ORIGINAL RESEARCH ARTICLE

Design and Psychometric Assessment Tool of Perceived Barriers to Advocacy for Normal Birth Among Obstetricians and Midwives: an Exploratory Sequential Mixed-method Study

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Abstract

Background Promoting normal birth is a key priority in maternal health. Midwives and obstetricians, as primary healthcare providers, play a crucial role in advocating for normal birth. This study aimed to develop and validate a psychometric tool to assess perceived barriers to advocating for normal birth among midwives and obstetricians.

Methods This study employed an exploratory sequential mixed-method design in the form of a tool design. In the first phase, an exploratory qualitative approach based on grounded theory was applied. Twenty-two in-depth and semi-structured interviews were conducted in 16 public and private hospitals in Tehran, using purposive sampling, and analyzed using MAXQDA 10 software. After evaluating content validity, 80 items were included in factor analysis. In the quantitative phase of Psychometric testing, the questionnaire was distributed to 350 participants using a cluster sampling method. Exploratory factor analysis with varimax rotation was conducted to evaluate and identify 17 underlying factors. Reliability of the instrument was evaluated using Cronbach's α coefficients and a test-retest procedure.

Results After qualitative data analysis, an initial set of 106 main items was developed and subjected to content validity evaluation by a panel of experts. The impact score, CVI, and CVR were 0.92 and 0.94, respectively. The items were then reduced to 80, which were included in an exploratory factor analysis based on a sample of 324 participants, resulting in 17 factors. Finally, 78 items across eight domains were confirmed (KMO = 0.881). The Cronbach's α coefficient for the entire questionnaire was 0.97, indicating excellent internal consistency. The questionnaire underwent rigorous validation.

Conclusion This tool effectively measures the views of midwives and obstetricians on barriers to advocating for normal birth, guiding targeted interventions, and engaging key stakeholders in improvements.

Keywords Advocacy, Barriers, Midwives, Obstetricians, Psychometric analysis, Vaginal birth

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1 Introduction

Global health authorities widely recognize normal birth as the preferred method of delivery for low-risk pregnancies. It offers numerous physical and psychological benefits, including reduced risk of surgical complications, quicker postpartum recovery, and enhanced mother-infant bonding.[1] Normal birth has profound psychological, social, and emotional impacts on mothers. Care providers such as obstetricians and midwives can act as a safe base for women during the intense and challenging experience of childbirth. Advocacy initiated by care providers can stimulate oxytocin release, thereby reducing fear, stress, and pain. Open communication by care providers is vital for women's sense of control during childbirth.[2] Scientific evidence confirms that normal birth is optimal for maternal and fetal health under uncomplicated circumstances.[3] Despite these benefits, the global rate of cesarean sections (C-sections) continues to rise, often exceeding the World Health Organization's recommended threshold of 10–15%. On average, C-section rates globally have reached 25–30%, with some countries such as Brazil and Iran surpassing 40%.[4] In Iran, for example, cesarean rates have increased from approximately 35% in 2000 to over 50% in recent years, particularly in private hospitals.[5]

However, rising C-section rates globally, particularly in countries like Iran, the U.S, and Australia, have raised public health concerns.[6-7] While C-sections are medically justified in only 6–16% of cases,[8] approximately 42% in Middle Eastern and Asian countries are performed without medical necessity, often driven by maternal request or financial incentives in private hospitals.[9] The World Health Organization (WHO) warns that C-section rates exceeding 10–15% correlate with increased health risks, including maternal mortality (2–7 times higher than normal birth) and disability rates (5–10 times higher).[8] This overuse of cesarean delivery presents serious challenges, including increased healthcare costs, long-term maternal health risks, and reduced opportunities for normal birth experiences. Recent studies emphasize that empowering women through education and providing midwife-led care significantly improves their confidence and satisfaction with vaginal delivery.[10]

High C-section rates also reflect systemic inefficiencies in healthcare systems.[11] Advocacy, a core component of health promotion, involves influencing policies, regulations, and institutional practices.[12-13] Health promoters can also facilitate the capacity of communities they work with to advocate for themselves and join advocacy efforts of other community and civil society groups.[14] In Iran, the Health Transformation Program aims to reduce C-sections through initiatives such as normal birth promotion committees, improved maternity facilities, free government-center deliveries, and monitoring of cesarean statistics.[15] Midwives and obstetricians play a pivotal role in this effort, as women often rely on their advice when choosing delivery methods.[16]

