REVIEW ARTICLE

Maternal Satisfaction about Delivery and its Influencing Factors in Iranian Population: A Systematic Review of Mixed Methods

Dina Abadi Bavil, Sareh Dashti

Department of Midwifery, Mashhad Branch, Islamic Azad University, Mashhad, Iran

ABSTRACT

The aim of this mixed method systematic review was to assess maternal satisfaction with normal vaginal delivery and its influencing factors in Iranian population. All quantitative and qualitative studies about the factors related to women's satisfaction with normal vaginal delivery were searched. Data extraction was performed using the data extraction form adapted from the Cochrane Collaboration guidelines. The quality of all studies was assessed by two researchers independently using the risk assessment checklist by Cochrane Collaboration. Studies that were conducted on pregnant women older than 18 years old who were in the first post-partum year and assessed satisfaction were included in this review. The current study revealed that the level of satisfaction about normal vaginal delivery was moderate in Iranian women. Fear of pain, vaginal delivery complication and sexual dysfunction were the most common factors that affected satisfaction about vaginal delivery.

Keywords: Delivery, Physiologic, Enjoyable experience, Pleasurable, Experience and satisfaction

Corresponding Author:
Sareh Dashti, PhD
Email: sareh_dashti@yahoo.com
Tel: +985132250044

INTRODUCTION

Increasing awareness and satisfaction through preventive medicine is the fastest way to achieve community health (1). The main motive behind all the efforts and developments of human societies is the provision and promotion of human health. National development and improvement in living standards will not be possible without concerning the quality of health care. Mothers and infants are the two most vulnerable groups in each society and require more attention (2). Pregnancy and its consequences are among the factors that influence women's quality of life. Therefore, negative experiences in pregnancy are associated with immediate and long-term impact on the overall health of mother and her family (3).

New methods of delivery, including non-pharmacological and supportive therapies, can improve the psychological and emotional aspects of childbirth and make delivery a pleasant and enjoyable event for mothers and reduce the severity of pain and fear and tendency toward choosing elective cesarean section (4). Studies have shown that women's beliefs and attitudes about the care they receive during different stages of childbirth have an impact on the care method implication and subsequently on women's acceptance and satisfaction. Understanding of pregnant women about maternal care can increase the ability of midwifery staff in performing their duties properly (5). Nowadays, patient satisfaction has become very important in medical care (6) and is considered as one of the most important variables in measuring the quality of health care (7). Therefore, much attention has been recently devoted to maternal satisfaction and to making delivery experience pleasant for mothers. Patient satisfaction is determined by patient self-reporting on the quality of health care services and the interaction between patient and health care providers (6). In other words, a person's satisfaction is defined as his or her report on the quality of treatment and the interaction between patient and health care provider. Patient satisfaction can be measured based on the congruity between patient expectations and the care provided to patient (8). Dissatisfaction with delivery can lead to the choice of cesarean section over normal vaginal delivery in subsequent deliveries. On the other hand, maternal satisfaction with childbirth increases self-esteem, positive expectation of future childbirth and good relationship with the baby (9, 10). Therefore, identifying the expectations and factors affecting patient satisfaction and dissatisfaction and identifying weaknesses of vaginal delivery care service system can help managers to plan, modify and improve delivery service practices according to standard health models, as well as organizing care services in labor division and staffing. Negative pregnancy experiences, including pain and anger, fear or sadness, build a women's memory of pregnancy. These experiences may increase the risk of complications, including postpartum

anxiety and depression, decreased ability to breastfeed, or abortion during pregnancy. Subsequent events lead to decreased sexual ability and inappropriate maternal-child behavioral relations (11).

Other than the provided quality of care, individual satisfaction is related to several factors including personality, cultural and social characteristics, lifestyle, past experiences and general health (12). The highest satisfaction rate in pregnant mothers was found in physical domain and the lowest in emotional domain in a previous study (13). Improvement in the quality of maternity care is not possible if mothers' views and expectations are neglected. Despite the expansion of Physiological Delivery Program in Iran, there is still limited knowledge about its consequences and maternal satisfaction with this new method of delivery. Therefore, this systematic review was designed to assess maternal satisfaction with delivery and the factors affecting maternal satisfaction with normal vaginal delivery in Iranian population.

