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Needs of novice midwives in the management of obstetric emergencies: a qualitative study

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Abstract

Background Maintaining the health of mothers and neonates depends on the provision of high-quality, timely emergency care by competent health professionals. Obstetric emergencies are among the most challenging moments in a midwife's professional career, especially for novice midwives. Therefore, it is crucial to address the specific needs of novice midwives to ensure they are equipped to effectively and promptly manage such emergencies. The present study was conducted to explore the needs of midwives in the management of obstetric emergencies.

Methods In this qualitative study, a conventional content analysis approach was employed. The study included a total of 26 participants, comprising 13 novice midwives, 8 experienced midwives, and 5 supervisor midwives. Participants were selected using purposive sampling method with the aim of achieving maximum diversity within the sample. Data collection was performed through in-depth and semi-structured individual interviews, and the process continued until data saturation was reached. Data analysis was conducted simultaneously with data collection, leading to the extraction of the main categories.

Results Two main categories were extracted from 26 interviews: (1) Promotion of professional empowerment in the management of obstetric emergencies with five categories, including familiarity with the clinical environment, promotion of professional competence, promotion of professional wisdom, promotion of professional care, and promotion of inter-professional competence; and (2) Promotion of organizational support that involves the two categories of creating a support platform for the healthcare team and strengthening organizational resources.

Conclusion The results of the present study indicated that professional development of individuals and organizational support were the primary needs of novice midwives in managing obstetric emergencies. Based on the findings of this study, it is recommended to develop and implement training-support programs focused on the professional development of midwives in emergency management.

Keywords Needs assessment, Emergencies, Midwifery, Obstetrics, Continuing education

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Introduction

Maternal mortality is a crucial indicator for assessing the quality of healthcare in various countries [1]. As reported by the World Health Organization (2020), approximately 800 women worldwide lose their lives daily due to preventable complications during pregnancy and childbirth [2]. It is important to note that a majority of these maternal deaths occurring during pregnancy and postpartum are preventable [2]. To address this issue, Goal 3.1 of the Sustainable Development Goals (SDGs) aims to reduce the global maternal mortality ratio to less than 70 maternal deaths per 100,000 live births by the year 2030 [3]. Among the primary causes of maternal mortality during pregnancy and postpartum are obstetric emergencies, such as bleeding, infection, pre-eclampsia, and eclampsia [2], which necessitate immediate and critical care [4]. Timely diagnosis of emergency cases and access to emergency obstetric care services play a vital role in reducing maternal mortality [5]. Additionally, identification and diagnosis of high-risk mothers is a necessary and appropriate step in the management of those who require emergency care [6]. According to the International Confederation of Midwives, diagnosing, managing, and referring women with complications related to high-risk pregnancies are essential responsibilities and qualifications of midwifery professionals [7]. By 2035, it is projected that women's access to interventions delivered by skilled midwives during pregnancy, childbirth, postpartum, and obstetric emergencies could prevent 67% of maternal deaths, 64% of newborn deaths, and 65% of stillbirths [8]. When midwives are adequately trained in accordance with international standards and supported by interdisciplinary teams in appropriate settings, they can provide about 90% of sexual and reproductive health services to mothers and their babies [9]. Thus, the WHO and the International Confederation of Midwives have emphasized the importance of providing midwives with professional and standardized training to acquire essential competencies [10]. Midwives are expected to deliver evidence-based services to women throughout the entire continuum of care, including adolescence, preconception, pregnancy, childbirth, and postpartum [11]. It is also crucial that emergency obstetric care, as a component of professional obstetric care, is of high quality and accessible to all women [11]. Considering that in most countries, the appropriate and timely management of midwifery emergencies falls within the scope of midwives' responsibilities [12], novice midwives, despite their relative youth and inexperience, can acquire the necessary knowledge, skills, and attitudes to become effective members of the healthcare team [13]. In this context, the study conducted by Cazzini et al. revealed that novice midwives require substantial support. The authors described the transition period into the workforce as challenging because of the

heightened level of responsibility. However, this period was also considered an opportunity for growth through "learning by doing" [14]. While pre-clinical training courses led by clinical instructors aim to prepare novice midwives for independent mother-infant care, they may still lack sufficient self-confidence when it comes to managing critical events, such as obstetric emergencies [15]. Novice individuals experience concerns regarding the emotional challenges of the transition period, including self and societal expectations. This period of opportunity and challenge can be a stressful process for them [16]. In Australia, early career midwives expressed dissatisfaction with issues such as high workloads, inappropriate managerial approaches, inadequate remuneration, and inflexibility of other staff [17]. Khathutshelov et al. also highlighted the exhausting nature of the transition from student to qualified midwife, which was attributed to unfavorable working conditions in the delivery department, administrative responsibilities, and negative and disrespectful relationships with experienced midwives [18]. Therefore, acquiring a comprehensive understanding of the needs associated with the transition period of novice midwives during obstetric emergencies can be instrumental in the design and implementation of educational and support programs in academic and clinical settings. Addressing the needs of new practitioners through educational initiatives and emotional support, among other measures, not only fosters a sense of trust, peace, and security, but also strengthens morale, promotes a sense of belonging and emotional engagement, reduces stress and anxiety, enhances self-confidence, and facilitates constructive relationships between novice employees and their colleagues [19]. Qualitative research is a systematic approach to understanding individuals' perceived experiences and viewing the world from the participants' perspective. It is a comprehensive approach for collecting and interpreting data on various aspects of a subject [20], which can lead to the extraction of in-depth information and clarification of different dimensions of human needs. Therefore, recognizing the significance of comprehending the needs of novice midwives in effectively managing obstetric emergencies, which is crucial for reducing maternal and newborn mortality rates, the present qualitative study was conducted with the primary aim of exploring the needs of novice midwives in the management of obstetric emergencies.