One of the most effective strategies to address this issue is advocacy for natural childbirth by healthcare professionals, especially midwives and obstetricians. Advocacy includes promoting evidence-based practices, improving communication with mothers, addressing cultural misconceptions, and influencing health policy.[17-18] However, barriers to advocacy include negative attitudes toward normal birth, resistance to guidelines, and inadequate diagnostic tools.[19]

However, various barriers such as lack of professional autonomy, fear of legal liability, institutional restrictions, and insufficient support may hinder midwives' ability to advocate for normal birth.[20] Globally, successful examples of advocacy in maternity care are emerging. In Kenya, partnerships between midwives and traditional birth attendants led to a 90% increase in facility-based births and a significant reduction in maternal deaths.[21] In the U.S., attention has been drawn to the impact of midwifery in reducing maternal mortality among marginalized groups, showing how advocacy and respectful maternity care can be lifesaving.[22] Given the importance of addressing institutional and personal barriers, there is a growing need for reliable tools that can assess the perceived barriers from the perspective of those involved in this field, such as obstetricians and midwives who are consulted by pregnant women and have a close understanding of the barriers to normal birth. Therefore, the current study aims to develop and psychometrically evaluate an instrument that measures perceived barriers to advocacy for normal birth among midwives and obstetricians.

2 Methods

This study was an exploratory sequential mixed-methods research conducted from 2018 to 2020 in 16 private and public hospitals in Tehran, the capital of Iran. The study comprised three phases. The first phase was a qualitative study. Data saturation was achieved with 22 in-depth and semi-structured interviews (18 midwives and obstetricians, two mothers with normal birth, and two mothers who had recently undergone cesarean section) across 16 hospitals, using purposive sampling with maximum diversity criteria including age, gender, education level, responsibility, occupation, and workplace. The inclusion criteria were consent to participate in the research, being active in pregnancy and childbirth care in Tehran's medical centers, and having prior experience in advocacy for normal childbirth. The exclusion criterion was unwillingness to continue

participation. With participants' permission, interviews were audio-recorded and transcribed promptly. For accuracy, transcripts were verified by three participants who either reviewed them in person or confirmed via email or Telegram. Interviews began with general questions regarding barriers to advocacy for normal birth and were followed by more in-depth questions as appropriate.[23]

To ensure validity and rigor, external checks, peer debriefing, and member checking were applied. Three participants were asked to review transcripts and study findings to confirm alignment with their experiences and provide feedback. Credibility, transferability, dependability, and confirmability were maintained throughout the qualitative phase.[24-25] Each in-depth interview lasted 45–120 minutes and started with open-ended questions such as: "What is your opinion about advocacy and support activities toward normal birth? What barriers did you face during your advocacy process?" A total of 974 initial codes were extracted from participants' experiences. Central and main codes were then developed using a grounded theory approach. All transcripts were analyzed using MAXQDA 10 software.

In the second stage, the research team refined the extracted statements to ensure conceptual clarity. A total of 106 items were generated for psychometric evaluation. Face validity was assessed quantitatively using impact scores among 10 midwives/obstetricians, and items scoring below 1.5 were removed.[26] Content and face validity were further examined qualitatively by five obstetricians and five midwives, whose feedback on grammar, word choice, relevance, and completion time was incorporated, reducing the questionnaire to 86 items. To assess the Content Validity Ratio (CVR), 15 experts (five experienced obstetricians, five midwives, and five professors in health education and promotion) evaluated the items. According to Lawshe's table, items with CVR values above 0.49 were retained.[27] Content Validity Index (CVI) was also calculated following Waltz and Basel's method, with items scoring above 0.79 considered acceptable.[28] Ultimately, 80 items were approved for construct validity and reliability testing.