METHODS

This systematic review was conducted on published literature to identify the level of satisfaction regarding normal vaginal delivery in Iranian pregnant mothers and its influencing factors.

Study types
All observational and qualitative studies including cross-sectional, case report, cohort, and descriptive studies were included in this review.

Participants
Studies that were conducted on pregnant women older than 18 years old or women in the first post-partum year were included in this review.

Type of exposure
Due to the limited number of validated measuring tools for normal vaginal delivery satisfaction, studies that used the most common satisfaction questionnaire "Mackey's Childbirth Satisfaction Rating Scale" were included in this review in order to homogenize the observed effects.

Primary outcome
The primary outcome of this review is to identify the satisfaction rate of women who underwent normal vaginal delivery in Iran.

Secondary outcomes
The secondary outcomes of this review include:
1- The factors that increase satisfaction of mothers regarding normal vaginal delivery in terms of the domains of the Mackey's Childbirth Satisfaction Rating Scale
2- The factors that reduce satisfaction of mothers regarding normal vaginal delivery in terms of the domains of the Mackey's Childbirth Satisfaction Rating Scale

Search strategy

All observational and qualitative studies about the Factors Related to women's satisfaction with normal vaginal delivery were searched in international medical databases, including Web of Science, Scopus, PubMed and Embase, and national databases, including Science information Database (SID) and Magiran, till 1st of July 2020. In addition, papers presented at national seminars and congresses, national reports, and related dissertations were reviewed. In case of identifying relevant abstracts, the corresponding authors were contacted to request the full text of the study. Articles were searched in both English and Persian languages. The search keywords were identified using the Medical Subject Headings (Mesh) terms based on the patient/population, intervention, control, outcome (PICO) statement. Based on the PICO, keywords were detrmined based on delivery (P), experience (I), satisfaction (O). The search keywords, including "delivery", "physiologic", "enjoyable experience", "pleasurable", "experience" and "satisfaction", "cross-sectional studies" and "Mackey's Childbirth Satisfaction Rating Scale", were combined with Boolean OR and AND operators to construct the search strategy. The search strategy was then modified for each database. In addition, the reference list of articles was also searched and hand searching was performed to ensure that all documents were retrieved.

The search strategy was designed based on preferred reporting items for systematic reviews and meta-analysis (PRISMA) checklist. The procedure of article screening is presented in Figure 1.

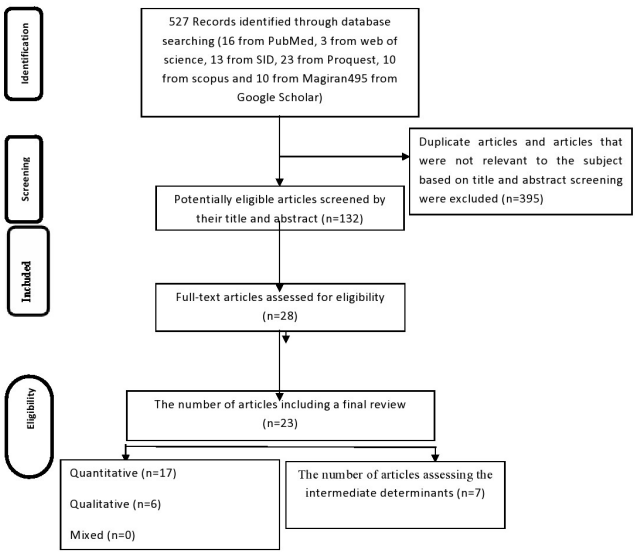

Figure 1: Procedure of articles screening

Data collection
The Endnote X8.2 software was used in the process of merging titles, removing duplicates, and screening titles and abstracts. Two investigators participated independently in the review of potentially eligible articles. The identified articles will be merged and in case of discrepancy between the identified articles, the third reviewer will decide whether to select or exclude the article. The search procedure was initiate by screening titles and abstracts. The full text of the selected articles was reviewed to confirm study eligibility before extracting data.

