tangible sense of presence. Janssen et al. [5] state that women favoured home visits by a midwife compared with telephone support in early labour making video calls a closer alternative to what women desire. Our results showed that the visual component helped the midwives read non-verbal cues such as facial expressions and body language, enabling more nuanced and responsive care. This is in line with previous research which shows that midwives can offer more accurate assessments and tailored advice when they can observe the woman's physical condition and environment, which is in line with women-centred support [12]. video calls can reduce the need for travel and in-person visits, making it easier for midwives to manage their time and resources efficiently at the labour ward. video calls also enable them to reach more women and provide timely interventions without the logistical constraints of physical appointments, regardless of whether the women live close to the hospital or far away [16].

Ownership – Motivation and purposeful development of the service

The interviewed midwives had experience from acting as coordinators in the labour ward at the hospital. Their sense of assurance in their professional role during video calls was underpinned by their confidence in their knowledge and expertise. It was also grounded in their commitment to learning how to navigate complex scenarios, including the use of digital tools. Despite their confidence, midwives remained committed to responsible practice, prioritising patient safety and wellbeing above all else. As another study shows, this unwavering dedication to ethical decision-making underscored the professionalism and integrity of their practice [26]. The experienced midwives included in the study demonstrated a profound sense of confidence in their professional role, which stems from their extensive training, experience and the trust placed in them by the women they support. One key aspect of this confidence is the ability to tailor advice in real-time based on their knowledge of the situations and routines that women will encounter in the specific labour ward. During video calls, midwives can assess early labour needs, adjust guidance and offer effective emotional support. Experienced midwives are needed because they dare to make decisions. If midwives are unsure about letting a woman remain at home, fearing, for example, all the risks that could occur during labour they would recommend everyone going to the hospital for a check-up. However, research shows that the fear of litigation amongst healthcare professionals affects the midwives' daily work and can lead to outcomes such as increased Caesarean section [27].

video calls allow real-time communication, reassurance and guidance, as shown in this study. Borelli et al. [15] highlight the benefits of this type of engagement in providing timely and personalized care. Moreover, incorporating video calls into early labour care can help

optimize the use of midwives' time and energy. Providing an e-health service through video calls can release staff for other caring activities [28] and can in labour care lead to a more balanced allocation of resources. This ensures that midwives are available for tasks that require their physical presence, such as handling emergencies or providing one-to-one care during active labour.

Adaptability – Recognition of e-service model requirements

The midwives described that the ability to work remotely offered a significant advantage, liberating them from the constraints of traditional labour ward settings and enabled engagement in their duties from any location. This aligns with a previous study, which found that women reported video calls as a means to avoid lengthy journeys to the hospital [16]. Working from home could benefit midwives who have a long commute to work. Working from home could also create a more harmonious work-life balance by allowing midwives to tailor their schedules to suit personal commitments and preferences. The midwives in this pilot study were only available at four different periods per day due to their strained work situation, heavy workload, or sick leave. According to a national study on midwives' organisational and psychosocial work situation in Sweden, only 52 % worked full-time [3]. Among healthcare professionals, midwives have the second-highest frequency of sick leave [29]. This study demonstrates that e-services offer midwives opportunities to remain engaged in their professional responsibilities, even when approaching retirement, experiencing physical incapacity, or working reduced hours. So far, labour ward care has not provided sufficient support to women during the latent phase; instead, they have had to make phone calls or visits to the labour ward to assess if the contractions are long, strong and frequent enough. Our study shows that this new form of care is suitable during the latent phase at home when pregnant women probably do not require continuous presence as labouring women do. The findings underscore the importance of balancing technological advances with the human element of healthcare delivery. Research also shows that embracing flexibility in work arrangements through the judicious use of e-services [30] can enhance efficiency, productivity and job satisfaction among midwives working perinatally, ultimately contributing to improved patient care outcomes.

