Explaining Challenges Experienced and Evaluation of the Working Condition of Midwives: A Mixed-Method Study Protocol

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Abstract
The present study aims to: (a) explain challenges experienced by midwives; (b) evaluate the working condition in midwifery working settings. This exploratory sequential mixed-methods study is conducted in three stages (qualitative, quantitative, and nominal group), in Tabriz and Ilam. A qualitative study will be carried out to explain challenges experienced by midwives and the subjects selected through purposive sampling; moreover, in-depth individual interviewing will be used for data collection. The quantitative phase will be used a cross-sectional approach for evaluating the working condition in midwifery working settings. Finally, using findings of the two phases and nominal group technique some strategies will be given to reduce challenges of the midwifery working settings. The results can be used to develop strategies for creating suitable working conditions. It is hoped that the strategy proposed in the current study could lead to improvements in midwives’ satisfaction and health care services.

Keywords
midwife, challenge, occupational hazards, work quality of life, satisfaction

Introduction
According to historical evidence, midwives are key member of the health workforce to help improve the health of the community, especially the mothers and children’s health, and are the backbone of the obstetrics team in providing health care and reproductive health services for women (Pettersson, 2008). Midwifery is one of the most important jobs and plays a significant role in reducing mortality and preventing complications of women and children (Mirmolaei et al., 2005). According to the International Confederation of Midwives, midwives have a professional responsibility that provide support, counseling and care for women (Adatara et al., 2021). They make up a major proportion of healthcare workers worldwide, and more than 80% of women’s health care is provided by them (Hashemi Nejad et al., 2013). The profession of midwifery is one of the occupations that, based on the religious and customary beliefs of Iran, with all the physical and psychological pressures, has been assigned to women, who also have different roles depending on their position (Hashemi Nejad et al., 2013; Molaie et al., 2011). Since the job is considered one of the most important issues of everyone’s life, Job satisfaction or dissatisfaction can not only affect different aspects of life but also affects the efficiency of health care (Manoukian et al., 2007). Health agencies have a special place in society, due to the importance of their role in providing preventative care and treatment, but unpleasant environments and hard work can cause physical and mental disorders and job dissatisfaction in hospital staff (Sharifzadeh et al., 2017). This leads to emotional rupture and indifference and reduces the quality of services provided to the patient (Mirmolaei et al., 2005). Healthcare workers, especially in hospitals, are at high risk to face occupational health hazards (Izadi & Piruznia, 2018). And midwifery, as a high-risk job...
(Atulomah & Oladepo, 2002), faces many occupational risks and challenges (Atulomah & Oladepo, 2002; Ismaila et al., 2020; Zarrini et al., 2018) and these challenges are one of the major concerns (Atulomah & Oladepo, 2002). Some of them are related to the complex work process of the midwifery profession, which leads to significant pressure on the professional group, and others are related to the difficulty of working and facing occupational risks (Geraghty et al., 2019; Hunter & Warren, 2014). For example, work stress due to heavy workloads and long working hours (Ismaila et al., 2020), the emotional needs of the job, facing women with complex care needs, and working in traditional settings with a shortage of midwives, fear of punishment, lack of support and low appreciation (Gholamzadeh et al., 2011; Ismaila et al., 2020; Park & Kim, 2013), the loss of their social networks due to working away from home, and sometimes facing economic burden, especially when women are unable to pay, mentioned as midwifery job challenges (Hunter & Warren, 2014; Ismaila et al., 2020). Also, the difficulty of midwifery duties from the perspective of midwives working in health centers has a greater role in the occurrence of midwifery errors (Cheraghi et al., 2020). According to researchers, midwifery is an emotional job in which caring for women and their families, despite the social complexities, confronts midwives with anxiety, pain, fear and sadness, which make it difficult for them to work in these challenging situations (Hunter, 2010). And it is not surprising that low morale and job stress are of particular importance in the midwifery staff (Hunter & Warren, 2014). Today, work stress has become a common and costly problem in the workplace (Smith et al., 2009). Because facing many problems leads to increased stress, dissatisfaction, apathy, frustration and job burnout of midwives and reduces their participation in providing desirable care (Hunter & Warren, 2014; Mizuno, 2011; Tibandebage et al., 2016). And studies have declared that stressful working conditions lead to increased absenteeism, lawlessness, and staff turnover (Collins et al., 2010; Tibandebage et al., 2016). According to the reports, midwives face limitations and physical and medical problems during their work, including the risk of nosocomial infections, which in most cases are due to lack of appropriate personal protective equipment (Pettersson, 2008). According to a study have been conducted in Nigeria, hospital staff Mentioned the 4 main predisposing factors for blood-related accidents including lack of access to protective equipment, inappropriate staff behavior, high workload, and high work speed (Oflì et al., 2003). Also, Atwama et al., reported midwives work in high-risk environments compared to other jobs, but receive less support (Atulomah & Oladepo, 2002). Common occupational hazards in the obstetrics and gynecology unit include work-related stress (83.3%), needle injuries (75.6%), skin contact with bloodstains (73%), sleep disorders (42.3%), Skin reactions (37.2%) Attacks have been reported by patients (24.3%) and hepatitis (8.9%), and almost half of staff used diazepam or alcohol to cope with work stress (Orji et al., 2002). Studies were conducted in Iran have shown the dissatisfaction of the working midwives, mostly has been in the dimensions of workplace conditions, job security, salaries, and benefits (Mirmolaei et al., 2005). In some areas, various solutions are implemented to increase the motivation of midwives to provide quality care, such as improving working conditions and continuous monitoring and creating high educational opportunities (Pettersson, 2008). Evaluation of the challenges and risks related to the midwifery job to design appropriate strategies to prevent accidents and burnout, which affect people’s health, and examining the problems of an organizational necessity (Zarrini et al., 2018). Because to achieve the health of organizations, it is necessary to pay attention to the quality of work life of employees, provide a suitable environment that meets personal needs and create a motivating environment to perform tasks, meet their job challenges and improve care. The present study was designed to explain the challenges and risks of midwives’ work environment in Iran in a mixed-method study.

