

A Professional Development Program in Management of Midwifery Emergencies for Midwifery Graduates

Abstract

Background: Midwifery emergencies can be managed by providing effective and quality care through a skilled workforce. Improving the quality of midwifery care requires the professional development of midwives, especially those who are novice, to maintain their capabilities and enhance their performance. This study was designed to develop a professional development program in the management of midwifery emergencies for midwifery graduates. **Materials and Methods:** This mixed-method study was conducted in two phases. In the first phase, a qualitative study was conducted to investigate the program needs, facilitators, and barriers to the management of midwifery emergencies in midwifery graduates. Further, the initial version of the program was developed based on the results of the qualitative study and literature review. The Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model was used to develop a professional development program for the management of midwifery emergencies. The developed program was then evaluated and approved by a panel of experts. In the second phase, the developed professional development program is implemented, and its impacts are evaluated. Finally, the final professional development program in the management of midwifery emergencies for midwifery graduates is provided. **Results:** In total, 2,360 primary codes were extracted and merged into 210 codes. After extracting the sub-categories and categories, a review of the texts was conducted, and the final program was developed. **Conclusions:** Using a professional development program for newly graduated midwives is an effort to improve the health of mothers and infants who receive these services.

Keywords: Education, emergencies, graduate, midwifery, obstetrics, professional, professional competence

Introduction

Given the significance and position of health in achieving sustainable development, out of the seventeen goals of sustainable development, the third one is dedicated to health. This goal is to ensure healthy lives and promote the well-being of all people of all ages and can be divided into nine health targets. Among its targets are reducing maternal mortality to lower than 70 per 100,000 live births, reducing newborn mortality to lower than 12 per 1,000 live births, and reducing under-five-year-old children mortality to lower than 25 per 1,000 births.^[1] According to the latest statistics released by UNICEF in 2020 in Iran, the mortality rate of newborns, infants, and under-five-year-old children has been reported to be 13, 11, and 8 per 1,000 live births, respectively. In addition, in 2017, the maternal mortality rate in Iran was 16 per 100,000 live births.

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Although Iran has achieved international goals, it remains far behind developed countries.^[2] Mortality of pregnant women, children, and adolescents constitutes more than one-third of premature mortalities around the world. The presence of a skilled agent at the time of delivery and providing quality care can reduce the mortality rate of mothers and infants. Improving the quality of services provided to mothers and infants is, therefore, one of the proposed global strategies to end preventable maternal and infant deaths. The recruitment and training of a skilled, committed, and compassionate workforce is currently one of the fundamental challenges of health systems.^[3,4]

It is estimated that serious complications are likely to happen during the pregnancy or childbirth of about 15% of pregnant women. These emergencies can be managed by providing effective and quality

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care by a skilled workforce. The management of midwifery emergencies involves the rapid detection of emergencies and the timely implementation of critical interventions, which can significantly improve maternal and neonatal outcomes.^[5] Provided they have the necessary skills and competencies, midwives play a crucial role in reducing the mortality of mothers and infants and stillbirths.^[6] Although the presence of competent midwives is necessary in clinical settings, the findings show that newly graduated midwives do not meet the expectations of experienced ones. From the perspective of experienced midwives, novice midwives lack the independence, commitment, and competence to care for patients and involve themselves limitedly in crisis management and providing midwifery services.^[7] Moreover, upon starting their work, graduated midwives face problems such as high workload, the need to join a team, the need to learn other medical procedures, and the inflexibility of other staff.^[8,9] Entering the real realm of work, young midwives may encounter problems such as gaining confidence and adapting to high-demand environments. However, without the necessary support from colleagues and the environment, they will face the challenge of deciding to leave the midwifery profession.^[10]

According to the Global Strategic Guidelines for Strengthening Midwifery, both the number of midwives and the quality of midwifery care should be improved to ensure the availability of acceptable and quality midwifery services. Improving the quality of midwifery care also requires up-to-date and evidence-based training, including continuous professional development of midwives to maintain their capabilities and enhance their performance.^[11] This study has been designed in two phases to develop a professional development program in the management of midwifery emergencies for midwifery graduates.

Materials and Methods

This mixed-method study was conducted in two phases from September 2021 to November 2023. In the first phase, a qualitative study was conducted to investigate the program needs, facilitators, and barriers to the management of midwifery emergencies in midwifery graduates. Then, the initial version of the program was developed based on the results of the qualitative study and literature review. The ADDIE model was used to develop a professional development program for the management of midwifery emergencies. The present study was designed based on the five steps of the ADDIE model including analysis, design, preparation, implementation, and evaluation. The developed program was then evaluated and approved by a panel of experts. In the second phase, the developed professional development program is implemented, and its impacts are evaluated. Finally, the final professional development program is provided [Figure 1].