Financial aspects – The need for the e-service to offer transparent value

The results showed that video calls in midwifery care can reduce the necessity for physical appointments. Extra resources were allocated in this pilot project, as the labour ward continued to carry out its regular activities. However, integrating the e-service into the labour ward care may result in significant time savings for both midwives and expectant mothers, as the midwives were able to connect virtually without the constraints of travel or waiting times. This efficiency does not only concern saving time; it is about strategically reallocating resources to maximize their impact where they are most needed. Traditional face-to-face consultations often entail additional expenses related to transportation. video calls eliminate these overheads, making midwifery support more accessible and affordable for women from diverse geographical and socioeconomic backgrounds. This democratisation of care ensures that all women, regardless of their location or financial situation, can access the expertise and guidance they need during the early labour phase. The integration of modern technology, such as video calls, into midwifery services represents a paradigm shift in healthcare delivery. Spiby et al. [13] also highlight that time must be allocated for the staff to learn and practice the technique. It not only enhances efficiency and accessibility but also reflects a commitment to cost-effectivity in the delivery of high-quality care.

Strengths and limitations

A potential limitation of this pilot project lies in the relatively small sample size, as the evaluation included only seven midwives, all of whom participated in the interviews. While the unique project, the first of its kind in Sweden, provides valuable insights specific to this context, the limited number of participants may constrain the transferability of the findings. However, all the participants in this study expressed their experiences around a specific phenomenon as a homogeneous group of individuals. Seven interviews provided insightful knowledge about all the 32 video calls conducted in the study, giving adequate coverage of the main categories. The initial variability of individual narratives was captured, and no new data were found in the later analysis, supporting the credibility and dependability of the findings. The midwife who did not receive calls was still standby for video calls for several hours and could describe what it was like to be part of the project, as the midwives had continuous discussions in a chat group.

This project gave an exceptional possibility to test a video call service on a labour ward that has not previously been described. The SRQR guideline was used to evaluate the quality of the study [31]. To further deepen the understanding of this issue, the transferability of the findings could be examined through studies encompassing a larger number of participants or diverse geographical settings.

Conclusion and clinical implications

Generally, the findings indicated the potential benefits of integrating video calls into midwives' work in early labour care. Having access to the virtual waiting room was especially valuable in addressing the emotional challenges of early labour care. The platform allowed them to work flexibly with self-determined working hours. The video calls made it possible for the midwives to interact and create a supportive relationship with the women and their partners at home, as well as providing a comprehensive professional overview of the early labour situation.

This study emphasises that the visual interaction provided by the video calls increases women's access to healthcare. In both the short and the long term, using professional knowledge and expertise is imperative for increasing patient safety and improving the quality of care. video calls enabled experienced midwives to remain in the profession and transmit their invaluable knowledge to junior colleagues. In comparison with traditional telephone counselling, video calls could, therefore, encourage more midwives to remain at work. However, further research is needed to evaluate the implementation of e-services in labour ward care.

Ethical statement.

The research received ethical approval from the Ethical Research Committee of Sweden (Reference: 2022–00663-01) in accordance with the ethical guidelines outlined in the Declaration of Helsinki [28]. Participants were provided with comprehensive verbal and written information about the study, including that participation was voluntary and they could withdraw at any time before publication, prior to giving their informed consent.

Authors' contributions.

VN contributed to the conceptualisation of the study. All authors (VN, AS, MH, AJ) made substantial contributions to the study's design. AS acquired the data, and all authors participated in data analysis and interpretation. All authors contributed to drafting the article or critically revised it for important intellectual content.

CRediT authorship contribution statement

Viola Nyman: Writing – review & editing, Writing – original draft, Formal analysis, Conceptualization. **Ann Svensson:** Writing – review & editing, Writing – original draft, Formal analysis. **Malin Hansson:** Writing – review & editing, Writing – original draft, Formal analysis.

Anette Johnsson: Writing – review & editing, Writing – original draft, Formal analysis.

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