The Implementable Needs of Woman With Maternal Near Miss Experience: A Qualitative Study of Healthcare Providers

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Research

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Abstract

Introduction: Maternal Near Miss (MNM) case is defined as “a woman who nearly died but survived a life-threatening and failure organ during pregnancy or childbirth complication that the challenges of this group of mothers have not been addressed.

Aim: This qualitative study of healthcare providers was conducted to discover the Iranian near miss mother’s (NMM) needs.

Design: conventional qualitative content analysis

Methods: In this study 37 participants of key informants, health providers, NMM and their husbands were selected using purposive sampling. Semi structured in-depth interviews were conducted for data collection until data saturation was achieved. Data was analyzed using Graneheim and Lundman. MAXQDA 10 software was used for organizing data and managing the process of analysis.

Results: The analysis revealed the core category of "the need for comprehensive support". Eight categories included "psychological", "fertility", "information", "improvement of the care quality care", "sociocultural", "financial", "breastfeeding" and "nutritional" needs emerged from 18 sub-categories, were formed from 2112 codes.

Conclusions: Maternal health policy makers should call on health provider centers to work on program designed to support NMMs according to standard guidelines designed to assessment needs.

Contributions To The Literature

- Research conducted over the last decade, has given much attention to the concept of MNM in order to use information to improve quality of maternity services and to reduce maternal mortality.
- However, no qualitative study has addressed healthcare providers 'perceptions of the implementable needs after experiencing near miss events.
- The findings in the study on the needs and challenges of near-miss mothers consists of Eight categories, include "psychological", "fertility", "information", "improvement of the care quality care", "sociocultural", "financial", "breastfeeding" and "nutritional" needs.
- Maternal health policy makers should call on health provider centers to work according implementable needs to support NMMs.

Introduction

According World Health Organization (WHO) approach, Maternal Near Miss (MNM) case is defined as “a woman who nearly died but survived a life-threatening and failure organ complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy”[1]. The pooled worldwide prevalence of MNM, is 19/1000 that ranged from 3 in the Europe to 32 in 1000 live birth in the Africa[2].

Research conducted over the last decade, has given much attention to the concept of MNM in order to use information to bring health system improvements and quality of maternity services and to reduce maternal mortality [2, 3]. Good quality of care requires appropriate use of effective interventions, optimum skills of health providers, resulting in improved health outcomes and fits the needs of a specific group of people[4]. Moreover, improve the quality of care tailored to the needs of women is considered a key component of the right to health, and the route to equity and dignity for them [1, 4, 5].

Despite the WHO's recommendation for having a vision beyond the numbers, facilities is now focused on physical recovery rather than psychological and emotional impact on women[6]. Recent studies of near-misses from around the world have drawn attention to the negative psychological impact of maternal morbidities[7]. Women experience fear, birth trauma during the immediate emergency, and symptoms of anxiety, and flashbacks in the aftermath [7, 8, 9] that this will ultimately reduce their quality of life[10].

In a large systematic review study to assess MNM' needs, it was recommended that a special supportive program be required to reduce the burden of complications and return them to normal life [11]. To achieve this goal, qualitative research can reveal the hidden dimensions and allows a detailed exploration of the range of different needs, which we should understand as a guide to effective intervention [12]. However, no study has been done to date to investigate the healthcare providers 'perceptions of the needs and challenges affecting mothers' lives after experiencing near miss events. This study was conducted as a qualitative study of healthcare providers with the aim exploring the needs of woman with maternal near miss experience.

Materials And Methods

Design

A conventional qualitative content analysis approach was selected for this study because the method is appropriate for exploring new understudied phenomenon such as MNM that information is not available about them[13]. The method allows a researcher to explore key informants’ views that have not been collected before.

Participants

All midwives, nurses, physicians, professionals whose occupational characteristics are closely related to MNM mothers, participated in this study. They had at least five years’ work experience prior to the interview. The purposeful sampling method was chosen to maximize diversity of participant characteristics and sampling was continued using the snowball method. At the end of the interview, participants were also asked to identify eligible people who could be helpful in this area and the first key informant recommended another person.