Data extraction
Data extraction was performed using the Data Extraction Form adapted from the Cochrane Collaboration. The form included general information (article title, publication type, funding source and conflict of interest), eligibility (type of study, population, types of outcome measures, focused conditions), population and settings (population description, setting of the population, and methods of participant recruitment), methods (aim, design, sampling technique, start and end of the study), participants (number of participants, age group, participants status), outcomes, results (outcome, results, response rate, unit of analysis, statistical methods, risk factors, limitations (strength, limitation, strategies to overcome limitations), conclusion (key conclusions) and risk of bias.

Quality assessment
All studies were assessed for quality by two researchers independently using the Cochrane Collaboration Risk of Bias Tool (CCRBT) for randomized controlled trials (RCTs) and the Agency for Healthcare Research and Quality (ARHQ) checklist for cross-sectional studies. The risk of bias in qualitative studies was assessed using the Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ) statement. In terms of discrepancy the issues were resolved by consensus.

CCRBT is a scale that assesses the potential risk of bias in 7 domains. The 7 domains include generation of random sequences, allocation concealment, participant blinding, assessor blinding, comprehensiveness of the outcomes, selective reporting of outcomes and other sources of bias. Articles were categorized into low risk of bias, high risk of bias and unclear risk of bias based on each domain. Articles that were categorized as high risk of bias or unclear risk of bias in more than two domains were excluded from the study. Therefore, the risk of bias in all studies was considered low.

AHRQ is a checklist that includes 11 items. Each item is scored either 0, indicating unclear or high risk of bias, or 1, indicating low risk of bias. The sum of scores is used to categorize the quality of the study methodology. Scores between 0 and 3 are considered low quality, scores between 4 and 7 are considered moderate quality and scores between 8 and 11 are considered high quality. Only studies that were categorized as high quality were included in this study.

The ENTREQ statement is a 21-item tool that assesses the quality of reported results in qualitative researches in 5 domains. The domains include introduction, materials and methods, literature review, appraisal and outcome synthesis. This statement is used to guide researchers in reporting the outcomes of qualitative studies but can also be used to assess the appropriateness of the qualitative studies. Only qualitative studies that had low risk of bias, fulfilling the ENTREQ requirements in at least 4 domains were included in this review.

RESULTS

A total of 23 articles were reviewed in the current study, among which 7 articles were clinical trials(14-20), 1 studies were quasi-experimental,(21) 6 were qualitative studies (5, 22-26)and the rest of the articles were descriptive cross-sectional studies(12, 27-34). None of the included studies used mixed qualitative and quantitative design. The overall population of clinical trials was 4087 subjects. The information regarding the studies and their findings are summarized in Table I and Table II.

DISCUSSION

This review indicated that based on the qualitative studies, fear of pain, normal vaginal delivery complications, including perineal lacerations, possible sexual performance difficulty and fear of having no medical professional accompaniment were the reasons of fear of Iranian pregnant women. On the other hand, reviewing quantitative studies indicated that the level of satisfaction of Iranian women about normal vaginal delivery was low to moderate. Women had less satisfaction from the medical staff, including the medical doctors and obstetricians. Similar reasons as the reported reasons in the qualitative researches were identified in the review of quantitative studies. Furthermore, review of the studies determined that the amount of fear of pregnant mothers was affected by her knowledge , either obtained through consultation with midwives and care providers or from her previous delivery experience.

Patient satisfaction was defined as reporting a good quality treatment and patient-healthcare and treatment provider interaction. Physiologic delivery encompasses services including supportive measures, addressing maternal needs and avoiding non-necessary routine actions. Therefore, physiologic delivery can make delivery a desirable and satisfactory experience for mothers. Although mothers in the conventional group in the study by Jafari et al. (2013) reported to be satisfied with the delivery room environment, it seems that the facilities in physiologic delivery room succeeded in achieving mothers' satisfaction (32). Delivered women