The second aim of the study was to establish construct validity through exploratory factor analysis. While some references suggest a sample size of 300 is adequate,[26] this study, following expert opinion and comparable research, recruited approximately four participants per item. Accordingly, 320 samples were required for 80 items, and 350 questionnaires were distributed to account for attrition. Sampling was conducted using two-stage cluster random sampling across public and private hospitals with maternity units in Tehran. A total of 324 completed questionnaires were returned. Exploratory factor analysis was performed using Kaiser-Meyer-Olkin (KMO), Bartlett's test of sphericity, principal component analysis, scree plot, and Varimax rotation to identify clusters of related variables.[29] The number of factors was determined based on eigenvalues and scree plot inspection, with a minimum loading of 0.4 required for item retention.[30] Extracted factors were then named according to their underlying constructs and relevance to barriers in advocating for normal birth.

Finally, instrument reliability was assessed using Cronbach's α coefficients and test-retest methods. A Cronbach's α above 0.80 was considered acceptable.[31] The overall reliability of the questionnaire was excellent (α = 0.97). Test-retest reliability was examined with a two-week interval among 30 midwives and obstetricians. Quantitative data were analyzed using SPSS version 16.0, with significance set at $p < 0.05$.

3 Results

At the end of the first stage (qualitative), grounded theory was conducted, and a total of 974 initial codes were obtained. A total of 163 concepts were identified, organized into five themes, 16 categories, and 45 subcategories (the stages of forming results are shown in Table 1).

A total of 106 items were extracted and entered into the validation stage. These 106 items were then reduced to 86 items after determining the impact score and qualitative validity (content and face). The results of CVI showed that two questions had a score less than 0.79. In the case of the CVR score, four questions scored less than 0.49, meaning they did not receive an acceptable score; therefore, all the mentioned questions were removed from the questionnaire, and the 80-item tool remained, entering the stage of construct validity (Table 2). These 80 items were reduced to 78 after constructing validity and reliability. The construct validity was measured by exploratory factor analysis of 324 samples and 80 items. Initially, the adequacy of the sampling was evaluated

Table 1 The stages of forming results in a qualitative study

Quota	Initial code	Integrated code	concept
If these things happen to the midwife, they should be supported. If something happens to the poor midwife, don't blame her for doing what you did to the patient. The law should protect her.	Don't criticize this midwife. Why did you even touch the patient? May the law protect her.	Not supporting forensic medicine	Lack of legal protection for midwives

using the KMO test, which yielded a value of 0.881, indicating that the sample size is sufficient to determine the correlation matrix. Bartlett's Sphericity test was used to determine whether there is a correlation between tool items that can be integrated into any structure.[31] In the results of this test, the proportionality of the correlation matrix between the data was obtained as 1600.877, with a significance level of $p < 0.001$, indicating that the implementation of factor analysis was justified.[32]

The average age of midwives and obstetricians in the quantitative part of the study was 36 ± 9.6 years, and work experience was 9.6 8 ± 8.3 years (Table 3).

Exploratory factor analysis identified 17 factors with eigenvalues greater than one, accounting for a total of 72.32% of the variance. Finally, eight factors were extracted from 78 items. The eigenvalues of the first and eighth factors were 8.586 and 3.380, respectively. The first factor explains 10.7% of the variance of the variables, and the sum of all eight factors explains 61.54% of the variance of the variables (Table 4).

Table 2 Content validity of the questionnaire by content validity ratio and content validity index after item revisions, factor analysis labeling, and loading factor