In the first phase, an exploratory qualitative study was conducted using the qualitative content analysis

method to explore the needs of midwifery graduates in the management of emergency midwifery, as well as facilitators and barriers to proper management of emergencies by midwifery graduates. The participants of this phase included novice midwives (with less than 3 years of work experience), midwives in charge of delivery wards, experienced midwives, and midwifery instructors (n = 30). A purposive sampling method was used, considering maximum variation. Novice midwives were selected considering the maximum variation in terms of age, university of study (private or public university), and work experience. For the selection of experienced midwives, maximum variation was considered in terms of age and work experience. The participants were selected based on inclusion criteria, and sampling continued until data saturation was reached. The inclusion criteria were having informed consent for participating in the study, less than three years of work experience in the delivery ward and midwifery emergency department for novice midwives, and more than three years of work experience in the delivery ward and midwifery emergency department for the authorities of the delivery wards, experienced midwives, and midwifery instructors. Data collection was performed through semi-structured interviews. The interview questions were as follows for novice midwives: Tell us about your experiences with midwifery emergencies that you have encountered so far. What issues have you faced in taking care of high-risk pregnant mothers in maternity emergencies? What needs do you feel when managing obstetric emergencies? Questions for the authorities of the delivery wards, experienced midwives, and midwifery instructors were as follows: Tell us about your experiences in managing obstetric emergencies by novice midwives. Ethical considerations are observed in all stages of the research. Before the interviews, the objectives of the research were explained to the participants and the time and place of the interview were determined considering their opinion. Informed consent was obtained from all participants in this phase. Interview data were collected using audio recording. The participants were selected by the first researcher (PhD student in reproductive health) under the supervision of the second and third researchers (reproductive health specialists). The first researcher, who had 12 years of experience in the midwifery profession, conducted the interviews. The first 5 interviews were conducted under the supervision of the second and third researchers, and the initial codes were extracted. The first researcher was responsible for extracting the initial codes from other interviews. The second and third researchers performed the final analysis, and the final categories were formed after reaching an 80% agreement among the researchers. Data analysis was performed using conventional content analysis, introduced by Graneheim and Lundman (2004).^[12] The data were coded and classified in MAXQDA software. To determine the rigor and trustworthiness of the data, the four criteria of