Table I: Summary of qualitative studies

Author, year	Study place	Sample size	Purpose of the study	Interview questions	Factors affecting satisfaction	Reasons for wanting to give birth by cesarean section
Hajian,2011 (30)	Shahroud	16	Views of mothers, midwives, gynecologists, and anesthesiologists in the selection of the Method of delivery	1. What is your view on the method of delivery? 2. Why do some women tend to have a cesarean? 3. Why some women tend to give birth naturally 4. What are the best steps to promote natural childbirth?	Fear due to complications before and after cesarean section Fear of the operating room environment Fear of the anesthesia process Fear of increased infection after Surgery Fear of increasing weight due to less mobility after cesarean section, Fear of sexual disorders after caesarean section High cost of cesarean section Advice from others Religious knowledge and beliefs about the benefits of natural childbirth	Fear of labor pains Fear of damage to the genitals Fear of not being accompanied by a doctor during childbirth, Lawsuit, Lack of motivation of doctors, Recommend others, Wrong belief, Challenges in how to provide services to pregnant women
Abbaspoor,2014 (31)	Ahvaz	18	Explaining the experiences of mothers about the factors affecting fear of childbirth and their effect on the choice of delivery method	-	Psychological and emotional support of health care workers especially midwives, families and spouses during pregnancy and childbirth Feeling able to perform natural childbirth Educating women about different delivery methods and their problems educating and applying strategies to reduce women's fear of childbirth Need for the presence of capable midwives, Transmiting the positive experience of childbirth to others	Fear of childbirth, general fear of childbirth, fear of labor pain, fear of difficulty of natural childbirth, stressful aspect of natural childbirth, fear of surprise during natural childbirth and fear of being questioned and worrying about complications of natural childbirth, fear of complications Neonatal fetus and concern about female body deformation in natural childbirth
Bagheri,2012 (33)	Kashan	11	Opinions and expectations of physicians', Experts and female assistants regarding the reasons for choosing the type of delivery by pregnant mothers	Following cesarean section	Painless delivery Physiological delivery Availability of childbirth preparation classes for pregnant women Doctor and radio and television culture building Fever and adhesion infection following cesarean section	Fear of labor pains was a facilitator of caesarean section Facilitators of natural delivery were: Factors related to delivery conditions Primigravida Physiological pain and labor Factors related to community culture Factors related to the consequences of normal delivery and cesarean section
Askari,2010 (5)	Gonabad	10	Explaining the experience of postpartum women in order to provide natural care for fear of normal delivery	How did the first stage of childbirth go and under what care? How tolerable were these actions?	Environment noise, patient privacy, ambient color Ensuring childbirth Supporting Routine serum therapy techniques, lying in bed, performing vaginal examinations, amniotomy, fasting	
Shirvani,2014 (32)	Sari	166	Explaining the role of previous childbirth experience on decision on the type of next childbirth	What is the choice of the next type of delivery? Explain your previous delivery experience. Was persuasion effective in choosing the type of delivery? What are the expectations during the process? Reason for choosing the type of delivery for the next childbirth?	Pain management using pain reduction methods Familiarity of the mother with methods to deal with the factors influencing the choice of normal delivery Stress and pain management Previous acquaintance with the hospital environment Religious beliefs, Awareness, attention and support of employees Consequences of natural childbirth Postpartum complications and return to daily activities Early communication with the baby, Lower costs	
Nagizadeh,2009 (28)	Tabriz	270	Mothers' satisfaction with physical care provided by obstetric caregivers during hospitalization		Caregivers Delivery stage (lower satisfaction in the labor stage)	Satisfaction of mothers from physical care in the delivery room

believed that availability of an appropriate environment is an important factor affecting delivery progression. Providing an appropriate delivery environment can prevent catecholamine release by reducing stress and anxiety in pregnant women. Therefore, the need for exogenous oxytocin is reduced due to reducing serum adrenalin and increasing endogenous oxytocin, which facilitates delivery progression. Furthermore, dedicating a delivery space to each pregnant woman and providing a calm environment with minimal noise and gentle colors and maintaining privacy can have an important role in maternal satisfaction and providing a pleasurable experience for mothers (5). Dolatian et al. (2008) reported a significant relationship between environmental factors and maternal satisfaction from delivery (11). Mohaddesi et al. (2015) reported that patient satisfaction from environment was 54.4% (34). Mirmolaei et al. (2011) quoted from Hendler statement that environmental characteristics, including maternal personality characteristics, can affect their satisfaction from the provided care services during pregnancy (35). Letting mothers choose convenient positions between contractions can increase maternal satisfaction through helping mothers have a better control on their body and thus increase their ability to cope with contraction pain and improve self-esteem (36). Motamedi et al. (2009) also reported that mothers who were given the option of choosing convenient positions between contractions had higher satisfaction compared to controls (36).