Methods

Positionality

The backgrounds and insights of the authors clarify the approach of the research as follows: faculty members of the School of Nursing and Midwifery, S.M., M.J., and A.K. are involved in training midwifery students in the care of pregnant women in clinical and hospital settings.

F.H. is a professor of curriculum planning in the Department of Medical Education.

Study design

The present qualitative study employed a content analysis approach and was conducted from September 2021 to June 2022. The participants included novice midwives, experienced midwives, and midwives in charge of delivery rooms in Isfahan, Iran. Since the researchers aimed to understand how novice graduates manage obstetric emergencies, it was essential to carefully select specific participants who represent this field. Additionally, purposive sampling was used to achieve diversity in the samples in terms of age, educational attainment, work experience, university from which the degree was obtained, and place of employment. In-depth and semi-structured interviews were conducted with a total of 26 individuals, consisting of 13 novice midwives, 8 experienced midwives, and 5 midwives in charge of the delivery rooms, and open-ended questions were used during the interviews. Sampling continued gradually until data saturation was reached, meaning that additional sampling no longer provided new information during data analysis and coding. The inclusion criteria for the participants included the ability to speak and communicate in Persian, having less than 3 years of work experience for novice midwives, and having more than 3 years of work experience for experienced midwives and Midwives in charge of delivery rooms. Isfahan is one of the major cities in Iran, where prenatal care is offered in private offices, as well as in both private and public clinics by midwives and obstetricians. Deliveries are conducted exclusively in hospitals by these professionals. In Iran, midwives are trained in both public and private universities, and the differences in educational programs between different universities can affect the needs of novice midwives. Additionally, the clinical environments, facilities, and working conditions in teaching and non-teaching hospitals vary, which can also affect the needs of novice midwives."

Data collection

Data for the study were collected through in-depth interviews. The primary researcher, under the supervision of two reproductive health specialists, conducted both the sampling process and the interviews. Initially, the participants were purposively identified by visiting various hospitals and, then, the eligible midwives were invited to take part in the study. Upon their agreement to participate, written informed consent was obtained from each participant. Informed consent documents were kept in a secure location in a locked cabinet, accessible only to the researchers. The time and location of the interviews were determined based on the preferences of the participants. Before conducting the interviews, the researcher

provided a clear explanation of the study's purpose and the interview to the participants. Additionally, the participants were assured that their participation was voluntary and that the confidentiality of their information would be maintained. The interviews took place at a prearranged time, either in a private room in the hospitals where the participants worked or in their homes. The interviews were recorded using a voice recorder or conducted online through platforms such as Skyroom, depending on the participant's preference. To minimize inconsistencies arising from changes in location or mode, the interview process remained the same in all cases. The virtual interviews required additional coordination, and fortunately there were no disruptions during these interviews, allowing the process to be completed fully and satisfactorily. To ensure the proper conduct of the interview's consistency in questioning and probing responses, and to avoid any bias, the first five interviews were conducted under the supervision of two reproductive health specialists. An agreement was reached that assured the research team of the validity of the interview process.

All participants cooperated fully with us, and since the timing and method of conducting the interviews (face-to-face or virtual) were determined according to their preferences, we did not face any challenges during data collection. Open-ended questions were used to begin the interviews. Sample interview questions for novice midwives included: "Please describe your experience with obstetric emergencies that you have encountered thus far. What needs do you perceive when it comes to managing obstetric emergencies?" For supervisor and experienced midwives, sample interview questions included: "In your opinion, what needs do novice midwives encounter when managing obstetric emergencies? How do novice midwives typically respond to obstetric emergencies?" (Interview questionnaire) The duration of the interviews ranged from 45 to 90 min, and they continued until no new data was obtained. The interviews were recorded using a voice recorder, and the content was transcribed into Microsoft Word files. All interviews were conducted in Persian. The first author transcribed the interviews, and after completing the transcription, each interview transcript was carefully read multiple times. OneNote software was utilized for data analysis. The texts were analyzed using conventional content analysis, following an inductive approach proposed by Graneheim and Lundman. Codes were derived directly from the identified meaning units within the transcripts. These codes were then organized based on their similarities, leading to the formation of subcategories. The analysis process continued, and similar subcategories were further grouped to form categories. Finally, several related categories were combined to create the final theme [21]. In order to ensure the reliability of the data, this study utilized

the four criteria proposed by Lincoln and Guba [22]. To establish credibility, in-depth interviews were conducted at different times and locations, and maximum diversity was sought in terms of the participants' age, employment history, educational background, and the where they received their degree. Peer review and research team review were employed to enhance the validity of the data. The research team's experience improved data validation. To achieve confirmability, a selection of extracted interviews, codes, subcategories, and categories was provided to some colleague researcher, as well as experts in the fields of obstetrics and reproductive health who were knowledgeable about qualitative research methods but did not directly participate in the study. They were asked to evaluate the accuracy of the data coding process. The extracted codes were also shared with three qualified midwives who were part of the study, and their assessments were sought regarding the similarity of the study's findings with their own experiences, aiming to establish appropriate agreement. To ensure transferability, participants were purposefully selected for maximum diversity and provided with a detailed description of the inquiry. For dependability, complete documentation of each stage of the research was conducted.

