



Original Article

Maternity care priorities for prevention of psychological birth trauma in Iran: A Delphi consensus study

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ABSTRACT

Background & Aim: Promoting maternal mental health is achievable through prevention of psychological birth trauma (PBT). This study aimed to investigate experts' opinion on best strategies in prevention of PBT among childbearing women.

Methods & Materials: This Delphi, systematic interactive research was conducted in Tehran, from July to November 2017. Delphi technique and policy dialogue was used to prioritize pre-defined PBT prevention strategies which had been identified in our previous studies. 13 experts were included in the Delphi. After two rounds, panelists had come to consensus on strategies' priorities; they rated each strategy. Priority of strategies was set based on scores. Strategies with total mean of ≥ 9 and interquartile range (IQR) of ≤ 2 were entered to the next stage. At the last stage of consensus, a 4-hours meeting was held with seven policy makers; four top strategies were selected by consensus of the all members.

Results: From 38 initial strategies, nine with the mean of ≥ 9 were identified as the top ones. At the policy dialogue meeting, four strategies were selected: continuous support during childbirth, practical childbirth preparation classes, group prenatal care, and preparing individual birth plan in antenatal visit.

Conclusion: According to the experts, top four strategies can be combined in an integrated program. All these services will be provided at Primary Health Care facilities. These strategies are suggested in supporting maternity care in Iran and other developing countries to promote maternal mental and physical health.

Introduction

Quality of care improvement efforts are the global need in maternity care that could promote wellbeing of mother, fetus and newborn. Poor quality of care in the health care centers and hospitals is a major obstacle to prevention of maternal mortality (1). Hence, "Strategies toward Ending Preventable Maternal Mortality (EPMM) were conceptualized by World Health Organization (WHO) (2). The neglected part of these strategies is mental illnesses that can be prevented during pregnancy and labor. High-quality maternity care system needs to

be concerned about mental issues from pregnancy to postpartum period (3).

The prevalence of mental health disorders is varied from 4.3% to 26.4% in all around the world (4) and is 25.9% in Iranian women (5). The woman involvement in traumatic childbirth is one of the most common psychological problems (6). This trauma can cause other chronic mental problems, such as depression, Post-Traumatic stress disorder (PTSD) and anxiety.

Promoting maternal mental health and reducing chronic psychological illnesses are achievable through prevention of psychological birth trauma (PBT) (7).

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The prevalence of PBT in Iranian women is higher than global level (54.5% versus 34%). Despite the importance of preventing PBT in maternity care, there are relatively few resources for clinical guidance. International studies regarding PBT mostly focus on its risk factors and some local researches were performed about the experiences of the affected women (6). Experts have acknowledged that it is necessary to conduct the preventive studies in PBT (9). Most published interventions have addressed secondary prevention through postnatal psychological debriefing. A Cochrane systematic review showed that psychological debriefing interventions following childbirth have not been effective in reducing PBT. Routine debriefing following childbirth is not recommended as a strategy to prevent PBT (10). Focusing on primary prevention during pregnancy and childbirth seems as the most appropriate solution. There are organizations which deal with PBT prevention, such as “The Birth Trauma Association (BTA)” in UK (11) and “Prevention and Treatment of Traumatic childbirth (PATTCh)” in USA (12). These associations are active in education of self-care behaviors and helping traumatized mothers. Despite all these efforts there is no documented doctrine that can identify the process of clinical practices to prevent PBT.

There are several strategies which can reduce PBT. These are scattered in different resources such as published articles, dissertations, national guidelines, and clinical guidelines of related organizations. In our previous work, we systematically compiled current strategies and using a qualitative study, the strategies suggested by experts were added to this list (13). Currently, identifying the most effective strategies in PBT prevention is the gap of knowledge. Native experts are the most appropriate persons who can identify/prioritize context-based strategies. Collecting experts’ opinion is an important phase to choose the most potential strategies for implementation in a particular context (14).

