

Women's Perspectives on Childbirth Care Services Leading to the Maternal Near-Miss event: a Qualitative Study

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Abstract

Background: Insufficient evidence exists regarding the causes of adverse birth outcomes among women with previous cesarean sections (C-Section).

Objectives: This study aimed to explore women's perspectives on childbirth care services leading to maternal near-miss (MNM) events.

Methods: Following a narrative design, 12 women with a previous C-section who had an episode of MNM during childbirth or postpartum period referring to a tertiary referral hospital in Zahedan city, Iran, were chosen using purposive sampling. Face-to-face interviews were used to collect data. Data were analyzed using the six-phase guide to thematic narrative analysis approach.

Results: Two themes related to childbirth care services leading to maternal near-miss events were extracted: (1) 'Ineffective communication' (Ignoring the patient's words, Insensitive listener, and Non-critical thinking listener) and (2) 'Inappropriate care' (implementation of unnecessary or inappropriate care and early discharge).

Conclusion: An audit system is necessary to provide objective information on the domains related to care provision and help timely feedback to healthcare providers to improve the quality of care.

Keywords: near-miss; healthcare; childbirth, health facilities

Introduction

In lower-middle-income countries, going through obstetric transition is accompanied by an increased rate of obstetric interventions (e.g., cesarean sections) [1]. During 2000-2013, the cesarean section (C-section) rate increased from 35% to 56.1% in Iran [2]. New evidence suggests that C-section can put the lives of mothers and newborns at short and long-term health risks when its rates increase up to 10% at the population level [3].

Trial of labor after cesarean delivery (TOLAC) is an alternative to repeat C-section, and vaginal birth after C-section (VBAC) is an accepted practice to decrease the C-section rate [4]. Some studies indicated that in low-resource settings, VBAC can even increase the risk of adverse birth outcomes, such as uterine rupture and hysterectomy, and mortality [5]. Accordingly, the focus should be shifted towards the causes of morbidity among women with previous C-sections to improve the quality of childbirth care

service at the facility level and improve maternal and newborn health [6]. Increasing attention has been paid to the maternal near-miss (MNM) reviews, as an indicator of the quality of maternal care since maternal morbidity is found to be 9-100 times more likely to occur, compared to maternal mortality [7,8]. The MNM is defined as the case of “a woman who nearly died but survived a complication occurred during pregnancy, childbirth, or within 42 days of the termination of pregnancy” [9]. Based on existing evidence, despite the reliance of the legal system on documentary evidence, the content of patient documents can be changed, or there may even be no records of some events to decline medical claims [10]. Therefore, the evaluation of women's experiences regarding severe maternal morbidity and their perceptions of the care they received (using the narratives of the women experiencing such an event) could be highly beneficial to the provision of great insight into some of the underlying causes of MNM (due to the provision of care) [8,11,12].

As evidenced by existing literature, there are a limited number of studies performed on MNM events among women with previous cesarean delivery in Iran [13-15]. However, to the best of our knowledge, no research has investigated the childbirth care services leading to adverse birth outcomes (e.g., MNM) among women with previous C-section in a low-resource setting, such as Sistan-and-Baluchestan province, in Iran. Accordingly, the present study aimed to investigate the women's perspectives on childbirth care services leading to maternal near-miss events among women with C-section history to provide a deeper understanding of the weaknesses or failures in the care delivery process.

Methods

This qualitative study is performed following a narrative design. Within this approach, the participants described the events in order of their occurrence and shaped the event within the care context [16]. Oral history is valuable as it is the reflection of the events and their causes and effects [17]; therefore, this method was used to understand, describe, and evaluate health-related issues [18].

Setting

This study was conducted in Ali-ibn-Abi-Talib Hospital, which is a tertiary referral teaching hospital in Zahedan, the capital of Sistan-and-Baluchestan province, Iran, which is the largest province of the country with a population of 2,775,014 million and an area of 181,785 km²; however, this province is among the most disadvantaged regions of the country [19] with the highest maternal mortality rate.