Women who experienced a near miss complication according to the WHO definition, were invited to take part in an interview study. The mothers had experienced the MNM event at least one year ago. We also invited the women's partners to participate. According to this study, 24 health care providers, 11 mother and 2 partner participated in the study. The characteristics of the participants are shown in Table 1.

Table 1
The characteristics of the participants in study

No.	Group	Organizational position	Education	Record of service in years
1	Clinical specialists	Expert of high-risk mothers	MSc. of midwifery	8 years
2		Chief of level-three maternity hospital of pole university	BSc. Of midwifery	10 years
3		Head of mothers' department in provincial health center	BSc.	18 years
4		Expert of mothers' department in provincial health center	BSc.	12 years
5		Member of the primary disciplinary board of the Medical council	MSc. of midwifery	15 years
6		Chief of high-risk mother's department and Ph.D. in international affairs	Ph.D.	18 years
7		Treatment director – head of treatment supervision	G.P.	18 years
8		Treatment deputy	Acupuncture Specialist	18 years
9		Assistant professor of gynecology, Omol-Banin Hospital	Gynecologist	17years
10		Expert of midwifery	M.A. of Midwifery counseling	20 years
11		Expert of MCMC system	BSc. of midwifery and M.A. student of health services management	23 years
12		Authority of high-risk mothers	BSc. Of midwifery	17 years
13		Authority of childbirth preparatory classes with ten years of experience in the headquarters of treatment deputy	BSc. Of midwifery	24 years
14		Supervisor of gynecology department in level-three hospital	MSc. of midwifery	30 years
15		Chief of level-three maternity hospital of pole university	BSc. Of midwifery	27 years
16		ICU Head nurse	BSc. of nursing	24 years

No.	Group	Organizational position	Education	Record of service in years
17		ICU Nurse	MSc. of nursing	11 years
18		ICU Nurse	BSc. of nursing	15 years
19		Associate professor of reproductive health-Isfahan University	Ph.D. in reproductive health	24 years
20		Associate professor of reproductive health- Tehran University	Ph.D. of reproductive health	29 years
21		Professor of reproductive health-Shahroud University	Ph.D. of family health	26 years
22		Midwifery advisor of the minister	Ph.D. of reproductive health	29 years
23		Expert of the healthcare base	BSc. Of midwifery	23 years
24		gynecologist	Faculty member	7 years
25	Husbands	Husband of a mother with hematology, uterine, gastrointestinal failure		
26		Husband of a mother with uterine failure (hysterectomy)		
27	Mothers	Uterine disorders - hematology dysfunction		
28		Uterine dysfunction		
29		Neurological dysfunction		
30		Neurological dysfunction		
31		Uterine dysfunction / hematology disorder / gastrointestinal disorder		
32		Uterine and bladder dysfunction		
33		Kidney dysfunction / hematological disorder		
34		Kidney dysfunction / hematological disorder		
35		Kidney dysfunction / hematological disorder		
36		Kidney dysfunction / hematological disorder		
37		Respiratory failure / preeclampsia / hematology / advanced lung cancer		

Sampling And Data Collection

Interviews were held at a time and place convenient for the subject. Overall, mother's interview was conducted at the participant's home, key informants interview was conducted at participants' workplace or university. The partner's interview was conducted at the clinic where the mother was referred for follow-up. The first interviews lasted between 40 and 70 min. A 3rd year Ph.D. candidate in reproductive health performed the interviews. Data saturation was achieved after interview with 37 participants. Data collection was done from August 2019 to March 2020.

The participants were asked to narrate their experiences of their needs related of living with organ dysfunction and near miss event. Clarifying and encouraging questions were used such as: 'Would you please explain more about your needs when your disease started?', What challenges did you face in life after this event?', 'What do you need to get back to your normal life?' and 'Can you provide an example?'. Similar to these questions, key informant were also asked to comment on mothers' needs and challenges. The interviews were tape recorded, transcribed verbatim, and analyzed by MAXQDA10 software.