In the study by Bahri et al. (2003), maternal satisfaction was higher in mothers who received support compared

Table II: Summary of quantitative studies

Author, year	Study place	type of study	Questionnaire type	Sample size	Findings	Factors affecting satisfaction
Negahban,2006(34)	Rafsanjan	Cross-Sectional	Researcher-made questionnaire	256	25.31% of pregnant women chose cesarean section and 68.75% chose normal delivery Fear of severe pain due to normal delivery (52.5%) and high complications of cesarean section (42%) were the most common fears	Complications of cesarean section Faster recovery Easier method Fear of anesthesia and operating room Ensuring the health of mother and fetus Advice from acquaintances See the first moment of a baby's birth Desire to experience natural childbirth Normal previous delivery
Akbari,2017(35)	Tehran	Cross-Sectional	Demographic characteristics questionnaire, Knowledge assessment questionnaire and Women's attitudes toward delivery	702	Moderate knowledge about choosing the method of delivery in 47.6% Positive attitude towards natural childbirth in 5.62% Neutral attitude towards cesarean section in 1.60%	Natural and healthy procedure of natural vaginal delivery Being healthy and cheerful after natural delivery My baby has a better chance of breastfeeding Safety of natural delivery Deep emotional connection with child after natural delivery Not being exposed to anesthesia in natural delivery My baby will be smarter and healthier. Having control over oneself during natural childbirth Complications of cesarean section Doctors and midwives recommend natural delivery
Ghobadi,2018(36)	Rasht	Descriptive analytical	Researcher-made questionnaire	126	The mean score of mothers' satisfaction with natural childbirth experience was moderate. The maximum satisfaction was with: Environmental factors Access to labor and reception facilities Adequate information about labor and delivery stages Respectful attitude of labor personnel	Ability of health care providers in informing mothers about the stages of labor Emotional support and encouragement by health care providers during delivery Providing information about labor and delivery and pain control Treatment with respect Feeling safe seeing the skills and experience of health care providers The number of patients in the labor room Acceptable health condition of labor and delivery environment Having access to the facilities needed in Libor Acceptable vaginal examinations during labor and delivery Hostility prevention during labor and delivery Being transferred to delivery bed with the help of delivery room caregivers Skin-to-skin contact with the baby after delivery Acceptable performance of incisions and stitches after delivery Receiving information about postpartum health by health care providers
Sharami,2008(11)	Rasht	Descriptive Cross Sectional	Demographic information and satisfaction questions	600	Average satisfaction was observed in 37% women, while 0.3% were dissatisfied. The highest rate of satisfaction was with the provided service (49.3%) followed by professional skills (55.5%), facilities and information (30.8%), amenities (24%), environmental facilities (40.5%), equipment organization (40.3%), and costs (23.1%)	Gestational age Education Job Care by a specific person at each visit Visit by a gynecologist Appointment with a female caregiver at a medical hospital How to communicate and exchange communication between service providers The waiting time for the visit and the time spent for the examination
Atghai,2010(37)	kerman	Descriptive Cross Sectional	Individual characteristics Questions about the perception of labor pain Questions related to the desire to choose the type of delivery	400	Number = 224 Mean imagined pain intensity = 7.85 Tendency to give birth naturally = 9/18	Imagination of labor pain in a normal delivery
Biglarifar,2015(38)	Elam	Descriptive analytic	Personal information Level of mothers' awareness questionnaire	105	105 (53%) mothers chose cesarean section. Weak or moderate attitude towards normal delivery and caesarean section were 55.5% and 22.5%, respectively.	Level of knowledge and attitude towards natural childbirth Higher education rate
Jafari,2013(13)	Zanjan	Descriptive analytical	Demographic and midwifery information McKee Standard Maternity Satisfaction Questionnaire Maternity satisfaction questions Evaluation of individual control Visual analogue scale for pain	340	Conventional delivery Optimal delivery satisfaction	Spouse age, marriage age, spouse education, mother and spouse occupation and housing status of mother education
Mesgarzadeh,2014(39)	khoee	Descriptive Cross Sectional	Questionnaire for measuring the satisfaction of pregnant mothers	385	The highest satisfaction was with care provided before delivery (15.80%) followed by care during delivery (17.77%) and after delivery (96.77%)	