Ethical considerations

This study received ethical approval from the Ethics Committee of Isfahan University of Medical Sciences (Iran) with the ethical code (IR.MUI.NUREMA.REC.1400.053). This approval was based on current and updated ethical guidelines. Moreover, during the implementation of the project, adherence to ethical guidelines was reviewed and approved by the Ethics Committee of Isfahan University of Medical Sciences. Prior to their participation, the participants were provided with detailed information regarding the purpose and methodology of the study. Written informed consent was obtained from each participant. The participants were assured that their personal information would be kept confidential, and the audio files of the interviews would be securely stored. Furthermore, the participants were informed of their right to withdraw from the study at any point without facing any negative consequences. All methods used were performed according to applicable guidelines.

Results

This study involved the participation of a total of 26 midwives, comprising 13 novice midwives, 8 experienced midwives, and 5 midwives in charge of the delivery rooms who held positions in different teaching and non-teaching hospitals. In Iran, only women are permitted to enter the midwifery field and work in this profession. Consequently, all our participants were women and of Iranian nationality, as only Iranian midwives are permitted to

work in hospitals. Since the majority of Iranians are Muslims, all our participants were Muslims. The only individual variable that could influence the diversity of perspectives and experiences in the management of midwifery emergencies was the university from which the degree was obtained. The only significant variable regarding the work environment is the type of hospital where midwives work, as teaching hospitals differ from non-teaching ones, potentially leading to varying experiences among midwives. We selected individuals from both types of hospitals to maximize diversity of experience. No other variables relevant to our work were identified. Table 1 provides detailed information on the personal and professional characteristics of the participants.

Based on the results of the study, the needs of novice midwives in the management of obstetric emergencies were divided into two main categories: (1) Promotion of professional empowerment in the management of obstetric emergencies with five categories, including familiarity with the clinical environment, promotion of professional competence, promotion of professional wisdom, promotion of professional care, and promotion of inter-professional competence; and (2) Promotion of organizational support with two categories, including creating a support platform for the healthcare team and strengthening organizational resources (Table 2).

Promotion of professional empowerment in the management of obstetric emergencies

The need to acquire and improve professional empowerment in the management of obstetric emergencies was one of the main categories extracted from the study, which included 5 categories as follows: Familiarity with the clinical environment, promotion of professional competence, promotion of professional wisdom, promotion of professional care, and promotion of inter-professional competence.

Familiarity with the clinical environment

Prior to working in the delivery room and facing emergency situations, novice midwives should familiarize themselves with the physical space of the delivery room. This includes understanding the layout of the room, the location of equipment and tools, and the storage of high-risk and low-risk medications.

If I were in charge of the delivery room, I would definitely let the beginner midwives know where the high-risk drugs are kept, where the maternal resuscitation trolley is located, and where they can obtain additional medicine if needed. (Participant 5)

Once an emergency situation has occurred and the mother has been transferred to a specialized hospital, it

Table 1 Personal and occupational characteristics of the participants (n = 26)

Participants	Age (year)	Education	University where the degree was earned	Occupational status	Work experience (years)	Place of employment	Inter-view duration (minutes)
P1	26	Bachelor's degree	Public university	Novice	2	Non-teaching hospital	60
P2	27	Bachelor's degree	Public university	Novice	2	Non-teaching hospital	60
P3	26	Bachelor's degree	Private university	Novice	1	Non-teaching hospital	45
P4	29	Bachelor's degree	Private university	Novice	2	Non-teaching hospital	70
P5	28	Bachelor's degree	Public university	Novice	2	Non-teaching hospital	60
P6	27	Bachelor's degree	Public university	Novice	2	Non-teaching hospital	45
P7	26	Bachelor's degree	Private university	Novice	2	Non-teaching hospital	45
P8	25	Bachelor's degree	Private university	Novice	2	Non-teaching hospital	60
P9	27	Bachelor's degree	Private university	Novice	2	Teaching hospital	45
P10	25	Bachelor's degree	Public university	Novice	2	Teaching hospital	45
P11	26	Master's degree	Public university	Novice	2	Non-teaching hospital	70
P12	26	Bachelor's degree	Public university	Novice	4	Non-teaching hospital	50
P13	24	Bachelor's degree	Private university	Novice	1	Non-teaching hospital	50
P14	30	Bachelor's degree	Public university	Experienced	5	Non-teaching hospital	60
P15	50	Bachelor's degree	Public university	Experienced	24	Teaching hospital	45
P16	37	Master's degree	Public university	Experienced	15	Teaching hospital	60
P17	35	Master's degree	Private university	Experienced	12	Non-teaching hospital	60
P18	31	Bachelor's degree	Public university	Experienced	7	Non-teaching hospital	45
P19	32	Bachelor's degree	Public university	Experienced	8	Non-teaching hospital	45
P20	39	Master's degree	Public university	Experienced	15	Teaching hospital	55
P21	35	Master's degree	Public university	Experienced	10	Non-teaching hospital	60
P22	48	Master's degree	Public university	supervisor	26	Teaching hospital	45
P23	51	Master's degree	Public university	supervisor	22	Non-teaching hospital	50
P24	43	Bachelor's degree	Private university	supervisor	21	Non-teaching hospital	45
P25	38	Bachelor's degree	Public university	supervisor	13	Non-teaching hospital	90
P26	38	Master's degree	Public university	supervisor	11	Non-teaching hospital	60

is also important for the attending midwife to become familiar with the equipment in the ambulance and how to use it.