Implementation of these strategies in Iran’s Primary health care (PHC) increase their efficiency because PHC network covers a large number of mothers in the urban and rural regions of Iran. The nationwide PHC network in Iran provides health strategies including immunization, prenatal care, family planning, oral rehydration, management of respiratory infections and environmental health (15). There is no special guideline for maternal mental health in Iran’s PHC; a special package has been developed in this regard that has not been implemented (16). Negative quality gap in PHC reflects the unmet needs of clients. Proper planning and policy-making had been advised through finding negative quality gaps in health services. Primary health care (PHC) network of Iran requires quality promotion. Measuring the quality of mental healthcare using clinical instructions will improve national policies and the care quality (17). Regarding the high prevalence of PBT in Iran and a serious need of quality health care (6), prevention of PBT can fulfill one of the gaps in maternity care. To implement this preventive plan in PHC, choosing the most appropriate strategies is an indispensable step (14). In order to improve maternity mental health, the aim of this study is to investigate experts’ opinion on best strategies in prevention of PBT among childbearing women.

Methods

This study was conducted as a part a larger project, “Designing integrated evidence based plan for PBT prevention in the Iran’s health system”. A comprehensive list of prevention strategies was prepared from our previous efforts; evidence based strategies were collected through conducting a systematic review and context based strategies were obtained using a qualitative study. To determine the priority of these strategies, Delphi technique and policy dialogue were used in the present study. Delphi can identify the most appropriate

strategies according to the condition of Iran's health system (18) Policy option and policy dialogue are the decision making methods in this kind of priority-determination studies (14).

Delphi panel

A strategic sample was used to select experts. Inclusion criteria for experts are having at least 10 years of experience in the care or treatment of traumatized mothers, being familiar with the country's health policies and contributing to the promotion of maternity care. 13 experts were included in the Delphi: Obstetrician (three), PhD in Midwifery (three), Psychologist (four), PhD in health policy and management (one) and policy maker (two). Seven of them were academicians from five universities. All were agreed to participate; they were approached via email or in person.

Delphi consensus process

Data were collected in Tehran from July to November 2017. Initially, a list of 38 strategies classified into eight categories was prepared by the research team. The list was sent to all experts via email. Five experts returned their opinions by email while others asked us to hand them out manually. Experts asked to rate the importance (from 1 to 5), applicability (from 1 to 3), and availability (from 1 to 3) of each strategy. Higher scores mean more importance, applicability and availability in the health system. In the first round, experts were given the opportunity to add new strategies that were not provided in our list. When all responses were collected, we calculated the appropriate statistical indicators.

According to the Delphi design guide, mean and interquartile range (IQR) of each item should be calculated. Priority of strategies was set based on their total means; an IQR of ≤ 2 indicated experts' consensus (14).

In the second round, group mean ratings were shared with the panelists; they were provided with their individual scores for

each strategy to compare them with group mean ratings. Experts who had rated different from the average score (in more than one strategy) were asked to review their ratings and revise the marked scores. Full anonymity between experts was maintained. Strategies with total mean of ≥ 9 and IQR of ≤ 2 were entered to the next stage.

At the last stage of consensus, a meeting was held with seven policy makers who were worked in the PHC planning department of the Iran's Health Ministry (December 2017). At this 4-hours meeting, the final list of strategies was presented by the research team. Outputs of Delphi were summarized in a table; this table included priority, scores and the level of each strategy. In the policy dialogue meeting, mentioned table was given to the panelists. Each expert expressed his/her opinion regarding the implementation possibility of each strategy in the health system. Under the supervision of the research team, the experts discussed disagreements. Then, members were asked to write their first four priorities in a confidential paper. At the same meeting, final views were expressed. Four strategies were selected for the implementation by consensus of the all members. After these three rounds, agreement was reached on the priority of PBT prevention strategies in Iran's health system.

This study was approved by the Tehran University of Medical Sciences Ethics Committee with approval number of IR.TUMS.VCR.REC.1395.374.

Results

All of 13 experts responded to round one and nine experts who had rated differently from the average were contacted for the second round. At the first round, 38 strategies were categorized in eight domains including supportive strategies, strategies to reduce medical interventions, strategies for strengthening the relationship between prenatal and labour, childbirth preparation strategies, pain relief strategies, strategies for improving the quality of mental health care, management strategies, and environmental

modification strategies. No new strategy was suggested by the panelists. In the first round, only 19 strategies had an acceptable IQR (≥ 2). In the second round, other 10 strategies

rated with IQR ≥ 2 which means panelists reached consensus on 29 strategies after two rounds. The top nine strategies with total mean of >9 were selected (table 1).