Items	CVI	CVR	Factor	Factor loading
1-Lack of sufficient belief and motivation in the mother for a normal birth	0.93	0.87	3	0.514
2-Lack of support and approval of the mother by those around her for a normal birth	0.96	0.87	3	0.577
3- Transmitting negative information and experiences from family to mother about a normal birth	0.80	0.60	3	0.676
4-Insistence and induction of the mother to the obstetricians and midwives for a cesarean birth	0.92	0.87	3	0.677
5- The mother's intense fear of the pain and complications of a normal birth	1	1	3	0.594
6-Lack of responsibility and active role of the mother during normal birth	1	1	3	0.597
7-Misconception of the pregnant mother as a patient and belief in drug interventions	0.91	0.73	3	0.474
8-People's belief in pregnancy and childbirth in women as a suffering phenomenon	0.93	0.72	3	0.599
9-Belief in the adverse effects on sexual relations after a normal birth	1	1	3	0.605
10- People's unwillingness to spend time or money on education	0.91	0.69	delete	0.393
11-Unpleasant form and position of normal birth for mothers	0.93	0.87	3	0.550
12- The normalization of cesarean section in society as a method of birth	0.96	0.87	3	0.640
13-People perceive any complication in the baby to be related to a normal birth	0.93	0.87	3	0.450
14-People's perception of cesarean section as a luxury	0.82	0.60	3	0.484
15-Tendency to have one child in society	0.93	0.87	delete	0.354
16-Inadequate reception of maternity classes by mothers	1	1	2	0.678
17-Inadequate participation of spouses in childbirth preparation classes	1	1	2	0.695
18-Unpleasant contents of childbirth teaching to the men by a female instructor	0.79	0.73	2	0.826
19-Cultural inconsistency of educational materials for spouses in childbirth preparation classes	0.79	0.73	2	0.758
20-Lack of integration of childbirth preparation classes in private and public health centers	0.79	0.73	2	0.675
21- Using non-motivated childbirth preparation instructors in classes	0.93	1	2	0.611
22-Being uncommon to hold childbirth preparation classes in the office of obstetricians	0.98	1	1	0.570
23-Inadequate education in the field of maternal human dignity of patients in obstetricians and midwifery education courses	0.79	0.87	1	0.418
24-Lack of attention to professional ethics in the medical and midwifery education system	0.89	0.87	1	0.487
25-Gaps between obstetricians and midwifery instructors' clinical education	0.89	0.87	1	0.561
26-Lack of proper strategy in selecting midwifery and obstetricians' students	0.79	0.78	1	0.548
27-Lack of training program in advocacy skills for obstetricians and midwives	0.91	0.87	1	0.568
28-Not paying attention to patient relationship education and community-based midwifery	0.93	0.87	1	0.611
29-Lack of attention to the quality of clinical skills training and management of high-risk conditions in childbirth	0.93	0.87	1	0.611
30-Lack of attention to training skills in supportive care in normal birth	0.91	0.73	4	0.528
31-Insufficient management system for the implementation of natural childbirth instructions in medical centers	0.89	1	4	0.568
32-Lack of attention to the pleasant process of natural childbirth in public hospitals	0.89	0.87	4	0.684
33-Lack of cooperation of hospitals, the presence of a midwife during labor at the mother	0.91	0.87	4	0.656
34-Lack of integration of training and actions of accompanying midwives	0.79	0.73	4	0.675
35-Failure to follow the instructions for paying the accompanying midwife's fee in public hospitals	0.79	0.63	4	0.636