Data analysis

After listening to the recorded interviews, the first author transcribed and studied them to gain deeper insight about the data. The following concepts were considered important in performing conventional qualitative content analysis: a unit of analysis, meaning unit, condensation, code, sub-category, category, and main category [13]. The qualitative content analysis is based on the unit of analysis. According to Graneheim and Lundman, unit of analysis is those interviews that are large enough to be considered as a whole and small enough to keep in mind as a context for the meaning unit during the analysis process. In our study, each interview was considered as a unit of analysis. After determining the unit of analysis, the text was divided into meaning units. Each meaning unit consisted of words, sentences, or paragraphs containing aspects related to each other through their content and context. In the next step, we condensed the meaning units, while still preserving the core. The condensed meaning units were then coded and sub-categories were created. The next step was to create categories that were the core features of qualitative content analysis. A category is a group of codes that are similar in a manifest level. A main category is a recurrent thread of underlying meaning running through codes and categories; it can be seen as an expression of the latent meaning of a text (Table 2). Although the analysis process was systematic, there was a back-and-forth movement between the whole and parts of the text[13].

Table 2
Example of meaning units, condensed meaning units and subcategories

Meaning unit	Condensed meaning units	Code	Subcategory	Category
For the near miss mothers in the ICU, as they ask for internal counseling, ask for infectious counseling, ask for gastrointestinal counseling, they should ask for psychiatric counseling, too.	The need for psychiatric counseling for NMMs in the ICU	Psychiatric counseling	The need for psychological support for mothers	Psychological needs
In 2020 depression will be the most burden of diseases. In our country, we are in- the first rank. The system should pull up its socks. It should prepare itself. It should not wait for all people to go crazy. We should take psychological symptoms of those around the mother such as her husband, and her children. They are also this mother's dependents. The family is psychological influenced.	Attention to psychological symptoms of all members of the mother's family by the service providers	Psychological assessment of the husband	The need for psychological support for the family	

Trustworthiness

The issues of trustworthiness were carefully observed in accordance with measures posited by Lincoln and Guba: credibility, confirmability, dependability, and transferability[14]. For the purpose of credibility, participants were selected from maximum variety of experiences. A conscious effort was made to select the most suitable meaning units and the process of developing the category were documented by engaged all researchers that allowed authors to make sure that the category covered all data. In addition, findings were accompanied with appropriate quotations to increase credibility. To enhance dependability, an interview guide was used and the same investigator conducted all interviews. Transferability means 'the extent to which the findings can be applied to other contexts or groups'. To ensure transferability of the results, clear descriptions were presented about the context, selection process and participants' characteristics as well as data collection and the process of analysis.

Results

The findings which are the result of statements by 37 participants in the study on the needs and challenges of near-miss mothers consists of one major theme, "the need for comprehensive support". Eight categories emerged from analyzing the collected data of perceptions of key informants i.e., mothers, their husbands or other caregivers about the needs and challenges women with NMM

experience. These categories included "psychological", "fertility", "information", "improvement of the care quality care", "sociocultural", "financial", "breastfeeding" and "nutritional" needs. These categories, in turn, emerged from 18 sub-categories, which in turn, were formed from 2112 codes. In the same vein, the codes were formed from the condensed meaning units and meaning units.

Psychological needs

The psychological needs found in this study emerged from sub-categories of "the need for psychological support for mothers" and "the need for psychological support for family members". All participants in the study said that since mothers undergo a life-threatening condition and, as a result, suffer from organ failure, they need psychological support from the very moment the incident begins. This support should continue throughout the hospital stay and after discharge. Therefore, upon discharge, they need to be screened for three common psychological consequences, including depression, anxiety, and post-traumatic stress, and if necessary, psychological counseling should be provided for the mother. At this point, psychological counseling should be provided depending on the mother's condition to help them relieve psychological stress. The participants noted that it is helpful to pay heeds to matters such as facilitating husband's and family members' visit in the intensive care unit. Most of the participants believed that, due to the negative psychological effects, after discharge, the mother does not have enough energy to go to the health care center to receive postpartum care, and hence it is necessary to check and evaluate her psychological symptoms at home, and to provide counseling services to her if required.