Table 1. Selected priorities based on Delphi

Priority	Strategy	Evidence level	Importance (1 to 5 scores)	Applicability (1 to 3 scores)	Availability (1 to 3 scores)
1	Increasing the coverage of childbirth preparation classes as a part of prenatal care	1b	4.7	2.7	2.6
1	In-service training program for maternity staff in order to improve supportive care	4	4.6	3.0	2.5
3	Continuous support during childbirth preferably from close relative	1a	4.7	2.7	2.3
4	Continuity of care model from prenatal to postpartum	1b	4.6	2.6	2.3
5	Preparing an individual Birth Plan in the last prenatal visit	1b	4.6	2.8	1.8
6	Using group prenatal care model to receive peers support	4	4.0	2.7	2.3
7	One to one care model during active phase of the labour	1a	4.7	2.2	2.0
7	Massage during labour as a relaxation method	1b	3.8	2.6	2.4
7	Reconstruction of monitoring and evaluation system in maternity care	4	4.6	2.3	2.0

The experts' consensus showed that seven strategies cannot be implemented in the Iran's health system to prevent PBT. These seven strategies are conducting debriefing services to post-partum women (IQR=5.00), giving full authority in providing care of the low-risk mothers (IQR=3.75), separating prenatal care from gynecology unit in PHC (IQR=6.25), strengthening the midwifery care centers in the private sector (IQR=7.00), taking a tour of the labour ward as a part of antenatal classes (IQR=3.75), receiving the final prenatal visits in the clinic of birth hospital (IQR=4.00), and the privatization of delivery rooms in all public and private hospitals (IQR=4.00). According to the consensus, the first five score low on importance and the latter two score low on applicability in the health system of Iran.

29 strategies were prioritized by the consensus (with IQRs of ≤ 2). 20 of them were not considered as the priorities due to the mean of ≤ 9 . The top nine strategies were identified; four of them belonged to the supportive strategies domain, one to the strategies for strengthening the relationship between prenatal and labor, two to the

childbirth preparation strategies domain, one to the pain relief strategies, and one to the management strategies. At the policy dialogue meeting, experts stated that implementing more than one strategy can guarantee the success of PBT prevention program. Their chosen strategies are shown in table 2. At the end of the meeting, unanimously four strategies were selected:

- Continuous support during childbirth preferably from close relative
- Increasing the coverage of childbirth preparation classes as a part of prenatal care to support women in gaining skills, knowledge, and confidence
- Using group prenatal care model to receive peers support
- Creating an individual Birth Plan in the last prenatal visit

According to the experts, these four strategies can be combined in an integrated program. In this program, every woman receives her individual prenatal care but it is imperative to attend in updated childbirth preparation classes. In these classes, a group

care model will be used and using interactive training, the skills needed for birth will be achieved.

Birth companions will attend some sessions with their pregnant woman and

support skills will be taught to them. At the last prenatal visit, the detailed birth plan will be provided to each mother by her care provider. All these services will be provided at PHC facilities.

Table 2. Experts' opinions on priorities of PBT prevention strategies in Iran's health system (based on the final policy dialogue)

Experts	First priority	Second priority	Third priority
No. 1	Practical childbirth preparation classes	Continuous support during labor	Birth plan
No. 2	Continuous support during labor	Practical childbirth preparation classes	Group prenatal care
No. 3	Continuous support during labor	Group prenatal care	Birth plan
No. 4	Continuous support during labor	Group prenatal care	Practical childbirth preparation classes
No.5	Practical childbirth preparation classes	In-service training for personnel	Birth plan
No.6	Birth plan	Continuous support during labor	Group prenatal care
No.7	Continuous support during labor	Practical childbirth preparation classes	In-service training for personnel

Discussion

The best strategies in prevention of PBT among childbearing women were identified according to the experts' opinion. This study demonstrated that the current health system of Iran will accept four strategies simultaneously to improve maternity mental health. These four top strategies included continuous support during birth, practical childbirth preparation classes, group prenatal care, and birth plan. The first strategy will be performed in maternity hospitals, but the primary health care units are responsible for training birth companions to provide labour support. The last three will be provided in the PHC units.

A Portuguese study aimed to search priorities of mental health promotion during the perinatal period. They identified these strategies through a workshop: integrating family support into the antenatal care, training of PHC workers in perinatal mental health and increasing collaboration between PHC and maternity hospitals and mental health care communities (19). Although this study is different from our research in the main aim, method of the research and the context of health system, similarities are seen in their results. Supporting mother and her close relatives is the common point of identified priorities. Also, in-service training for PHC workers and strengthening

communication between PHC and maternity hospitals were two of our study strategies which were considered in the Delphi rounds but were not selected as the top priorities in our country to prevent PBT. It is clear that training of PHC workers in maternal mental health will contribute to the success of program in developing countries (20). Training personnel will be a prerequisite for the implementation of PBT prevention program.