Objectives

The objectives of each phase are as follows:

**Objectives of the First Phase: Qualitative Study**

1. To explain challenges experienced by midwives in working setting

**Objectives of the Second Phase: Quantitative Study**

1. To determine the job stress of midwives working
2. To determine the quality of working life of midwives working.
3. To determine Determining the job satisfaction of midwives working.
4. To determining the workload of midwives working.

**Objectives of the Third Phase**

5. To develop strategies for increasing satisfaction and improving workplace conditions.

**Methods/Design**

**Study Design**

A mixed-methods sequential explanatory design will be used to conduct this study by collecting, analyzing, and integrating the qualitative and quantitative data. The mixed-methods paradigm is based on the principles and logic of pragmatism. According to this paradigm, using qualitative and quantitative approaches results in a better understanding of the problem (Creswell & Clark, 2017; Johnson & Onwuegbuzie, 2004). This study will have three phases, and the qualitative
and quantitative data will be collected in the first and second phases, respectively. The first phase is an exploratory qualitative study to explore challenges experienced by midwives in working setting in more detail. The second phase is a cross-sectional study to assess the working conditions of midwives such as job stress, quality of working life, and workload of their job. The third phase is about developing an evidence based and culturally sensitive strategies based on the results of phase one and two and experts’ opinion using the nominal group technique (Figure 1).

First Phase: Qualitative Study

The first Phase is an exploratory qualitative study with a conventional content analysis approach to explore experiences challenging which midwives are facing in the work setting.

Sampling Method

The research participants will be selected through purposive sampling among midwives who work in hospital or health care centers. After the process of obtaining permission to conduct research from the officials of “Tabriz” and “Ilam” universities, the study will begin. Inclusion criteria including: working in hospitals and health centers, having at least 1 year of work experience, Absence of any illness or mental disorder. The withdrawal and non-attendance of the participants were considered as the exclusion criteria.

Data Collection

Qualitative data will be collected using in-depth and semi-structured interviews, containing open questions. Before conducting the interviews, the research team reviews the questions, and the ways to obtain valid data and focus on research questions. The interviewer will pilot the interview on a subset of participants, and used this information to further refine the guide with respect to culturally sensitive and appropriate questions. The interview will begin with a key question, “What are your experiences and feelings about midwifery?”; “What are the problems with your job at work?”; “What do you think about the various occupational hazards of midwifery?”; What do you think are the difficulties in midwifery?”; “What do you think are the factors that cause problems and occupational hazards?”; and “What do you think are the factors that prevent job problems and risks?” to explore the depth of their experience. During the interview, as far as possible, the interviewee will be used and non-verbal data such as tone of voice and behaviors were recorded, too. The sampling will continue until data are saturated. All interviews will be carried out in a quiet room and without someone other than the interviewees.