36- Hospital managers do not care about equipping and holding childbirth preparation classes	0.80	0.60	4	0.750
37- Inactivate wards of painless and physiological birth in hospitals	0.87	0.73	4	0.716
38-Poor management of resources and facilities for painless and physiological birth	0.96	0.87	4	0.705
39- Poor transparency of the mother's right to decide and choose the type of birth	0.96	0.87	4	0.458
40- Weak supervision on the payment for selected cesarean sections by the insurance organization	0.80	0.78	4	0.445
41- Lack of a legal protection system commensurate with the responsibility of midwives and obstetricians, in response to complaints of complications of normal birth	1	1	8	0.579
42-Difficulty in pursuing legal grievances and involvement of an obstetrician or midwife in paying the complicated normal birth ransom	1	1	8	0.774
43-Inadequate liability insurance coverage for midwives and obstetricians	1	1	8	0.678
44- Lack of appropriate organizational encouragement and support for obstetricians and midwives who are active in advocacy for normal birth	1	1	8	0.532
45- Lack of proper financial incentives for midwives by the authorities to support and perform normal births	1	1	5	0.534
46-The burnouts of obstetricians, assistants, and midwives in the labor ward of public hospitals	1	1	4	0.432
47- Lack of manpower and facilities to provide one-on-one care in a physiological birth	1	1	4	0.452
48- Complexity and time-consuming system of patient file registration in hospitals	1	1	5	0.486
49- Poor participation of mothers in childbirth advocacy programs	0.91	0.87	5	0.507
50-Weakness in education and involvement of those around the mother to support a normal birth	0.89	0.86	5	0.532
51-Poor attendance of the pregnant spouse during the normal birth beside her due to cultural beliefs	0.81	0.78	5	0.515
52-Weak participation of midwives in upstream programs related to normal birth in medical universities	0.79	0.87	5	0.532
53-Weaknesses in the networking of stakeholders in advocacy for normal birth	0.96	0.87	5	0.672
54- Lack of a proper reproductive health education program for girls in schools	0.80	0.83	5	0.725
55- Lack of a proper, regular birth education program for non-medical students	0.91	0.87	5	0.776
56-Weaknesses involving media producers in programs to encourage people to have normal births	0.96	0.87	5	0.731
57- Poor proper use of mass media for public attention to normal birth	0.91	0.87	5	0.635
58- Difficulty in accessing senior officials for advocacy	0.80	0.60	5	0.636
59- Poor attention of senior officials to the midwives' suggestions related to advocacy	0.96	0.87	5	0.599
60- Inadequate participation of some anesthesiologists in performing spinal anesthesia to have a painless birth	0.91	0.87	7	0.445
61- Poor justice in the payment of salaries between midwives and obstetricians in performing normal births	0.93	1	6	0.740
62- Poor midwifery job security	0.91	0.86	6	0.801
63- Poor central health perspective in midwifery management	0.91	0.87	6	0.618
64- Physician-centered maternal care system	0.87	0.73	6	0.795
65- Limited authority of midwives in performing physiological birth in hospitals	0.96	0.87	6	0.826
66- Undermining the midwife's job identity in performing normal birth in hospitals	0.91	0.87	6	0.835
67- Some obstetricians' insufficient support to midwives in normal birth performance	0.91	0.87	6	0.732
68-Weak communication between obstetricians and midwives in pregnancy care	0.91	0.87	6	0.772
69- Some obstetricians' insufficient support of midwives in holding childbirth preparation classes	0.91	0.87	6	0.776
70- Obstetricians distrust midwives in pregnancy and childbirth care	0.91	0.87	6	0.650
71-Inattention of the obstetricians to the observance of professional ethics	0.96	0.87	7	0.550
72-Inattention of the obstetricians and midwives to respecting the mother's human dignity	1	1	7	0.708
73-Poor responsibility of the obstetricians and midwives in advocacy for normal birth	0.91	0.87	7	0.710
74-Weakness in professional skills in high-risk childbirth management	0.91	0.87	7	0.714
75- Poor communication with the mother by obstetricians and midwives	1	1	7	0.779
76- Weakness in advocacy skills near obstetricians and midwives	0.96	0.87	7	0.786
77- Weakness of providing advocacy documents to the senior official by obstetricians and midwives	1	1	7	0.709
78- Poor motivation in obstetricians and midwives to advocate for normal birth	0.91	0.87	7	0.735
79- Lack of belief and interest in performing normal birth by obstetricians and midwives	0.79	0.73	7	0.710
80- Difficulty of obstetricians with Interference of birth time by their office or free time	0.79	0.73	7	0.573

The turning point of 0.4 was considered as the minimum factor load required to maintain the expression in the 0.87 in all structures tool ($p < 0.001$) (Table 5).

Table 3 Demographic characteristics of the quantitative part of the study

Variable		Frequency	Percent
Education	Medical fellowship	11	(3.4)
	Medical specialist	62	(19.1)
	PhD	9	(2.8)
	M.s	35	(10.8)
	BC	207	(63.9)
Gender	Female	319	(98.5)
	Male	5	(1.5)
Occupation	Obstetrician	73	(22.5)
	Midwife	228	(70.4)
	Tutor	12	(3.7)
Marital status	Married	220	(67.9)
	Single	104	(32.1)
Employment status	Employed	95	(29.3)
	Conditional	229	(70.7)

Table 4 Explained the factor analysis results of the tool

Factor	Eigenvalue	explained variance	Cumulative percentage
First factor (8 items)	8.586	10.732	10.732
Second factor (6 items)	8.470	10.587	21.320
Third factor (13 items)	6.912	8.641	29.960
Fourth factor (13 items)	6.318	7.897	37.858
Fifth factor (13 items)	5.719	7.148	45.006
Sixth factor (10 items)	5.626	7.032	52.038
Seventh factor (11 items)	4.228	5.285	57.323
Eighth factor (4 items)	3.380	4.226	61.549

factors extracted from the factor analysis, then items 10 and 15 were not included in the tool. Because the number of factors was large and could not be interpreted with the research results, the fine scree plot was used to determine the extracted factors and the interpretability of the eigenvalue analysis of 1.5 and higher. Observing the diagram, eight factors were selected by distinguishing the factors that were on the steep slope of the diagram and the upper part of the fracture from the factors that were on the slope with a low eigenvalue (Figure 1). The mentioned Figure confirms that approximately 62% of the total variance of the instrument measurement scale is explained by the first eight factors, and in the eighth factor, the Figure becomes almost flat.