I encountered some difficulties as I was unaware of the location of the ambulance's power source and despite my efforts, I couldn't connect the devices. (Participant 6)

In addition, novice midwives need to familiarize themselves with all workplace rules and understand their roles in the hospital before entering the delivery room and facing an emergency.

Right from the start, we were informed that the primary responsibility of novices was to be observant and vigilant, carefully monitoring everything around, keep our eyes open, proactively inform the doctor, and independently take necessary orders. The expectations and scope of our role were clearly explained to us. (Participant 17)

Promotion of professional competence

The findings indicated that sufficient scientific and practical mastery of novice midwives in the assessment and care of low-risk mothers, along with their ability to predict, diagnose, and manage emergencies in high-risk mothers, enhances midwifery competencies and facilitates better emergency management. Additionally, novice midwives need to use educational resources and clinical guidelines available in the delivery room to achieve clinical competence. The Participants referred to the improved level of knowledge of novice midwives in performing the roles assigned to them during the management of obstetric emergencies as one of the most important needs.

Theory is undoubtedly important; first, one has to strengthen her theory and then go into practice. (Participant 4)

These girls must primarily be familiar with the theory of cases in order to be able to manage them; if they don't know the definition, the risk factors, and the problems, it's useless. (Participant 19)

Table 2 Needs of novice midwives in the management of obstetric emergencies

Main categories	Categories	Subcategories
Promotion of professional empowerment in the management of obstetric emergencies	Familiarity with the clinical environment	Familiarity with the physical setting
		Getting to know how tools and equipment work
		Familiarity with the rules and regulations of the workplace
		Familiarity with the individual's position in the organization
	Promotion of professional competence	Promotion of the knowledge needed to manage obstetric emergencies
		Use of reference educational resources and clinical guidelines
		Having clinical skills in managing low-risk obstetric cases
		Mastery of midwifery skills and techniques
		Ability to assess mother's needs
		Familiarity with the individual's position in the health care team at the time of emergency
		The ability to control and prepare tools and equipment before a crisis occurs
		The ability to predict the occurrence of emergencies
		Ability to detect high-risk cases
		Ability to manage high-risk obstetric cases
		Ability to combine theory with practice
		Ability in clinical diagnoses
		Responsibility
	Promotion of professional wisdom	Accountable with regard to the clinical decisions
		Knowing when to seek professional help
		Creativity
		The ability to create a calm atmosphere in times of crisis
		Perform safe and thorough care
		Sympathy for the mother
		Intimate relationship with mother
		Active listening during conversation
		Being at the mother's bedside
		Compliance with moral principles in treating the mother
Being interested in midwifery		
Promotion of professional care	No judgment about the mother's background	
	Ability to participate in teamwork when managing emergencies	
	Interpersonal cooperation ability	
Promotion of inter-professional competence	Strengthen communication skills	
	Strengthening the ability of experienced colleagues regarding the management of obstetric emergencies	
	Strengthening the motivation of colleagues	
Promotion of organizational support	Creating a support platform for the healthcare team	Active presence of experienced doctors and midwives in high-risk situations
		Providing the necessary equipment to manage obstetric emergencies (physical resources)
		The existence of clinical guidelines for the management of obstetric emergencies in the workplace (information sources)
	Strengthening organizational resources	The presence of a resident doctor during an emergency (human resources)

The presence of educational resources, such as reference books and clinical guides, including posters, photos, and flowcharts, in the hospital setting, is crucial for novice midwives.

I created a poster specifically for the delivery room, intended for novice midwives. I included visual

illustrations of dystocia maneuvers and placed them in every room. (Participant 22)

Our manager strongly emphasizes the importance of familiarizing ourselves with the national instructions that are posted in the delivery room, especially for the novices. These instructions are

highly regarded as they're presented in a clear and organized manner, following a chart-like format. (Participant 17)

The participants raised the issue of possessing clinical skills in managing low-risk obstetric cases. They highlighted that if novice midwives are capable of handling low-risk midwifery cases in the delivery room, they will subsequently develop the competence to manage midwifery emergencies at more advanced levels. The participants emphasized the importance of novice midwives mastering basic midwifery skills and techniques before encountering emergencies.

Unfortunately, novice midwives have a significant weakness. At the very least, they should have a basic understanding of the normal amount of bleeding during vaginal delivery, be capable of locating the fundus of the uterus after delivery, and possess knowledge of fundamental midwifery techniques and principles to handle postpartum bleeding. (Participant 16)

Accurate assessment of a pregnant mother's condition as she enters the delivery room and throughout her care involves several critical steps. These steps include obtaining a comprehensive medical history, performing a thorough physical examination, considering paraclinical tests, and continuously monitoring the fetus. Participant 4 stated as follows:

While working the night shift, I encountered a patient who was visibly overweight and exhibited leg edema. Surprisingly, despite being seen by nearly five midwives throughout the day, none of them had paid attention to these symptoms. Noticing that the patient's face was red, I promptly provided her with a urine container to check for proteinuria. I swiftly took her to the designated pre-eclampsia room and connected her to the monitor. Her blood pressure was recorded at 170 mmHg. I informed the doctor and obtained a prescription for hydralazine, commencing the treatment immediately. The shift supervisor was astonished that none of the previous caregivers had noticed the patient's edema, which I accurately evaluated and diagnosed. (Participant 4)

At the time of an emergency, it is crucial for novices to be aware of their roles within the team to effectively handle the situation. This understanding should be established beforehand through familiarization facilitated by colleagues.