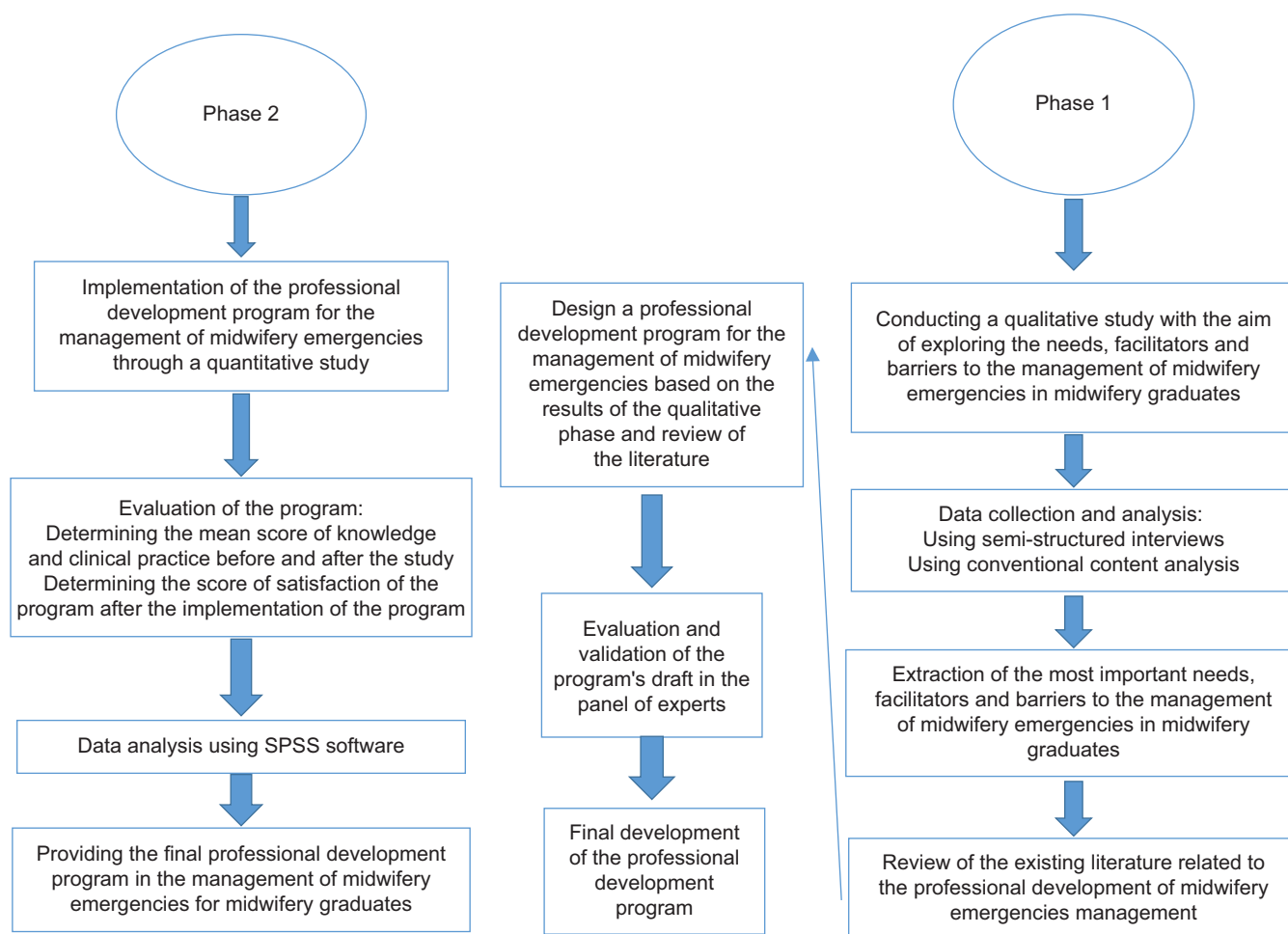


Figure 1: Schematic view of the study: professional development program in management of midwifery emergencies for midwifery graduates

dependability, credibility, transferability, and confirmability were used. Continuing this phase, the literature related to the management of midwifery emergencies was reviewed, and the program was developed based on the results of the qualitative phase and literature review. Required learning objectives, appropriate learning activities of the program, educational methods and media, the most suitable learning environment, and training of emergency midwifery management were identified and selected based on the results of the qualitative study and literature review. Further, the validity of the program was checked and approved using a panel of experts, including specialists in the field of midwifery education, medical education, and the maternal health unit of the University of Medical Sciences.

During the second phase, the program developed through the qualitative study was implemented and evaluated. In the implementation stage, educational media for the audience of the professional development program, textbooks, and educational materials were reproduced and distributed to the learners and professors. Resources for the professional development program of midwifery emergencies management are identified, and then, the

program is implemented and evaluated. Evaluation in this study was conducted in two parts, including evaluation of the program and evaluation of the learners. To evaluate the program, a researcher-made survey questionnaire with a 5-point Likert scale is used to evaluate the satisfaction of novice midwifery graduates who participated in the professional development program. To evaluate the learners, the knowledge assessment questionnaire compiled based on the course content and learning objectives in the first phase of the study is used in two stages (before and after the implementation of the professional development program). In addition, the performance of midwifery students in the management of midwifery emergencies is measured in two stages (before and after the implementation of the professional development program) through observation and practical objective structured clinical examination (OSCE) method and using the clinical practice checklist developed based on the content and objectives of the course. One-group field trial (before and after the intervention) is used in this phase to determine the effect of professional development programs for midwifery emergency management on the knowledge, clinical performance, and satisfaction of

midwifery graduates. The population of the study in the quantitative phase consists of newly graduated midwives, who are registered in the Vice-Chancellery for Clinical Affairs of the Isfahan University of Medical Sciences to be employed in delivery centers (2 years of clinical work after graduation in public hospitals). The samples consist of 30 new midwifery graduates, who have registered in the Vice-Chancellery for Clinical Affairs of the Isfahan University of Medical Sciences to be employed in delivery centers and have the inclusion criteria. The inclusion criteria in the quantitative phase include willingness to participate in the research, physical health, Iranian nationality, no midwifery-related clinical work experience, and no more than 5 years have passed from their graduation. The exclusion criterion is the unwillingness of the participants to continue their cooperation at any stage of the research. The implementation settings were the Clinical Skills Laboratory of Isfahan University of Medical Sciences and the academic hospitals of Isfahan University of Medical Sciences. Considering the alpha rate of 0.05, test power of 80%, $d = 0.7$, and the probable drop in the samples, 30 subjects are considered for the intervention group.