Ali-ibn-Abi-Talib Hospital is the only women's referral hospital affiliated to Zahedan University of Medical Sciences, which accepts referrals from the other two hospitals in Zahedan, other district hospitals, and other rural childbirth settings in the province. Additionally, it handles approximately 7,000 deliveries annually as the only tertiary public referral hospital in the capital of the province. Accordingly, sampling in this referral hospital can also reflect care and referral status in other secondary hospitals.

Participants

Twelve women with a previous C-section who had an episode of MNM during childbirth or postpartum period were chosen using purposive sampling in such a way that their experiences can be used to meet the goal of the present study. Participants were recruited among pregnant women (over 22 weeks of gestation) who gave birth at Ali-ibn Abi Talib Hospital and were referred to this hospital for childbirth or those within 42 days after pregnancy termination within June 22, 2017, and December 22, 2017. Those who had an abortion or ectopic pregnancy were excluded from the study since the aim was to study the women's opinions on childbirth care services.

All women were screened for potentially life-threatening conditions (e.g., MNM) through daily visits to obstetric wards and other relevant facilities (e.g., intensive care units, cardiac care unit, internal medicine, and neurologic unit). During daily visits, the women's medical records were screened for the inclusion and MNM criteria. The inclusion criteria were: an episode of MNM event during childbirth or postpartum (i.e., up to 42 days post-delivery), discharge from ICU, ability to speak and understand Persian, and no history of mental illness or psychiatric antecedents. The MNM cases were identified

based on the World Health Organization near-miss criteria (i.e., clinical, laboratory, and management criteria for organ system dysfunction) [9,20]. Additionally, the medical records of all women were assessed to determine the history of C-sections.

Data Collection

A total of 12 in-depth, unstructured interviews were conducted. The eligible women were identified using the purposive sampling technique [21]. All interviews were carried out in the presence of women's mothers or mothers-in-law. It is worthy to note that six women were accompanied by their spouses.

Written informed consent was obtained from all participants before entering the study and after a comprehensive introduction to the study protocol. According to Barbour (2008, p.78), in some research settings, such as those involving participants with low levels of literacy, the request for written consent may pose a threat to participants due to the consequent disturbing thoughts about confidentiality and anonymity. Accordingly, the request for written consent may be impractical in such cases [22]. When the subjects and their companions announced their consent, the researcher contacted the women to arrange the interview at a time and place most convenient to them.

Near hospital discharge, out of 12 subjects, 9 cases were interviewed in a private room and 3 at participants' homes. The subjects were again informed about the rationale behind the study and substantial benefits they could get from their detailed narratives as a golden opportunity for their voices to be heard. As such, the participants clearly expressed their willingness to narrate the event. In addition, they were assured about the anonymity and confidentiality terms regarding their personal information.

Each participant was interviewed for a 90-min session in Persian. The interview started with an open-ended question (i.e., Could you please tell me about your experiences of pregnancy, childbirth, and near-miss event?). In this section, the participants reflected on their experience in the form of a series of events eventually leading to a near-death event. The researcher tried not to interrupt the story; therefore, unstructured interviews (e.g., could you explain; Tell me more

about it) were used when the subjects were done with their stories to encourage the participants to talk more. An initial analysis sampling of 10 interviews was conducted, and there had been no new data for the last two interviews. The authors also were convinced that they can meet the objectives of the study. Consequently, the following two interviews were conducted without new ideas emerging. All interviews were digitally recorded and transcribed verbatim by the first researcher.

Ethical Considerations

The current study was performed upon obtaining the approval of the Ethics Committee of Zahedan University of Medical Sciences, Zahedan, Iran (July 9, 2017; IR.AUMS.REC: 1396.83) with the full permission of the director of Ali-ibn-Abi Talib Hospital.

Data Analysis

All verbatim-transcribed narratives were read several times by the first researcher and then analyzed. The data were analyzed using a six-phase guide to thematic narrative analysis with a focus on 'what' was said about the causes of a near-miss event rather than 'how' it was said. The thematic analysis allowed for the summarization of data into codes, subthemes, and themes. This method can be seen as a form of interpretative analysis with a focus on the details and nuances of the narratives of particular situations [23,24].