In order to resuscitate newborns effectively, it's important to divide tasks among the team.... It's vital to assign specific responsibilities to team members, such as someone being responsible for calling the doctor, monitoring the time, and ensuring the availability of equipment. There should also be a designated person to assist the doctor during intubation, and the role of the novice should be clearly defined. (Participant 5)

The participants highlighted the importance of novices being able to handle and prepare tools and equipment in advance of any potential dangers. From their perspective, novice midwives should thoroughly inspect all necessary equipment and devices to ensure their presence and functionality before an emergency occur. They should also be able to use these devices for all mothers, whether they are considered low-risk or high-risk, prior to an emergency situation.

When a crisis hits, it's common for everyone to become disoriented.... Therefore, it's important for novice midwives to proactively prepare the necessary equipment, including suction, an Ambu bag, and other essential tools, before such a situation occurs. (Participant 15)

Anticipating potential problems before an emergency occurs is a valuable skill that equips novices to overcome challenges and enables them to effectively manage emergency situations.

The moment I entered the delivery room, I noticed a mother's significantly enlarged abdomen. I immediately informed the doctor, expressing my concern about the possibility of dystocia due to the size of her abdomen, even though her pelvis seemed fine. Eventually, my prediction turned out to be correct, and she did experience dystocia. I'd been prepared for this scenario from the beginning, as I'd anticipated its occurrence. (Participant 6)

Novice midwives must be able to distinguish high-risk from low-risk cases.

The head of the delivery room said that if my colleague wasn't there, we don't know what would happen to the patient. She said: 'Did you tell the doctor that the bleeding is like bleeding during the menses? I mean, don't you know what bleeding in menses means? Understanding the distinctions between heavy and light bleeding is crucial. You should be able to differentiate between significant and minor bleeding. (Participant 4)

Once the risk has been predicted and high-risk cases have been identified, the ability to effectively manage the situation becomes crucial for midwives. It is imperative for novice midwives to strive towards acquiring these essential skills.

After the baby's head emerged, dystocia occurred. At that time, I was on shift with another novice who had significantly less experience. She was unfamiliar with the maneuvers I instructed her to perform. She was even unaware of the McRoberts maneuver. So, I had to hyperflex the mother's legs tightly against her abdomen using the back of my hand, and I instructed the crew to lift her legs. It was a challenging situation. If I hadn't been vigilant and responsive, the newborn would likely have been stillborn. (Participant 6)

Promotion of professional wisdom

In professional midwifery theories, professional wisdom is distinguished from professional competence and is presented as a new concept that illustrates the relationship between knowledge and experience [23]. According to Budiarti, while professional competence is a key characteristic of a professional midwife, possessing professional wisdom is also essential for the professionalization of midwifery [24].

The results indicated that combining theoretical knowledge with practical teachings is essential for individuals to respond appropriately to critical situations. A midwife must take responsibility for assigned tasks while caring for pregnant mothers and utilize her creativity and skills to achieve wise professional growth in the management of obstetric emergencies. Gaining competence in reviewing differential diagnoses, clinical and paraclinical results before a crisis, and timely requesting assistance from colleagues and other team members in a calm, non-stressful environment during emergencies, along with accountability for clinical actions taken, enhances the ability based on professional wisdom in emergency management.

The participants emphasized the importance of novice midwives applying their theoretical knowledge to practical situations, particularly during emergencies. This combination is crucial in the training of novice midwives to handle emergencies.

Emergency cases should be taught in a practical manner, which means that novice midwives should initially learn the theory and then apply it through hands-on scenarios. (Participant 5)

Novices should integrate theoretical knowledge with practical application, as it is a more effective approach. (Participant 19)

Novice midwives can effectively and accurately manage obstetric emergencies only when they are able to make correct clinical diagnoses.

As I examined the uterus, I noticed that the mother was passing blood clots. Dark blood also continued to flow, leading me to realize that it was coming from the uterus since there was no rupture. However, I was unable to understand or identify the cause of the bleeding. I was unsure of why or from where the blood was originating. (Participant 12)

The participants emphasized the importance of novice midwives being able to take responsibility for their assigned tasks during emergencies. According to them, accountability is a crucial aspect of effective crisis management that can help prevent irreversible harm to high-risk mothers. Additionally, novice midwives should be accountable for the duties they carry out in the hospital environment when caring for pregnant mothers.

I always took the patient's medical history very seriously and did a thorough examination out of a sense of responsibility. I knew that if anything were to happen, I'd be held accountable for the patient's well-being, and I'd have to provide answers within the medical system. This mindset motivated me to perform my duties diligently, and I achieved great success consequently. (Participant 12)

A crucial requirement for novice midwives to manage crises effectively is to know when to seek help. Recognizing the importance of teamwork in risk management, novice midwives should be able to promptly reach out to their colleagues for help when faced with a crisis situation.

As soon as the bleeding began, I immediately contacted the person in charge of our shift. She responded promptly and provided guidance on what steps to take. She instructed me to bring the patient to a room and position her appropriately, while also asking me to prepare the necessary equipment. (Participant 8)

According to the Participants, having motivation for innovation and creativity in work is the basis for the success of novices in managing difficult situations.

I really enjoyed being different from everyone when I was working.... I hated routine tasks and loved being innovative in my work.... For instance, I was creative in sewing large episiotomies,... and these approaches greatly benefited me. (Participant 7).