"Just as our midwife in the postpartum care examines the mother for blood pressure, bleeding, pulse, and uterine condition, there should be a standard psychological instrument to screen the mother psychologically" (P20).

"These mothers have experienced events that were unimaginable and unpredictable, so they need psychological support to accept and cope with their organ failure." (P19)

Most of the participants stated that another psychological need of these mothers is the psychological support for their husband and other children of the family. It is necessary to assess the husband, as a person who is emotionally dependent on the mother, for the level of stress and anxiety, and his mental worries need to be alleviated so that he becomes ready to accept the complication, and cooperates more with the service providers. The participants said that in times of crisis, the husband must remain calm, and sometimes, following the new circumstances created for the mother, it is necessary to resolve the husband's mental conflicts.

"These mothers are young of age and often are newly married, and with the problem that has arisen for the mother, there will certainly be severe emotional impacts on the husband because the wife's lifelong illness means that all his wishes and goals of life are ruined. Therefore, her husband must be mentally prepared to accept this ordeal and be able to help the mother in the medical care" (P 16).

The experience of the participants shows that the mother's previous children have endured very difficult conditions. Their mother has referred to the hospital for childbirth and sometimes has been hospitalized in the intensive care unit for two months. A mother's absence from home is deeply detrimental for a child. Therefore, the participants in the study believe, to prevent emotional harm, the previous children of the family need to be psychologically examined and counseled.

"My first daughter is seven years old. She was psychologically touched in the one month her mother was not at home, a deep touch. For example, she became very aggressive, was fighting, and didn't go to school. She always kept asking, 'where is mommy?', 'where is mommy?'. Finally, I took her to a counselor, and she got better, a bit" (P 26).

Fertility Needs

In this study, fertility needs emerged from three subcategories of "Acceptance of fertility status", "Fertility counseling in high-risk pregnancies" and "Future fertility counseling". According to the participants in the study, it is necessary to pay attention to the support given after the fertility loss. For example, acceptance of infertility or acceptance of the number and sex of children in hysterectomies mothers, or supporting the family for counseling and adoption is necessary.

"A lot of marital worries and conflicts are grounded in couples' inability to have another child or the impossibility to have a child of the desired gender, so one of the service providers should talk to the couple before they have a serious problem and analyze their concerns " (P 22).

Participants' experiences also indicated that in high-risk pregnancies, to prioritize maternal life, it is necessary to make policies in the field of women's health to reduce maternal mortality. Therefore, procedures such as a legal abortion or a legal tuba ligation or termination of pregnancy should be performed in time for a mother who is going through a high-risk pregnancy.

"Why, in your opinion, shouldn't a mother with third-degree heart disease and aortic stenosis be allowed to end the pregnancy? Well, the result is a near miss mother who refers to the hospital for an emergency delivery" (P 14).

Participants also said that near-miss mothers, most of whom are high-risk mothers, should receive fertility counseling for future planned pregnancies before they decide to become pregnant.

"A mother who referred for delivery with Cushing's syndrome had an unplanned pregnancy the next year. Well, she should have received fertility counseling in the previous pregnancy and before discharge, so that she would not have referred back as an emergency case" (P 19).

Information Needs

In this study, information needs emerged from three sub-categories of "informing about the current problem", "fulfilling the family's information needs to support the mother" and "marital education".

According to the participants in this study, it is necessary to give these mothers the necessary information about their current problem, so that the mother is not unaware of what has happened to her and of the treatment processes. They said that the required information, depending on the type of near-miss complication, can be provided through an information support package, writing important points for the mother by the discharge nurse, self-care education for mothers, giving information about the required readiness to face new postpartum conditions, and providing information to dispel mother's false beliefs and misconceptions.

"Someone in the hospital should exactly check that, given the type of organ failure, the mother has received all the necessary information about the problem. For example, our discharge nurse, as she was checking the mother for other physical cases one by one and ticked the checklist, rechecked that the mother had the necessary information." (p. 21).