(*continue.....*)

Table II: Summary of quantitative studies (continued)

Author, year	Study place	type of study	Questionnaire type	Sample size	Findings	Factors affecting satisfaction
Shakeri,2015(40)	zanjan	RCT	Demographic questionnaire Questionnaire for assessing pain intensity during different stages of labor Delivery satisfaction questionnaire	280	Satisfaction rate in the trained group was 96 and in the control group was 25	
Haseli,2017(41)	Tehran	RCT	Researcher-made questionnaire	64	Mean duration of first stage of childbirth after the intervention (70±254.74 vs. 311±63.05 min) was significantly less in experimental group than control group (P=0.002).	Abdominal massage along with breathing technics increases the number of uterine contractions in labor while has no adverse effect on the delivery outcomes
BAHRI,2003(17)	Bahri	RCT	Demographic information questionnaire Observation of the first, second and postpartum stages Speilberger State Anxiety Inventory Maternity support checklist	62	Satisfaction with care in the intervention and control groups were 64.5% and 29%, respectively	Establishing a friendly and cordial relationship with the client Support during labor and delivery Person-to-person care by an educated midwife during the delivery process in a medical setting
Moghimi Hanjani,,2018(29)	Karaj	RCT	Demographic questionnaire McGill pain measuring ruler Satisfaction questionnaire	80	Satisfaction with the type of intervention in the intervention and control groups were 31.4% and 2.8%, respectively. Satisfaction with delivery process was higher in the intervention group (25.7%) compared to the control group (2.8%).	Use of non-invasive local thermotherapy methods
Jamilian,2013(23)	arak	interventional	Demographic questionnaire satisfaction questionnaire	170	Mothers' satisfaction with natural childbirth in the case group was significantly higher than the control group (94.202% vs 67.241%).	Participating in childbirth preparation classes
Kordi,2018(27)	Mashhad	RCT	McKay Childbirth Satisfaction Scale, Parents' Feelings of Competence and Postpartum Depression Edinburgh	122	The rate of complete satisfaction with delivery was 23.3% in the intervention group and 12.9% in the control group.	Psychological training program during pregnancy
Nobakt,2012(42)	Shahrkord	Quasi-experimental	Demographic questionnaire Spielberger Anxiety Inventory Visual analogue scale for Pain Intensity	60	In the intervention group 46.7% and 53.3% were completely satisfied or satisfied, respectively. In the control group 20.3% and 30% were satisfied and completely satisfied, respectively.	Companion Support
Masoumi,,2016(24)	Hamedan	RCT	Demographic questionnaire Researcher-made questionnaire of pregnant women 's satisfaction with childbirth counseling	170	Mean satisfaction score of the intervention and control groups were 93.6 and 46.40, respectively.	Childbirth counseling sessions
Mohaddesi,2015(14)	Oromiyeh	Descriptive Cross Sectional	Demographic questionnaire Satisfaction questions of physicians and midwives Environment and services of transfer to ward and midwifery department	165	Clients' satisfaction was 7.69% with doctors and medical students, 77% with midwives and 54.5% with environment and services	Providing services by midwives Services for transferring the client to the ward

to the control group. Continuous encouragement of mother during the stages of pregnancy provides the feeling of safety and satisfaction (16). Zhang et al. (1996) believed that women who received support during delivery experience less fatigue and higher satisfaction after delivery compared to those who did not receive support during delivery (37). Lenger at al. (1998) also reported that mothers who establish a better emotional contact with their caregiver have higher satisfaction from delivery (38). In the study by Ghorbani et al. (2014), 74% of the caregivers believed that their satisfaction would increase by improving patient-caregiver communication (39). The caregivers in majority of the studies that reported a significant effect for maternal support during delivery on the length of labor included skilled and trained personnel, midwifery students or specialist researchers. On the other hand, in the study by Nobakht et al. source of support was one of mother's relatives. The study reported no significant effect for maternal support during pregnancy on the length of labor. Furthermore, personal differences and the companions' extent of knowledge about support, as well as cultural differences can also rationalize the diversity of the findings of the mentioned studies (40). On the other hand, this review revealed that maternal support might not reduce the length of the second phase of delivery. Reduced mother's attention to companion in the second phase of delivery due to feeling of shame about the presence of the companion in the room and the fact that maternal support does not affect the second phase of delivery might be the reasons for this finding. Furthermore, progression of the second phase of delivery is influenced by pelvic soft tissue resistance and coordination between fetus and maternal pelvis.