In times of crisis, when the treatment team is assisting a novice midwife, it is crucial for her to remain calm and not disrupt the peaceful environment. Instead, she should strive to create a tranquil atmosphere to help navigate the situation effectively. Participant 8 explained this issue as follows:

We had a patient with high blood pressure... The patient had a seizure, so we called for help. It's important to stay calm in these situations. I personally inserted an airway for the patient,... and one of the doctors complimented me, saying, 'Well done, you remained very calm during the situation.'

Promotion of professional care

The ability to provide careful, comprehensive, safe, and accurate care to mothers during emergencies was identified as a crucial requirement for novice midwives. According to the participating midwives, this level of care should be initiated for every pregnant mother, regardless of her risk level, starting from the moment she enters the delivery room, even before an emergency situation arises.

A novice midwife should be responsible for providing comprehensive care from start to finish. For instance, if the patient is undergoing induction, the midwife should not simply leave her alone with the thought of only returning to check the fetal heart rate. Instead, the midwife should take charge of all aspects of the induction process, including monitoring contractions and other relevant factors, in order to promptly identify any unusual occurrences or concerns. (Participant 24)

When providing care for a pregnant mother, it is essential to show empathy and establish an intimate relationship with her. This involves actively listening to her conversations and maintaining a constant presence by her side. It is crucial to adhere to ethical principles when interacting with the mother, ensuring that personal judgments about her private records are avoided.

....if mothers become emotional or start crying, I actively listen to them. I approach them with empathy, offering comfort and reassurance. I make sure they know that I understand their perspective and don't dismiss or ignore their emotions. (Participant 12)

I advise novice midwives to be present at the patient's side and actively engage in her work. This approach ensures that they pay close attention to the patient and don't neglect her needs. (Participant 25)

Having a genuine interest in the midwifery profession is important, as it serves as a motivating factor for novice midwives.

Due to my keen interest in caring for high-risk mothers, I had the ability to handle cases of dystocia effectively. This enthusiasm and passion for my work motivated me to eagerly take on shifts and express my eagerness to be present. I'd actively request to assist doctors during childbirth and some doctors became aware of my dedication, often calling me to assist during childbirth. (Participant 4)

Promotion of inter-professional competence

In order to manage emergencies professionally, novice midwives must learn and strengthen the skills of teamwork and interpersonal cooperation.

In emergency situation such as neonatal resuscitation, novice midwives should perform teamwork and coordinate effectively within their team. (Participant 23)

When the Amniotic sac was ruptured, I observed that a foot emerged from the vagina, and the doctor was there too. I positioned myself next to the doctor and helped her. I actively involved myself in the childbirth process and witnessed how the doctor managed a breech delivery that was an invaluable learning experience for me. (Participant 4)

Holding positive relationships with colleagues and the mother is crucial for novice midwives. (Participant 11)

Promotion of organizational support

The need for improved organizational support emerged as a significant category identified in the participants' narratives, aiming to empower novice midwives in managing midwifery emergencies. This main category comprised two categories: Creating a support platform for the healthcare team and strengthening organizational resources.

Creating a support platform for the healthcare team

The participants in this study emphasized the importance of supporting novice midwives in effectively fulfilling their roles in the professional management of midwifery emergencies. They highlighted the significance of comprehensive support, including assistance, guidance, and advice, provided by experienced midwives, doctors, and other healthcare professionals. The participants emphasized the need to enhance the capabilities of experienced midwives in emergency management and to foster their

motivation to support novice midwives. Furthermore, they stressed the importance of timely and active involvement of experienced doctors and midwives in emergency situations to provide necessary assistance and ensure the correct and timely management of obstetric emergencies.

We need experienced colleagues who are up-to-date and can provide guidance and accurate answers when I've questions. It can be confusing at times when you're unsure if the answers given are correct or not. (Participant 11)

According to the participants, the willingness of experienced colleagues to demonstrate patience and provide guidance and training to novice midwives plays a pivotal role in facilitating their learning process and ensuring the appropriate management of obstetric emergencies.

Having motivation is super important. As an experienced midwife, I've no issues working with new midwives, and I happily teach them everything they need to know. (Participant 16)

I myself always try to be present at the childbirth of our novices. Regarding the fetuses that I guess may be dystocia, I estimate the weight and try to either do the delivery myself or monitor it. Doing so, the novice will learn and will be comfortable that I'm there; I know that they need someone who can support them in such situations. (Participant 24)

Strengthening organizational resources

According to the opinions of the participants in our study, it is significant for the organization to provide novice midwives with the necessary equipment to effectively manage obstetric emergencies.

For the first time, when I went with the pregnant mother in the ambulance, they handed me a small sonicaid and said, 'Listen to the FHR.' It was so noisy in there that it was impossible to hear the heartbeat. (Participant 6).

Many participants recognized the importance of having a guide in the maternity department to assist with the management of obstetric emergencies. This could include the installation of posters, photos, and flowcharts that provide visual aids and step-by-step instructions for handling various emergency situations.

We have a poster on the wall with all the emergency cases listed. I always tell new employees that if they feel unsure about anything and come across

a patient case, they should come and take a look so they know what to do. (Participant 17).

According to the participants, having a doctor present in the hospital during a crisis is highly beneficial for the department as it ensures the proper and timely management of risks.

I'd a patient with a history of diabetes, and I suspected she might have dystocia. I immediately informed the doctor, and luckily, our hospital had a resident doctor. As soon as my colleague called him, she arrived within 5 min. I felt relieved knowing that the doctor was here and would assist us if the baby faced any difficulties during delivery. (Participant 4).