The obtained themes were reviewed by the main researcher, who was a midwife with a long experience of childbirth care. In addition, some of the couples were asked to review the emerged themes and transcripts to judge the accuracy and credibility of the interpretations [25]. The second researcher (i.e., a midwife in a key position for working with MNM cases), along with an anthropologist (i.e., an expert in the field of qualitative research), compared the results, re-categorized the themes, and provided an in-depth explanation of the phenomena.

Results

The mean age of women was 30.27 (± 5.36) years, and the majority of them (83.4%) had less than a high school diploma and were not graduated from high school. Table 1 tabulates the characteristics of 12 participants of the qualitative phase.

Table 2: The near-miss criteria and characteristic of women who participated in the study (n=12)

Characteristic		No	%
Nationality	Iranian	9	75
	Afghan	2	16.7
	Pakistani	1	8.3
Education	illiterate	2	16.7
	primary school	5	41.7
	secondary school	3	25
	diploma	1	8.3
	College education	1	8.3
Type of delivery	NVD	5	41.7
	C/S	7	58.3
Para	2	4	16.7
	≥3	8	83.3
Main cause of complication	Hypertension	2	16.7
	Hemorrhage	8	66.6
	Infection	2	16.7
Near-miss criteria	Hematologic	7	58.3
	Cardiac	4	33.3
	Respiratory	1	8.3
	Kidney	3	25
	Brain	4	33.3
	Liver	2	16.7
	Uterine	5	41.7
Length of stay in ICU	Mean(±SD)	9.08 (±13.06)	
Age	Mean (±SD)	30.27 (±5.36)	

The analysis of the experience of women and their companions regarding severe maternal morbidity (i.e., MNM) resulted in the initial coding. Consequently, similar codes were grouped into five higher-order categories: ignoring the patient's words, insensitive listener, non-critical thinking listener, providing unnecessary or inappropriate care, and early discharge. Finally, these categories were merged to form the main two themes related to childbirth care services leading to MNM event: (1) "Ineffective communication" (Ignoring the patient's words, Insensitive listener, and non-critical thinking listener), and (2) "Inappropriate care" (implementation of unnecessary or inappropriate care and early discharge).

Therefore, the loss of opportunities in making a timely diagnosis of the problem and non-implementation of a prompt intervention were concluded as factors that drive women towards severe maternal morbidity.

I. Ineffective communication

1.1 Ignoring the patient's words

Not performing a patient's comprehensive evaluation by health staff upon admission would lead to ignoring the main problem and not providing medical services on a priority basis. This negligence was indicated by a women's mother (gravida 1), who was referred to the hospital due to severe headache as follows:

"My daughter had a headache, when I took her to the delivery room for an examination, a patient (pregnant woman) was connected to the device (nonstress test), and another patient was being questioned. I told them that my daughter is not well, and they told her to wait. I went again and said that my daughter is not well, they told her to wait. However, my daughter waited in the waiting room for 45 min before undergoing an examination. When she was told to lie on the bed for an examination, she started having seizures and fell to the ground." (Interview No. 7)

2.1 Insensitive listener

The mother's narratives showed that the insensitivity of care providers (e.g., inattentiveness and negligence) causes the waste

of time and delayed provision of prompt and appropriate interventions, threatening the maternal and fetal life. In this regard, a mother stated that:

“On her first night of surgery, my wife said that she had a sense of choking and burning from the inside. I asked to see her doctor. The in-charged nurse informed the doctor, and she just prescribed medication on the telephone and did not visit her in person” (Interview No. 1)

2.3 Non-critical thinking listener

Healthcare providers should prevent the delayed provision of effective care services by collecting cues, thinking, reasoning, making a clinical judgment, and making timely and effective decisions. In this respect, the spouse of a woman diagnosed with the rupture of the spleen, following a cesarean section, expressed:

“She told us that her abdomen was aching. She could not put the blanket over her abdomen (pointing to the upper quadrant of the abdomen, under the ribs) because she had pain. Her abdomen was swollen.” (Interview No. 1)

However, the maternity ward nurse neglected the possibility of the incidence of any problem (e.g., damage to the internal organs and internal bleeding) associated with the C-section. They assumed that the patient's complaints were due to the painfulness of the surgical site; therefore, they assured the patients that there is nothing to worry about.