Data Analysis

Data analysis process will be performed simultaneously with data collection using MAXQDA software version 10. The qualitative data will be analyzed using qualitative content analysis based on the Graneheim and Lundman method (Graneheim & Lundman, 2004). We chose content analysis because this method enables researchers to sift through large volumes of data with relative ease in a systematic fashion (Graneheim & Lundman, 2004; Harwood & Garry, 2003). In this approach, the data will be analyzed through frequent text reading to obtain a full understanding of it. Then, the texts will be read word by word to extract the codes. First, the objective words that contain the key concepts will be specified. The researcher continued digging the text by taking notes from the initial analysis until the major codes will be extracted. In this process, the code labels reflecting more than one key thought will be directly extracted and specified. Then, the codes will be categorized based on their difference and/or relationships. The codes will be categorized into themes and main categories. Subcategories will be extracted based on differences and similarities.

The interviewer will try to establish a friendly relationship with the participants to validate the results. To increase the validity of the data, the interviews will submit to the participants after transcription in order to affirm their statements. If necessary, additional statements will add to the data. Authors will review data several times and revise word-by-word, and the significant sentences and concepts in each line or paragraph will specify and a code will assign to every sentence. The transcriptions will submit to colleagues along with the extracted codes and categories, and their viewpoints were used regularly. Also, external viewpoints will use to increase the reliability.

Second Phase: Quantitative Study

First, a cross-sectional descriptive analytical study will be conducted to evaluation of the working condition of midwives.

Sample Size and Sampling Method

After controlling the sample size for research purposes, the maximum sample size was calculated. So that the 95% confidence interval, 90% statistical power was considered. According to the study of Abdolmaleki et al. (Abdolmaleki et al., 2020) considering the acceptable error of 5% around the mean (m = 48.86) and the standard deviation of 14.59 for the job satisfaction scale, the required sample size is 137 people and according to the study of Komeili-Sani et al. (Komeili-Sani et al., 2015), Taking into account the acceptable error of 5% around the mean (m = 183.08), and the standard deviation of 54.07 for the job stress scale, 135 people were calculated. Also, according to the report of Hadizadeh et al. (Hadizadeh et al., 2015), the sample size of 54 people was calculated for the quality of work life scale around the mean (m = 65.23), and the standard deviation was 12.16. In addition, regarding the workload of nurses reported by Malekpour et al. (Malekpour, 2014), considering the acceptable error of 6% around
the average score of physical need (m = 55.83) and the standard deviation of 22.16, the sample size of 168 people was calculated. Considering the maximum sample size based on occupational hazards and considering the design effect and 10% of sample loss, the final sample size of 290 people was calculated for each city.

After the approval of the ethics committee and obtaining permission from the officials of hospitals and health centers, sampling will be done in several stages in the target cities and the sample size will be calculated by considering hospitals and health centers in layers and according to the number. Participants who work in these centers will be considered. Teaching hospitals and a non-teaching (private) hospital will be selected from each city. To select health centers in each city, first the clusters are identified and from each cluster, one or two health centers will be randomly selected using Randomizer software. Centers will continue until the calculated sample volume is reached.

**Inclusion Criteria**

Working in hospitals and health centers, having at least 1 year of work experience, Absence of any illness or mental disorder.

**Exclusion Criteria**

The withdrawal and non-attendance of the participants were considered as the exclusion criteria.

**Scales and Data Collection**

Quantitative data will be collected using 5 questioners, including:
**Sociodemographic characteristics questionnaire.** Consisted of questions about the includes age, level of education, employment status, number of years of employment, place of work, job position

Osipow job stress questionnaire. As first developed by Osipow and Spokane in 1987 and consists of 60 items, each of which is answered based on a 5-point Likert scale from 4: most of the time to 0: never. These questions assess six scales including role overload, role insufficiency, role ambiguity, role boundary, role responsibility, and physical environment. In addition, the score range 60–119 is interpreted as low stress, 120–179 as low-moderate stress, 180–239 as moderate-severe stress, and 240–300 as severe stress. Based on previous studies conducted in Iran, the Cronbach’s alpha coefficient for this questionnaire has been reported to be more than 80% (Azizkhani et al., 2021; sharifzadeh et al., 2017).

Work-related quality of life scale. Work-Related Quality of Life Scale-2 (WRQoL-2), including 7 factors, 33 items. Using the Likert 5 rating (1 = very disagree, 2 = disagree, 3 = no opinion, 4 = agree, 5 = very agree), convert the score of the reverse items and then calculate the score. The scores of the scale range from 33 to 165. The higher the score of the scale, the higher the quality of work life (Hu et al., 2020).