The statistical reports of some studies indicate that regardless of the efforts to promote normal vaginal delivery in articles, conferences, obstetrics and obstetrics and gynecology text books and other official guidelines, the rate of normal vaginal delivery has reduced recently.

It was also stated that the willingness of pregnant mothers, obstetricians, midwives and midwifery aids in governmental and non-governmental sectors has worsened the situation. In a large study conducted in the United Kingdom, 69% of the obstetricians prioritize mother's decision for caesarean section (C/S). As it was stated in the findings of the current review, the most common maternal reason for requesting C/S is the fear of pain during delivery, which makes them prone to the risks of surgery. The reason for this fear might be low level of knowledge regarding pregnancy, as a source of fear, and delivery and recalling bad and painful delivery experiences (41). The effect of various psychological factors on the perception of mother about delivery pain is a well-known clinical phenomenon. A study on the knowledge, attitude and expectations of Singaporean pregnant women about C/S and normal vaginal delivery reported that only 2% of women who underwent C/S were willing to recommend C/S to others.

In a study by Jamilian et al. (2013), participation of pregnant mothers in delivery preparation education sessions reduced bed occupation index and increased maternal satisfaction. Therefore, it was suggested that delivery preparation classes be held widely in maternal care centers (18). Masoumi et al. (2016) reported similar findings regarding the relationship between delivery experience and satisfaction and delivery preparation education and (20). Mehdizadeh et al. (2003) reported that the length of delivery and admission was significantly shorter in mothers who participated in delivery preparation education classes compared to controls (42). Jourabchi et al. (2018) reported that participation in delivery preparation classes increased the rate of normal vaginal delivery (43). Similarly, Tofighi et al. (2010) reported that the rate of normal vaginal delivery was 80.6% among women who participated in education classes, while 57.6% of women who did not participate in education classes performed normal vaginal delivery. Group consultation can provide a realistic social environment that facilitates interaction with peers who share similar problems and concerns. Group consultation provides the opportunity for mothers to recognize their feelings and behavior and to take responsibility for themselves and others and have a free decision. In the study by Najafi et al. the choice of normal vaginal delivery over C/S increased with education intervention. Similarly, Shakeri et al. reported higher satisfaction from delivery in women who received education intervention compared to the control group. Kordi et al. (2018) reported that psychological education including education on the stages of delivery and methods of pain reduction, increased satisfaction from delivery (19). Sehati et al. reported that the highest satisfaction level was in somatic domain while the lowest satisfaction level was in emotional domain. Furthermore, maternal satisfaction from delivery was significantly lower in educational hospitals compared to non-educational hospitals (26). The satisfaction from delivery was lower in the labor phase compared to the antepartum and postpartum periods. Presence of many caregivers in the labor phase and high stress and painful nature of this phase along with the need for support and attention to mother were the probable reasons for this finding. This finding identifies the importance of proper measures to encourage caregivers in providing support to mothers. The findings of the study by Kordi et al. showed that women who received consultation and psychological education by midwives had higher satisfaction from care services during delivery, which was in line with the findings of the current study (19). Mohaddesi et al. (2015), reported that 69.7% of mothers were satisfied with the care provided by doctors and medical students and 77% were satisfied with the care provided by the midwives (34). Moghimi Hanjani et al. (2018) reported that non-pharmacological methods for pain control, including local heat application, increase maternal satisfaction and improve the progression of delivery without increasing the unwanted maternal complications and encourage mothers to choose normal vaginal delivery (17). In the study by Bahri et al. (2003) delivery support actions included 23 classified activities in three domains (psychological, physical and educational support) (16). In the study by Jamilian et al. (2013) education intervention included 8 sessions of delivery preparation classes with the duration of 2 hours/session conducted every other week by a skilled midwifery tutor, while the control group received routine pregnancy care (13). The education intervention included 8 weekly calsses in the studies by Jurabchi et al. (2018), Masoumi et al. (2016) and Shakeri et al. (2015). In the study by Moghimi Hanjani et al. (2018), local heat was applied to lower back, front and lower abdomen using a towel covered hot pack during all the stages of delivery (17).