A demographic information questionnaire is used to collect the demographic information of the participants, including age, university name, graduation period, and grade point average. For the evaluation of the program and learners, satisfaction, knowledge, and clinical practice questionnaires are prepared based on the course content and learning objectives related to the first phase of the study (qualitative phase and literature review). The midwifery experts confirm the face and content validities of the questionnaires. The internal reliability of the questionnaire was assessed using a pilot study and completing the questionnaire by 15 midwifery graduates, as well as calculating Cronbach's alpha coefficient. Moreover, the repeatability of the questionnaire was checked by completing the questionnaire by individuals two weeks apart and calculating the intraclass correlation. In addition, using the clinical performance checklist based on the content and objectives of the course, the performance of midwifery graduates in the management of midwifery emergencies was measured in two stages, before and after the implementation of the professional development program, through observation and OSCE practical test. The content validity of this clinical performance checklist is reviewed and approved by midwifery professors. To conduct this quantitative study, after obtaining the necessary permissions from legal authorities, the researchers refer to the Vice-Chancellery for Clinical Affairs of the Isfahan University of Medical Sciences. After introducing themselves and explaining the objectives of the research, the researchers will randomly select 30 subjects from among the graduates who have registered for employment in delivery centers. The researchers contact these subjects and explain the objectives of the research to them. The selected subjects are invited to

participate in the pre-test of the study after obtaining their informed written consent and registration of demographic characteristics. The midwifery emergency management knowledge questionnaire was completed by the subjects, and their clinical performance checklist in the management of midwifery emergency is completed by the researchers through the OSCE practical test. Further, these subjects participate in the professional development program. Finally, after the intervention, the knowledge questionnaire was completed again by the subjects themselves, the clinical performance checklist was also completed for each subject in the post-test stage, and the score of satisfaction of midwifery graduates from the implementation of program was determined. Then, the final professional development program in the management of midwifery emergencies for midwifery graduates was provided after making the necessary corrections. Data analysis is performed using SPSS software version 19. The paired *t*-test is used and a maximum error of 5% is accepted. 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 is entirely voluntary, and written informed consent is obtained from all participants.

Results

After the final approval of the study protocol and the acquisition of the ethics code, written permission was obtained from the Vice-Chancellor of Research and Technology to start the research and data collection. Sampling began with the researcher visiting different hospitals to obtain the phone numbers of qualified midwives, midwifery instructors, experienced midwives, and midwives in charge of delivery wards. After contacting the participants, the researcher introduced herself and explained the objectives of the study. Further, the time and place of the interview were coordinated with them. After explaining the purpose of the research to the participants, written informed consent was obtained from them. Selection of the research samples was based on the purpose and the inclusion criteria and gradually continued until data saturation was reached. The data were simultaneously collected, and content analysis was performed. In the present study, to explain the needs, facilitators, and barriers of the management of midwifery emergencies in the first stage of the study, the researcher conducted in-depth and semi-structured interviews. Sampling continued until no more information was obtained during data analysis. The place of interviews was determined considering the participants' preference, either at the hospital, their workplace, or at home. Owing to the critical conditions of the COVID-19 disease, some interviews were conducted face-to-face, while others were conducted in virtual meetings through sky room service. Interviews were conducted with 26 participants during the qualitative study. A total of 2,360 primary codes were

extracted and merged into 210 codes. After extracting the sub-categories and categories, a review of the texts was conducted, and the final program was developed.

Discussion

Strengthening the midwifery workforce to provide high-quality services is a global strategy that can lead to significant improvements in mother-infant health through evidence-based professional development.^[11] However, new midwives often feel inadequate and insecure in the transition from a safe educational environment to the real world of clinical work and special procedures. Despite being expected to understand everything, they often lack sufficient support from other staff at the beginning of their career and may not have been adequately prepared during their academic training to fulfill their role as skilled midwives.^[13] Professional development can be a valuable tool for midwives to maintain and enhance their personal and professional knowledge, skills, and capabilities throughout their careers.^[14]

Conclusion

A professional development program focused on midwifery emergencies for newly graduated midwives can be a crucial step toward improving midwifery services and promoting the health of mothers and infants. By conducting a qualitative study to assess the needs, facilitators, and barriers faced by young and experienced midwives in managing midwifery emergencies, the program can be tailored to address gaps in knowledge and skills. An extensive review of evidence-based literature and up-to-date programs can lead to the development of a comprehensive, scientifically sound program that adheres to the principles of medical education. Implementation and evaluation of the program will provide insight into its strengths and weaknesses, as well as its practical applicability. A comprehensive plan will be presented that outlines the program's objectives, methods, and expected outcomes.

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Conflicts of interest

Nothing to declare.

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