Efforts have been made for improving maternal mental health in the other developing countries; they integrated mental health care into the PHC programs. The main aim of these programs was to diagnose perinatal depression. They did not address the psychological trauma of childbirth (21). While in our study, most strategies try to improve the quality of care to prevent PBT. Our study aims to identify a program that will implement feasible and effective strategies into the PHC to improve maternal mental health. In fact, these top strategies will reduce psychological trauma through improving the quality of maternity services.

Childbirth preparation classes have been held for about three years in some PHC units; hospitals and the private sector are also active in this field (22). Iranian researches showed that these classes are

effective in reduction of maternal anxiety, fear of childbirth, elective cesarean section and length of hospital stay; these courses have increased maternal satisfaction (23-25). Despite the numerous benefits of these classes, many Iranian women are deprived of attending an antenatal course. Classes are not available in many areas and cities and most PHC units do not cover these courses. The quality of education and educators is not the same across classes throughout the country (13, 23). The present study illustrates the importance of group antenatal classes to reduce PBT. This study's recommendation is to increase the coverage of high quality childbirth preparation classes in Iran. All PHC units should be equipped with facilities of the classes, new educational resources should be used to enhance practical childbirth skills, and integrated training should be provided to teach instructors. Encouraging mothers and informing them to attend classes is one of the main actions.

Based on the top strategies of this study, two important factors should be taken into consideration in antenatal classes: group care and birth companion training. Group care is consisted of assessments, skill building education and support through facilitated group discussion (26). The instructor must handle the class in a way that each mother can get her peers support. Mothers can make supportive friendship during these courses and most of them will continue to meet each other long after birth (27). Birth companion can provide emotional and physical support, information and empowerment to the birthing woman. Pregnant woman has the right to choose her birth companion and can bring him/her to special sessions of the childbirth preparation course. Responsibilities of the birth companions should be explained to them within a few hours (28). It should be noted that the trained issues can be implemented in local hospitals. For example, the birth companion should be allowed to attend the labour with childbearing woman; otherwise, the training will not have any result. The

best birth companion is a member of a mother's close social network such as her spouse (8).

If a birth plan is added to childbirth preparation classes, odds of vaginal delivery will increase dramatically (29). Birth plan is a component of birth preparation and can improve satisfaction with childbirth experience (30). The written plan can help to determine woman's expectations, develop effective relationship with care provider and take part in decision making (31). According to this Delphi, individual birth plan is a feasible and practical tool to prevent PBT.

It should be noted that shortage of manpower in the maternity health services and the inherent gap between PHC and hospitals are two main obstacles in implementing some effective strategies. Midwife-led continuity model is an example of effective but non-applicable strategy in Iran's health system. This model is associated with more vaginal delivery, less preterm birth and fetal loss and higher satisfaction with care. It is a cost-effective approach which is applied in many countries (32). Policy dialogue of this study concluded that this model is currently not applicable into the health system. The main causes are the shortage of midwifery staff, lack of cooperation of obstetrics in this regard and independency of the PHCs from maternity hospitals. Standards of the maternity care requires 30 midwives per 1000 birth/year while this ratio is one third or less in Iran (33). Meetings and consultations with gynecologists is recommended to increase inter-professional cooperation.

This study is based on 13 experts' opinion and their responses received; final data does not reflect the opinions of all Iranian experts. Changes over time in health system can affect priorities of the listed strategies. This study attempted to identify the most effective strategies in prevention of PBT. According to the experts, implementation of top strategies in Iran's health system might help to decrease the prevalence of PBT. Other countries with the similar context can use this list and its'

priorities. Future studies should be focused on the pilot of top strategies.

In order to improve the quality of maternity care, it is necessary to focus on maternal mental health. PBT has identified as one of the most common problem in Iranian mothers and its' prevention will greatly help to improvement of maternal mental health. Top strategies that will be effective toward this purpose included continuous support during childbirth, practical childbirth preparation classes, group prenatal care, and preparing individual birth plan in antenatal visit. We suggest these strategies in supporting maternity care in Iran and other developing countries to promote maternal mental and physical health. This study is based on a limited number of experts, therefore, the generalization of its results is consider as a main limitation.

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Conflict of interest

The authors declare no conflicts of interest.

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