Finally, the reliability of the instrument was evaluated, and the Cronbach's α coefficient for all 30 samples was reported as 0.97. The results of the test-retest at two-week intervals on 30 samples consisting of midwives and obstetricians, the intra-cluster correlation coefficient was

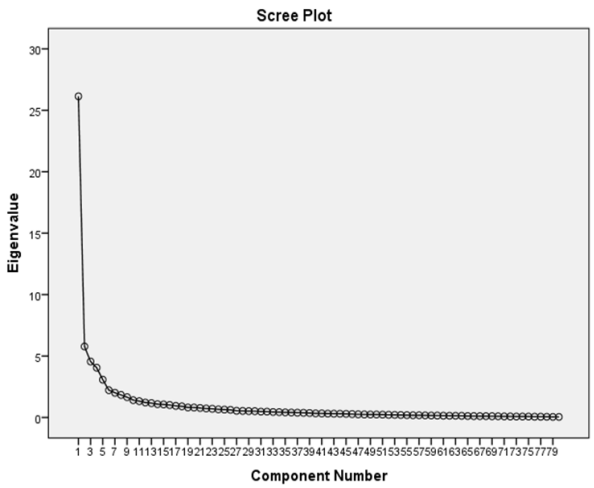

Figure 1 Generalized scree plot

Table 5 The factor load and Cronbach's α coefficient of items

Factor	Cronbach's α	Minimum and maximum operating load	Number of items	Related items
Factor 1: Inadequate training in professional ethics in the field of normal birth advocacy	0.90	0.418-0.611	8	22 - 29
Factor 2: The inadequacy of childbirth preparation classes	0.88	0.611-0.826	6	16-21
Factor 3: Poor individual and social motivation of mothers to accept a normal birth	0.87	0.450-0.677	1-9, 11-14	13
Factor 4: Management inefficiency in the maternal care system	0.91	0.432-.0750	30-40.46, 47	13
Factor 5: Poor stakeholders' engagement in advocacy for normal birth	0.91	0.486-0.776	45, 48-59	13
Factor 6: Inequality in the allocation of the function in midwives and obstetricians	0.94	0.650-0.835	61-70	10
Factor 7: Poor personal characteristics and appropriate advocacy skills in midwives and obstetricians	0.93	0.445-0.786	60, 71-80	11
Factor 8: Inadequacy of the legal protection system commensurate with the responsibility of midwives and obstetricians	0.83	0.532-0.774	41-44	4
Total	0.97	-	78	78

4 Discussion

Advocacy for normal birth is critical for midwives, obstetricians, and maternal health researchers, enabling informed decision-making to shift attitudes toward safer vaginal delivery over cesarean sections. In Iran, regular birth promotion is integral to the national Health Transformation Plan, necessitating robust tools to identify systemic barriers. This study developed and validated an assessment tool of the perceived obstacles to advocacy for normal birth by obstetricians and midwives in Tehran hospitals, addressing gaps in existing literature.

As one of Iran's first mixed-method studies to design a multifaceted tool for normal birth advocacy barriers, this research rigorously evaluated face, content, and construct validity, alongside reliability via Cronbach's α (0.7–0.94) and intraclass correlation (ICC = 0.91). Prior Iranian studies, such as Ebrahimi Pour and Nakhaee's work, focused narrowly on vaginal birth choice barriers without addressing advocacy-specific challenges or comprehensive psychometric validation.[32] Similarly, Ardakani et al.'s project emphasized educational skills for birth method selection but lacked advocacy-focused dimensions.[33]