II. Inappropriate care

2.1. Unjustified diagnostic procedures

The order of unjustifiable diagnostic procedures that do not provide any meaningful benefit to the special patient can endanger her health due to the waste of time to provide priority essential care in a timely manner. A woman explained as follows:

“I was at the end of my 36 weeks of gestation. I repeatedly told the hospital staff that I had severe pain and bleeding. However, they continued their procedure (requesting sonography) regardless of my explanations. I waited in the waiting room for 45 min before undergoing an ultrasound. When returned to the maternity unit, I had a normal vaginal delivery. After the baby was born, my baby did not cry. I asked, ‘Why isn’t he crying?’ They said that he was dead. They should have performed emergency C-section when they saw my labor pain.” (Interview No. 3)

In this case, vaginal delivery after C-section in a non-selected woman led to perinatal adverse outcomes (uterine rupture and fresh stillbirth).

2.2. Harmful practices that are not evidence-based

The use of interventions, such as uterine fundal pressure, that are not supported by any reliable document and even are considered as a threat to maternal and fetal health, which can worsen the patient condition, was also emphasized by participants. A gravida 3 woman described her delivery as follows:

“I waited a long time in the examination room, and suddenly I felt that my baby was being born. I started to scream; I had a C-section (with my previous child); help me.’ Then, some hospital personnel came in and asked me to push so that my baby could be born. I said I cannot push because my other child was 18 months old, and I had recently undergone a C-section. Someone came and put pressure on my abdomen (fundal pressure) and performed episiotomy on me so that my baby could be born.” (Interview No. 6)

Early discharge

The patients' narratives demonstrated that the lack of standards for patient discharge may lead to the early discharge of mothers, resulting in acute problems. In this respect, one of the spouses described the hospital discharge process of his wife as follows:

“My wife's condition was deteriorating since the first night of her surgery. After three days, they discharged my wife despite the deterioration of her condition. Her physician said that she was in good condition and that there was no problem.” (Interview No. 4)

After her re-admission, she was transferred to a tertiary hospital in the capital of the province and diagnosed with a splenic rupture. She underwent four surgeries, including splenectomy.

Discussion

Analyzing data collected through interviews concerning the main causes of maternal near-miss (MNM) event, revealed two major factors contributing to the incidence of MNM in women with a previous C-section, namely ‘ineffective communication’, which hinder the timely diagnosis of an adverse event, and ‘inappropriate care’.

In line with previous research findings, the obtained data indicated that poor communication can be a leading cause of preventable death in hospitals. The women's narratives signified that lack of effective communication between care providers and patients leads to misdiagnosis, and misunderstanding of patients' needs. Moreover, the consequent complications are usually ignored until it is too late to be treated [26].

Regarding the provision of childbirth care service, the literature review suggested that poor communication may result in failure of health care providers to specify women exact reason for referral to hospital, waste of their time in hospital, and VBAC, which results in the development of serious ethical implications and endangers maternal and fetal health [5]. The literature review also denoted those women with previous C-sections who entered labor spontaneously in low human development index (HDI) settings are at a higher risk of uterine rupture compared to those in high HDI settings [19,27]. In regions with low HDI, uterine rupture is reported to be associated with grand multiparity, lack of antenatal care, poor access to emergency obstetric care, and poor health of women with prior C-section [27]. In such a context, effective interpersonal communication, with all its elements, can help the active process of transmission and reception of information resulting in the better performance of the medical team [28]. Previous studies showed that healthcare providers must focus their close attention on the context-specific facts endangering VBAC (e.g., lack of information regarding previous uterine incision or inadequacies within the health care facility) and inform the patient about the situation to enable them to make an informed decision [5,29].