The participants said that it is necessary to provide the family caregivers and family members with information about the necessity of giving positive support to the mother, not blaming her nor imposing the duties of life on her, accepting her with organ failure conditions, and taking care of her. If the family and the caregivers are not well-informed, they will not act in line with goals and plans.

"I have always said, and I still say, that family is one dimension of the therapy processes. If they are not informed, we cannot have effective maternal care" (P 8).

Participants said that due to the change in the living conditions of mothers and the need to start a lifestyle different from before, mothers need to receive some education. This information should be provided after discharge and for the purpose of marital education and sexual counseling. The husband should also be aware to behave as before in establishing emotional and empathetic connections and in paying romantic attention. Along these lines, during the healthcare, it is necessary to provide the couple with the required sexual counseling depending on the type of organ failure or to do the sexual screening through standard tools in the post-discharge phase.

"When a mother thinks that she is not like before and has organ failure, she thinks that she does not have the previous acceptance from her husband's point of view. So here both the mother and the husband should be informed about how the mother should feel qualified again, how she should not feel inferior" (P. 6).

The need to improve the quality of care

Experience of the participants shows that one more need that should be specifically considered for the care of near-miss mothers is the need to improve the quality of care, which consists of three sub-categories of “staff training”, “issuing specific guidelines for NMMs” and “removal of systemic barriers”. The experience of the participants in this study suggests that since near-miss mothers need more specialized and higher quality care, the staff must be specially trained in clinical and emergency skills, in providing special care for near-miss mothers, and in the early and timely diagnosis of morbidities.

"Our midwife, as well as our specialist, needs to know that the physical and mental care she provides for a near-miss mother is totally different from the one provided for a normal mother. Our midwife even doesn't know how to talk to such a mother and how to calm her down."(p.5)

Moreover, the participants stated that the behavioral and moral promotion of the staff should be done through empathetic behavior and proper communication which is in accordance with the spirit of near-miss mothers, and through understanding the differences in the living conditions of such mothers and their need for respect and ethical attention in the most critical living conditions of a mother. This promotion will not happen unless the Ministry of Health issues specific guidelines for near-miss mothers.

"These things must always be ordered from above. My colleague or I, if we are doing the right thing, it is because of our conscience, but no one has sent instructions that everyone adheres to" (p.13)

Participants argued that staff training should be based on promoting legal accountability for the avoidable maternal events and profound analysis of the cases of near-miss mothers so that people could be held accountable to justice for the mistakes and negligence of the health services, and mothers should also be aware of their rights.

"Our mother is not aware of her rights. She doesn't know what mistakes have put her in this turmoil. We have to look at the files one by one and figure out the shortcomings of our system. How can we overcome them if we don't recognize them?" (P11)

Socio-cultural needs

The results of this study led to the emergence of two sub-categories of "social needs" and "cultural needs", which formed the category of socio-cultural needs. Social needs refer to attempts to dispel social misconceptions about near-miss mothers and reduce the socio-psychological burden of society. All participants stated that social concerns, followed by social isolation, should be assessed by mental health experts. Mothers need to be screened for social harms leading to social isolation, and they should be referred to peer groups and related associations.

"Our mother needs to know that she is not alone. This problem has not happened just to her. So, we have to hold her hand and lift her up and introduce her to peer groups" (p 20).

Participants stated that cultural needs were related to cultural support through counseling families for cultural acceptance and attention to post-complication problems which are due to misconceptions. It is necessary to counsel and inform the mothers' families to remove the obstacles to their health.

"My mother-in-law said that a woman who does not have a womb is handicapped. There was no one to tell her not to have such a view. How long should these words be in our society?"(p.31)

Financial Needs

Analysis of the statements of the participants led to the emergence of two subcategories of "financial policies" and "facilitating low-cost services" for the category of financial needs. Fulfilling the financial needs that will lead to the support of these mothers through policy-making can be done through insurance coverage, covering them in certain diseases, freeing up medical services and their long follow-ups, granting loans, and allocating a monthly budget for their medical and nutritional support.