Discussion

This qualitative study aimed to explore the needs of novice midwives regarding the management of midwifery emergencies. The findings indicated that professional empowerment in managing obstetric emergencies, as well as organizational support, play a critical role in fostering the ability of novice midwives in this area.

To enable novice midwives to achieve professional empowerment, familiarity with the environment and organization upon arrival is essential. The participants in this study emphasized the importance of becoming familiar with the hospital environment early in their professional careers to ensure proper management of high-risk situations. They highlighted that novice midwives should be placed in the hospital environment to familiarize themselves with the physical layout, available equipment, functionality of the equipment, as well as the rules, regulations, and their role within the organization before engaging in any tasks. This process of mastering the hospital's space, equipment, environment, and protocols serves as a critical step in enhancing the readiness of the novices to effectively fulfill their professional responsibilities. Larsson et al. indicated that the level of familiarity nursing students have with the clinical space has an impact on their learning and preparation for assuming the professional role of nursing [25]. Similarly, Hussein et al. found that the mean satisfaction score of newly employed graduate nurses was lower than the number of days of training they received to familiarize themselves with the physical spaces of emergency departments, such as the intensive care units, pediatric intensive care units, and cardiac care units. According to them, the allocated time for becoming familiar with the physical environment was deemed insufficient. They expressed the need for more time to fully understand the department's routines, organization of tools and equipment, and policies and regulations [26]. The experiences of newly graduated nurses highlight the importance of not only developing

clinical proficiency and patient care skills but also learning the formal and informal values, rules, and expectations within the organization [27].

The findings of the study indicated that enhancing the professional competence of novice midwives is crucial for improving their ability to manage obstetric emergencies. In this regard, the enhancement of professional competence depends on the acquisition of sufficient and up-to-date knowledge, as well as the mastery of midwifery techniques and clinical skills in the management of low-risk and high-risk cases. It is important to recognize that clinical competence is not an immediate achievement but rather a progressive process that comes with practice, repetition, and increasing experience over time. Throughout their educational and professional journey, midwives need to acquire personal, social, and professional competencies to develop and maintain their clinical competence [28].

The present study emphasized the importance of enhancing theoretical knowledge, mastering midwifery skills, and strengthening clinical skills for managing low-risk cases by novice midwives to effectively manage obstetric emergencies. Novice midwives can enhance their knowledge by utilizing educational resources and clinical guides as references. These resources serve as valuable sources of information, aiding in the management of midwifery emergencies and enhancing their overall awareness level. The results of Serafin et al.'s study on novice ICU nurses support these notions, highlighting that clinical competence is achieved through a combination of sufficient knowledge, clinical skills, effective communication, teamwork, and professional self-confidence. The results of their study also show that novice nurses encounter numerous challenges when they first start working, indicating a lack of preparation when they enter the ICU after graduation [29]. It is critical that new nurses have adequate proficiency in basic nursing skills, such as medication administration and venipuncture, as these skills are considered necessary requirements [30]. Additionally, becoming familiar with the responsibilities and role of handling critical situations and managing care for high-risk mothers in emergencies is another essential need for novice midwives. If individuals are unfamiliar with their duties and roles prior to an emergency, they may have difficulty fulfilling their responsibilities, resulting in adverse consequences. The findings of Lalonde et al.'s study, which involved 45 newly graduated nurses, support this notion. The study revealed that ambiguity surrounding the position and role of nurses in providing care was associated with lower job satisfaction. On the other hand, new graduate nurses who had a better understanding of their work roles and experienced less role conflict tended to have higher job satisfaction levels [31].

The diagnosis and evaluation of danger signs, along with conducting thorough patient examinations using theoretical knowledge and individual clinical skills, are crucial to the clinical competence of novice nurses [32]. In the context of the present study, the ability to assess, predict, diagnose, and manage risks was identified as a key component of the professional competence required for the management of midwifery emergencies by novice midwives. Full attention and thorough bedside examinations are prerequisites for professional competence in this field. By accompanying the mother from the beginning and providing constant care and monitoring throughout the childbirth process, midwives can effectively identify potential issues and provide the necessary care in case of an emergency. By performing these assessments, novice midwives can identify the specific needs of the mother and make accurate clinical decisions based on the information gathered.

It is important to encourage novice midwives to trust their own evidence and information, enabling them to differentiate between normal and abnormal cases and take appropriate actions when necessary. According to the ICM Essential Competencies for Midwifery Practice 2024, identifying, stabilizing, managing, and referring women with complicated pregnancies are the essential competencies for using the title of midwife upon entering midwifery practice [33]. This emphasizes that it is a necessity everywhere in the world, which was also been agreed upon in our study.