Consistent with the results of previous studies, the findings signified that adverse birth outcomes (e.g., uterine rupture) are indicative of poor management of labor [30]. Furthermore, the World Health Organization does not recommend fundal pressure to facilitate childbirth during labor [31]. On a similar note, existing evidence revealed that obstetric interventions and manipulation (e.g., fundal pressure) can be traumatic and result in uterine rupture [30]; hence, their prevention is necessary. Moreover, the data pointed out that the discharge process should be improved in situations that women with previous C-sections

experience higher adverse obstetric outcomes in the next pregnancy [32]. This process includes not only pre-discharge interventions (to avoid premature discharge of women with complications) but also post-discharge interventions (e.g., follow-up phone calls) to diagnose women with complications as soon as possible after discharge and support women's recovery [33].

Although the present study provides in-depth information on childbirth care services that are associated with adverse birth outcomes among women with a previous C-section, the obtained results are limited. Our sample size was small and the data were collected from women referred to a tertiary hospital in a disadvantaged province of Iran; therefore, the generalizability of the study's findings is limited.

Conclusion

In the context of the present study, which is characterized by a high total fertility rate, adverse birth outcomes cannot be addressed without special attention to the quality of healthcare services. Therefore, an audit system is necessary to provide objective information on the domains related to care provision (use of evidence-based clinical practice guidelines) and timely feedback to health care providers to improve the quality of care. In this regard, healthcare providers should utilize cognitive, integrative, affective/moral, communicative skills in childbirth care provision. Moreover, they should be attentive and willing to acknowledge and correct their mistakes so as to improve the quality of childbirth care.

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Conflict of interest

The authors declare no conflict of interest.

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References

1. Souza JP, Tuncalp O, Vogel J, Bohren M, Widmer M, Oladapo OT, et al. Obstetric transition: the pathway towards ending preventable maternal deaths. *BJOG*. 2014; 121(Sup1): 1-4.
2. Rashidian A, Moradi G, Takian A, Alipouri Sakha M, Salavati S, Faraji O, et al. Effects of the health transformation plan on caesarean section rate in Islamic Republic of Iran: an interrupted time series. *East Mediterr Health J*. 2019; 25 (4): 254-61.
3. World Health Organization. Caesarean section should only be performed when medically necessary 2015. [Cited 2012]; Available from: URL: <http://www.who.int/mediacentre/news/releases/2015/caesarean-sections/en/>.
4. Li Y-X, Bai Z, Long D-J, Wang HB, Wu YF, Reilly KH, et al. Predicting the success of vaginal birth after caesarean delivery: a retrospective cohort study in China. *BMJ Open*. 2019; 9(5): e027807.
5. Wanyonyi S, Muriithi F. Vaginal birth after caesarean section in low resource settings: the clinical and ethical dilemma. *J Obstet Gynaecol Can*. 2015; 37(10): 922-6.
6. Lyster AD, Little MO. Toward an ethically responsible approach to vaginal birth after caesarean. *Semin Perinatol*. 2010;34(5):337-44.
7. Tuncalp O, Souza JP. Maternal near-miss audits to improve quality of care. *BJOG*. 2014; 121(s4): 102-4.
8. Kalhan M, Singh S, Punia A, Prakash J. Maternal near-miss audit: lessons to be learnt. *Int J Appl Basic Med Res*. 2017; 7(2): 85-7.
9. World Health Organization. Evaluating the quality of care for severe pregnancy complications. The WHO near-miss approach for maternal health 2011. [Cited 2012]; Available from: URL: <http://apps.who.int/iris/handle/10665/44692>
10. Thomas J. Medical records and issues in negligence. *Indian J Urol*. 2009; 25(3): 384-88.
11. Goodwin N. More than just a narrative: measuring peoples experiences of care coordination to improve quality and outcome. *Int J Integr Care*. 2017; 17(1): 8.
12. Tuncalp O, Hindin M, Adu-Bonsaffoh K, Adanu R. Listening to womens voices: the quality of care of women experiencing severe maternal morbidity, in Accra, Ghana. *Plos ONE*. 2012; 7(8): e44536.
13. Saleh Gargari S, Essen B, Fallahian M, Mulic-Lutvica A, Mohammadi S. Auditing the appropriateness of cesarean delivery using the Robson classification among women experiencing a maternal near miss. *Int J Gynaecol Obstet*. 2019; 144(1): 49-55.
14. Mohammadi S, Essen B, Fallahian M, Taheripana R, Saleh Gargari S, Kallestall C. Maternal near-miss at university hospital with cesarean overuse: an incident case-control study. *Acta Obstet Gynecol Scand*. 2016; 95: 777-86.
15. Moudi Z, Arabnezhad L, Ansari H, Tabatabaei SM. Severe maternal morbidity among women with a history of cesarean section at a tertiary referral teaching hospital in the southeast of Iran. *Public Health*. 2019; 175: 101-7.
16. Rejnö A, Danielson E, Berg L. Next of kins experiences of sudden and unexpected death from stroke-a study of narratives. *BMC Nursing*. 2013; 12:13.
17. Crewwell JW. Five qualitative approaches to inquiry. In: *Qualitative inquiry and research design: choosing among five approaches*. 3rd ed. Thousand Oaks, Calif: SAGE Publications; 2013. 69-110.
18. Overcash JA. Narrative research: a review of methodology and relevance to clinical practice. *Crit Rev Oncol Hematol*. 2003; 48 (2):179-84.
19. Tajik P, Nedjat S, Afshar NE, Changizi N, Yazdizadeh B, Azemikhan A, et al. Inequality in maternal mortality in Iran: an ecologic study. *Int J Prev Med*. 2012; 3(2): 116-21.
20. Say L, Souza PJ, Pattinson RC. Maternal near-miss-towards a standard tool for monitoring quality of maternal health care. *Best Pract Res Clin Obstet Gynaecol*. 2009; 23: 287-96.
21. Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K. Purposful sampling for qualitative data collection and analysis in mixed method implementation research. *Adm Policy Ment Health*. 2015; 42(5): 533-44.
22. Barbour R. *Introducing qualitative research: A student guide to the craft of doing qualitative research*. London: Sage Publication Ltd; 2008. 319.
23. Riessman CK. *Narrative methods for the human sciences*. 1st ed. Thousand Oaks, California: SAGE Pub; 2008.

24. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006; 3(2): 77-101.
25. Moen T. Reflections on the narrative research approach. *Int J Qual Methods.* 2006; 5(4): 56-69.
26. Taran S. An examination of the factors contributing to poor communication outside the physician-patient sphere. *McGill J Med.* 2010; 13(1): 86-91.
27. Motomura K, Ganchimeg T, Nagata C, Ota E, Vogel JP, Betran AP, et al. Incidence and outcomes of uterine rupture among women with prior caesarean section: WHO multicountry survey on maternal and newborn health. *Sci Rep.* 2017; 7: 44093.
28. Chichirez CM, Purcarea VL. Interpersonal communication in healthcare. *J Med Life.* 2018; 11(2): 119-22.
29. Dexter SC, Windsor S, Watkinson SJ. Meeting the challenge of maternal choice in mode of delivery with vaginal birth after caesarean section: a medical, legal and ethical commentary. *BJOG.* 2014; 121(2): 133-39.
30. Berhe Y, Wall L. Uterine rupture in resource-poor countries. *Obstet Gynecol Surv.* 2014; 69(11): 695-707.
31. World Health Organization (WHO). recommendation on fundal pressure to facilitate childbirth 2018. [Cited 2021]; Available from: URL: <https://extranet.who.int/.../who-recommendation-fundal-pressure-facilitate-childbirth>.
32. Ventura Laveriano WR, Redondo CE. Obstetric outcomes in the second birth of women with a previous caesarean delivery: a retrospective cohort study from Peru. *Rev Bras Ginecol Obstet.* 2013; 35(4): 148-52.
33. Alper E, OMalley TA, Greenwald J. Hospital discharge and readmission. [Cited 2021]; Available from: URL: <https://www.uptodate.com/contents/hospital-discharge-and-readmission>.