Minnesota satisfaction questionnaire. The short version of the MSQ-SF assesses job satisfaction using a 5-point Likert scale ranging from one (extremely dissatisfied) to five (extremely satisfied). It consists of three subscales including intrinsic satisfaction, extrinsic satisfaction, and general satisfaction. As a whole, MSQ-SF contains 20 items, and each item represents a feature in the work environment. The possible scores for MSQ-SF range from 20 to 100 (16). It is a reliable (0.78) and valid (Cronbach’s alpha coefficient: 0.82) questionnaire in Persian language (Brayfield & Rothe, 1951; Hancer & George, 2003).

NASA task-load index. One of the most widely used instruments for measuring subjective mental workload is the National Aeronautics and Space Administration-Task Load Index (NASA-TLX) (Yurko et al., 2010). The NASATLX provides an overall index of mental workload as well as the relative contributions of six subscales: mental, physical, and temporal task demands; and effort, frustration, and perceived performance (Hoonakker et al., 2011). The psychometric characteristics of the NASA-TLX are well documented, and it has been validated and used initially by the Human Performance Group at the NASA Ames Research Laboratory as a tool for subjective evaluation of individual’s workload in flight simulation, air traffic control studies, automated and manual control, and vigilance tasks. More recently, it has been used in a variety of tasks outside of the aeronautical field including the medical domain (Yurko et al., 2010).

**Data Analysis**

The quantitative data will be analyzed with SPSS-22. Sociodemographic, job stress, Work-Related Quality of Life, MSQ, and NASA task-load questionnaires score will be described by frequency (percent), as well as mean (standard deviation) if the data are normally distributed. The relation between Sociodemographic with main variables will be determined using the independent test, ANOVA, and logistic linear regression adjusting the confounding variables in the multivariate analysis.

**Third Phase: Integration of Quantitative and Qualitative Data**

To develop strategies for increasing satisfaction and improving the workplace conditions. The results from qualitative and quantitative studies will be delivered to 10–12 experts. Then, their feedback and comments will be taken into account, using the nominal group technique.

**Discussion**

Midwifery is a high-risk occupation in which the risks are higher than those in other professions (Turkmani et al., 2013). In spite of the important role of midwives in maternal health care, they experience numerous challenges in the workplace which affect their ability to do the responsibilities and prevent the midwives from providing sufficient midwifery care (Filby et al., 2016; Geraghty et al., 2019; Homer, 2006). A systematic review on midwifery care in low and middle-income countries declares that barriers for providing sufficient midwifery care are created by social, economic and professional factors (Filby et al., 2016). The outcomes of these barriers are feelings of fatigue and moral distress, which in turn affects the quality of the care provide (Bremnes et al., 2018; Filby et al., 2016). A study from Tanzania identified three main barriers to providing quality care with midwifes; poor-working conditions, lack of status and perceived lack of knowledge (Bremnes et al., 2018). In the another study in Ghana, researchers explored and described five challenges experienced by midwives who provide maternal healthcare to childbearing women and newborns, including Lack of logistics, Inadequate infrastructure like lack of beds and physical space, Shortage of midwifery personnel, Lack of motivation, and Limited in-service training (Adatara et al., 2021). Midwives and removing the barriers they face are regarded as key for improving child and maternal health (Filby et al., 2016).

We aimed to explore and highlight the challenges the midwives face in their practice, and to investigate which measures the midwives find necessary to implement to improve them condition. This may provide actions to be taken informed by the midwives’ firsthand experience of the situation. Seeing their own suggestions being taken into account may lead to increased motivation, thereby improving the
midwives’ working conditions, which in turn could better maternal and child health in our country.

The mixed-method approach supports the combination of opinions, approaches, and different methods if they are helpful for understanding concepts. The strategy proposed by this study may be helpful in weariness of health professionals and policy makers should be aware of challenging, problems and occupational hazard in midwifery working setting. So, it is hoped that the strategy proposed in the current study could lead to improvements in midwife’s satisfaction and health care services.

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Declaration of Conflicting Interests

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Ethics Approval and Consent to Participate

Written informed consent will be obtained from each participant. This protocol has been approved by the Ethics Committee of the Islamic Azad University of Tabriz Medical Sciences, Iran (code number: IR.TBZMED.REC.1400.113).

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