The study identified a lack of advocacy skills (e.g., insufficient mastery of protection processes) and legal-systemic barriers (e.g., complex complaint procedures, financial liabilities such as Wergild) as critical barriers. Internationally, qualitative studies in Germany highlighted client-related barriers, such as negative attitudes, knowledge gaps.[34] Thoonsen's research categorized barriers into guidance, organizational, and financial domains without quantitative tools.[35] In contrast, this study's tool integrates cultural nuances, such as discomfort with male instructors in childbirth classes conflicting with Iranian-Islamic norms—a factor paralleled in Johnson et al.'s culturally sensitive Patient Support Intervention Scale. The tool's psychometric robustness (Cronbach's α = 0.94) surpasses Jansson et al.'s subscale variability (0.55–0.94).[36] However, its focus on Tehran hospitals may limit generalizability.

In the present study, the most common factor in the lack of individual characteristics and appropriate skills to advocate for normal birth in obstetricians and midwives is related to the lack of mastery and skill. Two similar studies employed qualitative approaches. The findings indicated several client-related barriers to advocacy, including negative attitudes toward advocacy, resistance to following guidance, absence of practical diagnostic tools, insufficient knowledge of advocacy and counseling, as well as organizational barriers and inadequate infrastructure.[19–20]

Another study was conducted in the Netherlands, and through group discussion and telephone interviews with 29 experienced midwives, barriers and facilitators of elective cesarean section were examined. The text of the interviews was analyzed. The results were categorized into six areas of guidance, expert, patient, social, organizational, and financial/legislative, according to the framework developed by Grol.[36] This did not require any specific tools or methods.[34] In the present study, the highest factor in the structure of inadequacy of the legal protection system commensurate with the responsibility of employees is related to the difficulty of pursuing legal complaints and the involvement of specialists or midwives in paying maternity fees, and the lowest factor is related to lack of encouragement and organizational support suitable for obstetricians and midwives active in advocacy for normal birth.

In the study of the validation of the Patient Support

Intervention Scale, Jansson et al. considered seven dimensions for health professionals, including patient support for patient rights, quality care, culturally appropriate care, preventive care, cost-effective care, mental health care, and community-based care.[37] This study aligns with the present research in emphasizing culturally appropriate patient care. It highlighted that a key challenge in childbirth education is the perceived inadequacy of training, particularly the discomfort men feel when a female instructor teaches childbirth classes. Therefore, the use of male trainers for educating husbands should be implemented in a manner consistent with Iranian-Islamic cultural norms.

5 Conclusion

Finally, the results of the study showed that the valid and reliable 78-item tool could help midwives and obstetricians measure the barriers to advocacy for normal birth in the maternity setting, with eight dimensions. We recommend focusing on the most common factor: inadequate professional ethics education in the context of normal birth support, which is associated with insufficient training in patient relationship management and community-based midwifery. The most influential factor appears to be the lack of belief and individual and social motivation among mothers to accept a normal birth. Addressing these factors may contribute to the improvement of normal birth outcomes in the future. Future research should extend to diverse regions and incorporate longitudinal assessments of barriers.

Limitations

Include the lack of willingness and time for interviews by some key informants at the level of the vice-chancellors of the University of Medical Sciences, who were referred to as equal participants as possible. In addition, the fatigue of the participants in the maternity wards and the noise of the environment, which prevented more extended interviews, were some of the reasons for the interruption of the interview, which affected the chain of thoughts and words between the interviewee and the researcher. An attempt was made to continue by asking a new question related to the topic. However, its focus on Tehran hospitals may limit generalizability.

Declarations

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Authors' Contributions
TS, NA, and AR have participated in conceptualization, design, and implementation. TS and MR have participated in writing the first draft of the manuscript and translation. NM has participated in data collection, writing the first draft of the manuscript, and submission of the manuscript. YM and MR contributed to the analysis of the results. All authors have read and approved the final manuscript.

Availability of Data and Materials
The data that support the findings of this study are available on request from the corresponding author.

Conflict of Interest
The authors declared no conflict of interest.

Consent for Publication
All authors have read and approved the final manuscript and have provided their consent for publication.

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Ethical Considerations
The study was approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences, Tehran, Iran, with the Code of Ethics IR.SBMU.RAM.REC.1395.58). All participants provided informed consent.

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