"I lost all my assets because of this problem. I didn't even have the money to bring my wife back to see the doctor. We're not saying they should give us non-repayable grants. I wish there had been somewhere at least to give us a loan" (P 25).

In addition, the provision of low-cost services to fulfill the needs of these mothers should be facilitated by referring them to aiding agencies, charities, and special public clinics. It is also important to identify and differentiate mothers with poor economic and social status. Moreover, if the services and care of these mothers are provided at the primary care level, the cost of treatment will be greatly reduced.

"At the time of discharge, we should give these mothers an appointment for a free visit to their specialist in the special clinic so that the mother knows that she has a free of charge appointment, and refers back to the clinic" (P 24).

Breastfeeding Needs

Breastfeeding needs in these mothers consisted of two sub-sectors, "facilitating mother-infant bonding" and "infant feeding". Participants in the study said the physical illness of these mothers should not make it difficult for them to contact their babies as quickly as possible. Service providers should seize every opportunity for the mother to see the baby at the ICU and, by removing barriers and providing amenities, they lead to the mother's attachment to the newborn. In cases where a physician advises stopping breastfeeding, to respect the sense of motherhood, mothers should be counseled to accept the discontinuation of breastfeeding. Sometimes the mother's problem is such that the mother is conscious and able to breastfeed, but it is difficult for nurses to take responsibility for caring for both the baby and the mother, and it is necessary to remove the legal barriers.

"Sometimes the mother has a breastfeeding contraindication, but we tell the mother to pump her breast so that we can take the milk to the baby. This lets the mother know that her baby is safe and healthy, and she does not feel useless." (p. 17)

Another breastfeeding need is to feed the baby, and it should be attempted to make it easy for near-miss mothers to use a formula or use a breast milk bank. This can be done by going to the mother's door to monitor the baby's breastfeeding and nutrition status.

"Sometimes the mother is so ill. Her milk has stopped. The family is so busy with the mother that they don't have the patience for paperwork to get the formula. The health team should go to the mother's home and assess the baby's nutritional status" (P3).

Nutritional Needs

Based on the accounts of the participants in this study, since maternal nutrition plays an important role in the mother's recuperation and return to her normal state, the subcategory of "attention to the role of nutrition in the recovery process" was formed. This subcategory refers to the nutritional needs of mothers which begin from the time the mother is admitted to the hospital and continues into the post-discharge period over the next few years until the mother's nutritional supply returns to normal. Participants stated that sometimes supplements need to be used, which is often overlooked. Therefore, appropriate nutrition counseling by relevant experts is necessary. These needs should be met through nutritional care by a nutritionist at a health care center, and nutritional needs should be periodically assessed by visiting the mothers at home and controlling her nutritional status and the calories received in her daily diet.

"My mother in the ICU has gone from 90 kilos to 40 kilos, but the food given to her is like that of any other patient" (P 9).

The results of this study suggest that near-miss mothers suffer from cascading problems following the near-miss incident, which requires different needs from different areas of their lives. Sometimes attention to other dimensions is ignored by service providers, and only her physical recovery is a priority. It is hoped that the results of this study, by creating a deep understanding of the needs of these mothers, draw the attention of service providers to their comprehensive needs.

Discussion

The qualitative data derived from this study presents a variety of needs that challenge near miss mother (NMM) after experience MNM events. This is the first study to focus on the needs of NMMs comprehensively from the perspective of service providers and mothers and partners. Consistent with previous studies, the findings of this research confirm that a large proportion of MNM are psychological need. Attention to psychological needs is due to symptoms such as feeling of impending death and fear[9], depression, post-traumatic stress disorder[7], flash- backs[15] and so on.

These, in turn, effected the whole family [6, 16] that was another issue of the study, so psychological needs after the emergency MNM events, are also seen in partners and previous children and sometimes families.

According to health providers, mothers and their families need social support. In this regard, Mbalinda stated that male partners’ experiences were mostly characterized by seclusion and self-isolation or reliance on the social networks[17].

Similar to the results of this study based on financial needs, Kaye stated that the enduring economic consequences have been expressed in the experience of NMM and partners[18].