The findings of our study indicate that enhancing the professional empowerment of novice midwives requires developing their professional wisdom, professional care, and interprofessional competencies through effective interactions with experienced midwives and pregnant mothers, using personal skills, and gaining experience in clinical situations. Professional wisdom in practice encompasses a combination of knowledge, skills, and a decision-making process guided by moral virtues [34]. Furthermore, the ability of healthcare professionals to innovate and apply creativity to problem solving depends on their skills. Individuals with higher abilities are more likely to demonstrate creativity in providing care for patients under their supervision [35]. Myrick's study supports the notion that the process of engagement and participation in clinical skills is a significant factor in cultivating practical wisdom among nurses. This process involves approaching professional care provision with ethics, morality, compassion, and supportive behavior [36]. In our study, the responsibility and accountability of novice midwives in providing maternal care, particularly in high-risk maternal care and emergency situations, is considered a practice rooted in professional wisdom. Active and enthusiastic participation in the management

of obstetric emergencies empowers novices to develop clinical diagnostic and communication skills, to assume responsibility, and to respond effectively to such situations. The study conducted by Nicholls and Webb demonstrated that communication skills are a crucial aspect of a midwife's professionalism. A competent midwife not only communicates effectively with colleagues but also establishes compassionate and supportive communication with expectant mothers, being present and supportive throughout their journey [37]. A professional midwife possesses interpersonal competence, which entails the ability to build strong relationships and establish empathetic partnerships with women and their families [23]. Effective and positive communication with colleagues fosters a desire to engage in teamwork. Participating in a task force during an emergency is highly significant and beneficial for novice midwives. It not only increases their self-confidence but also allows them to actively contribute to the management of midwifery emergencies and gain valuable experience. The study by Feng et al. supports this idea by showing that the feeling of being a part of the team is not easily obtained, but after approximately five months of working as a nurse, Participants reported gaining confidence to perform their duties in the relevant department [27].

From the participants' point of view, organizational support is necessary for professional development and the acquisition of expected skills. The participants raised the need for creating a supportive platform by strengthening the capabilities of experienced colleagues in the field of obstetric emergency management, motivating colleagues, and ensuring the active presence of experienced doctors and midwives in high-risk situations. Capper conducted a review study and found that the need for support was one of the main themes in the experiences of novice midwives when starting work in a department. This support can be provided by colleagues, peers, managers, and mentors [38]. Additionally, Tern conducted a study and showed that the presence of a second midwife during the active second stage of labor was accepted by novice midwives. This practice was associated with an increase in their self-confidence and positive experiences [39]. While several studies highlight the positive outcomes of having experienced colleagues alongside novice midwives, Swedish midwives' experiences of collegial midwifery assistance during the second stage of labour demonstrated that the presence of a colleague can also lead to feelings of loss of control and independence [40]. Furthermore, the study conducted by Patterson involving 42 midwifery graduates revealed that becoming a midwife requires a combination of knowledge, practical skills, and clinical competence, along with support throughout their professional journey [41].

The results of the study indicated that to enhance organizational support, it is necessary to provide physical resources, information resources, and human resources for the management of critical and emergency situations by novice midwives. The participants emphasized the importance of providing tools and equipment, having guides and instructions available, as well as the presence of resident physician colleagues in the hospital. Effective management of human resources is crucial for delivering quality health services [42]. In this regard, Ramavhoya's study in South Africa found that midwives encountered challenges such as inadequate human resources and the absence of validated guidelines for managing women with postpartum hemorrhage. According to the midwives' reports, primary healthcare centers had only one midwife responsible for the care of both low-risk and high-risk mothers. This shortage of staff resulted in sub-optimal compliance with the guidelines. In addition, the study highlighted a lack of ambulances to transport high-risk mothers [43].

One of the strengths of our research was the use of a qualitative design and data collection method through semi-structured interviews. This approach enabled us to obtain comprehensive and in-depth data regarding the factors that influence the perceived needs of novice midwives. Additionally, apart from novice midwives, we conducted interviews with experienced midwives and maternity hospital officials, who are recognized as key and experienced individuals in the management of midwifery emergencies in Iran.

Limitations

Although this study made valuable contributions to understanding the needs of newly graduated midwives in their initial professional role, it is important to acknowledge its limitations. A limitation of this study was the varying level of exposure to obstetric emergencies among novice midwives. Given the low prevalence of obstetric emergencies and the complex nature of managing them, it is important to note that novice midwives may not always have the opportunity to gain complete experience in emergency management due to critical conditions and the involvement of other healthcare professionals in the delivery room. Consequently, the level of exposure of novice midwives to obstetric emergencies can vary. The results of the study were derived from a small sample of Iranian midwives. Since qualitative studies aim to explore the deep experiences and feelings of participants who have experienced the phenomenon under study and are able to share their experiences, the sample sizes in qualitative studies are not as large as those in rigorous quantitative studies. While a small sample size can be appropriate for an in-depth exploratory study, it restricts

the generalizability of the results to a broader population. Additionally, the non-random purposive sampling method, which is based on the nature of the study, can limit the generalizability of the findings.

Conclusion

The results of the current study showed that the needs of novice midwives regarding the effective and timely management of midwifery emergencies can be categorized into two levels: individual and organizational. At the individual level, there is a need for acquiring and enhancing professional competence. At the organizational level, more support is needed to empower novice midwives. By focusing on these two levels and implementing targeted interventions and support systems, healthcare organizations can empower novice midwives and enhance their ability to manage midwifery emergencies with confidence and competence.

Supplementary Information

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Supplementary Material 1.

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Authors' contributions

S.M, A.K, F.H and M.J, were involved in study conception and design, S.M, & M.J conducted the interviews. S.M, A.K, & M.J analyzed the data. M.J and S.M wrote the first draft of the manuscript. All authors read and approved the final manuscript.

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Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

This research was approved by the Ethics Committee of Isfahan University of Medical Sciences with the ethics code of IR.MUI.NUREMA.REC.1400.053. Participation in this study will be entirely voluntary. Written informed consent has been obtained from all of Participants. All methods were carried out in accordance with relevant guidelines and regulations. This research was approved by the Ethics Committee of Isfahan University of Medical Sciences with the ethics code of.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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