Qualitative studies

Hajian et al. (2011) expanded normal vaginal delivery through improving effective education of mothers and their spouses, providing necessary choices for normal painless and uncomplicated vaginal delivery, improving the quality of midwifery care during contractions and clarifying the duties of midwives and obstetricians in normal vaginal delivery as well as motivating caregivers by respecting their job dignity (22). Abbaspoor et al. (2014) reported that fear of the complications of normal vaginal delivery, including the fear of fetal complications and bad body shape, existed among pregnant women (23). Shirvani et al. (2014) reported that the influencing factors on the choice of normal vaginal delivery were pain management, stress management, experience of outcome from previous vaginal delivery, and lower costs of vaginal delivery, while the influencing factors for choosing C/S were being unconscious during C/S, short duration of the procedure, C/S outcomes, and knowledge, behavior and practice of the caregivers. Shirvani et al. (2014) stated that positive pregnancy experiences result in positive attitudes toward normal vaginal delivery.

Based on the findings of the current study women usually choose C/S as a means for avoiding confrontation with negative experiences of normal vaginal delivery. It seems that most of the factors that cause negative delivery experiences are preventable. Therefore, considering the incentives and preventive factors for either type of delivery are important in reducing the rate of C/S (25). Bagheri et al. (2015) reported that fear of pain due to delivery was an important factor in choosing C/S by women and their families. Having good experiences from previous delivery was stated as an important factor in choosing normal vaginal delivery. The influencing factors for choosing the type of delivery are categorized into four groups including patient related, delivery circumstances, culture, and consequences of normal vaginal delivery or C/S. Some of these factors were reported to be facilitators for choosing normal vaginal delivery, while others facilitated the choice of C/S. The findings of the current study indicate that different influencing factors on the choice of delivery type should be considered (24). Askari et al. (2010) reported that a quiet and secure environment should be arranged for delivery, women should be supported by midwives and the delivery procedure should be described to pregnant mothers in their own language and in an understandable manner. Unnecessary routine interventions, including complete bed rest, obtaining venous access, frequent vaginal examinations, early amniotomy and nothing by mouth (NPO) ordering, should be avoided (5). Naghizadeh et al. (2003) reported that satisfaction from delivery was lower in the labor phase compared to the antepartum and postpartum periods. Presence of many caregivers in the labor phase and high stress and painful nature of this phase along with the need for support and attention to mother were the probable reasons for this finding. Satisfaction during labor was significantly lower in educational hospitals compared to non-educational hospitals. The reasons for this difference might be the higher number of caregivers and the presence of students and providing services by students in educational hospitals compared to non-educational hospitals (26).

CONCLUSION

The overall findings of the current study revealed that Group consultation provides the opportunity to obtain knowledge and awareness about pregnancy and delivery. Considering fear of the pain during delivery and pleasurizing delivery for mothers and cultural interventions are important issues in promoting the choice of vaginal delivery. Considering the findings of the current study, it can be stated that fear of pain due to delivery has an important role in the choice of C/S over vaginal delivery among Iranian women. Therefore, designing measures to reduce fear of delivery and consulting women who choose C/S can reduce the rate of unnecessary C/Ss. Companion support can increase satisfaction from delivery, reduce anxiety, and promote on time breastfeeding. Pain management using non-invasive methods, including local thermotherapy, and maternal satisfaction can improve delivery progression without increasing unwanted outcomes and encourage the choice of normal vaginal delivery.

As implications for practice, this systematic review was designed to assess the factors influencing the satisfaction of pregnant mothers regarding vaginal delivery. The findings of this systematic review may help stakeholders and health care providers in achieving and improving patient satisfaction in obstetrics and may indirectly reduce the rate of elective caesarean section in the society.

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