Our findings indicate that the NMM need to mother-infant bonding and the feeling of motherhood with breastfeeding should not be ignored. Consistent with Cram study, hospitalization was particularly hard

for those separated from their baby[19] and many NMM who require intensive care face challenges to facilitate the baby being taken to visit their new baby[6].

According to mother and partners, information need tailored to new MNM event, is highly valued. Knight emphasizes that jargon-free explanations are needed for NMM while they are in the hospital and dealing with memory gaps[9] and clear explanations of what is happening are helpful to mothers and their partners at all stages of the emergency and recovery[6].

Similar to the results of other studies, another result of this study was the need to improve the quality of care that this means the competency of the expert healthcare providers in the form of adequate knowledge, skills and existing programs in providing optimal care [20, 21]. Also in accordance with Souza's study according to the perception of some the women interviewed, mothers reported having noticed a delay in receiving the correct diagnosis or in the implementation of therapeutic actions[9]. On the other hand, in this study, follow-up and special care was the needs of NMMs, which in line with the results of Hinton study, longer-term support and counselling were felt to be particularly valuable[22].

In this study, health providers believed that these mothers needed childbearing counseling. Similar to this result, Hinton stated that Life-threatening emergencies could have a profound impact on a woman’s fertility and future pregnancies, especially in hysterectomy, it was devastating[7].

The first of the strengths of this study was that this study participants included health providers, mothers and their partners that providing a deep insight and comprehensive understanding of the needs and challenges of life with the MNM events. Second, it is the first study that has comprehensively examined all mothers' needs in different dimensions. Third, previous studies have examined mothers 'experiences of MNM events, while the main purpose of this study is to address the mothers' needs and can provide good suggestions for applying maternal support strategies.

The main limitation of this study was that health providers sometimes lacked understanding of mothers' private living conditions after discharge and focused their needs only on physical recovery. This made data saturation later. Ultimately, further studies are suggested about designing supportive program and implementation through needs assessment to reduce the burden of maternal morbidity and to rehabilitate mothers to return to normal life.

Implications

Service providers should provide care based on the special needs of near miss mothers such as additional follow-up visits, psychological support for mothers and other family members from Hospitalization until long-time after discharge, counseling about marital relations and sexual counseling, counseling with family members and alleviation of the mother's worries by returning her to the normal life. Also they need to be able to provide care and manage mother's psychosocially rehabilitation to increase her life quality.

Conclusions

To further decrease cases of maternal morbidity and mortality, the maternal health services need to meet NMM’s actual needs. According to standard guidelines designed to assessment needs to be done. Maternal health policy makers should call on health provider centers to work on program designed to support NMMs. Identifying barriers to the compliance with these quality standards is crucial for improving maternal health.

Abbreviations

NMM
Near Miss Mother
MNM
maternal near-miss
WHO
World Health Organization

Declarations

This study provides a deeper understanding needs of "near miss mother" that this information help to health providers focus on primary health interventions.

Conflict of Interest Disclosures

The authors declare that they have no conflicts of interest.

Ethical Approval and Consent to participate

The study was approved by the Ethics Committee of Mashhad University of Medical Sciences (ethics code: IR.MUMS.NURSE.REC.1398.009). All participants filled out an informed consent form that stated the purpose of the research and voluntary nature of the study. Confidentiality was ensured at all stages of the research. Additionally, further explanation was provided to answer any questions from participants.

Consent for publication

Not applicable.

Availability of data and materials

Data could be available upon a reasonable request and with the permission of Mashhad University of Medical Science ethical committee. The interviews used in this study are taken from a part of the doctoral dissertation work.

Competing interests

The authors report no conflicts of interest. The authors alone are responsible or the content and writing of the paper.

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Authors' contributions

SA, AH and TKH contributed to the study conception and design, Data analysis and interpretation, and Critical revision of the article.

SA, AH, HE and TKH conducted the interviews and collect the data. SA, AH, FF and TKH wrote and revised the first draft. All authors read and approved the final manuscript.

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