Complications of vaginal delivery after previous cesarean delivery in Iran

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Abstract

Pain has been known to man since the very beginning of creation, and man has always tried to fight it in various ways. One of the most severe of these pains is labour pain.

These days, despite the increasing number of cesarean sections, most women simply opt for natural delivery. According to the World Health Organization, the rate of cesarean delivery is 15%, which is very different from the recommended rate in most parts of the world.

On the other hand, physicians believe that cesarean delivery can be considered as a delivery method only if it is impossible to carry out normal delivery or if the health and life of the mother, the fetus or both of them are at risk.One of the most effective ways to reduce the incidence of cesarean section is to carry out normal delivery after cesarean section and to reduce cesarean section repeatedly. The above review article aims to survey vaginal delivery indices after delivery of cesarean section, maternal and fetal complications, as well as suggestions and strategies for proper use of this type of delivery.

Method: This paper is a literature review.

Key words: vaginal delivery, cesarean section, complications of childbirth,
normal delivery after cesarean section

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Introduction

Childbirth is one of the divine blessings for generating mankind on earth, which has always been on the rise since the creation of mankind. The delivery mechanism is a spontaneous process, without the need for intervention, has been going on for many years in its natural course. With the advent of science and technology over the past decades, human beings have come up with ways to help it with surgery in cases where the mother or fetus's life is in danger. Unfortunately, after some time, this method, which was only used for emergency use and to save the lives of mothers and fetuses, has become more prevalent among societies and has become a means of escape from labor pain, so that today in many societies the delivery by cesarean section has became a culture and more than half of women volunteer for cesarean section.

However, the surgery itself has many consequences, including complications of anesthesia, bleeding, embolism, post-operative infections, and maternal mortality after cesarean section, all of which are physical and emotional complications for the mother The cost of delivery for mother and family is 2-3 times higher. Also, the mother's disability after cesarean section causes the mother to be completely neglected and her baby is not properly nursed after birth.=Despite all the complications, the prevalence of this surgery is increasing in most Western and developing countries(1,2). The prevalence rate in the United States is 26%, England 21%, South Ireland 23%, Australia 23%, Brazil, Chile and Paraguay 50% in 2006 (3) and in Iran, according to the 2006 statistics, the rate of cesarean section was 42.3% (2 -4)

One of the causes of increasing cesarean section in the whole world is the increase in the age of pregnant mothers, the increase of electronic care for the fetus, increased interventions in labor and the fear of doctors and medical staff from the implementation of legal procedures for childbirth (complaints). (3-4) The World Health Organization, in order to maintain maternal and fetal health, has approved a cesarean delivery rate of 15 % by 2010 for mothers who are pregnant for the first time and has called for a reduction in repeat cesarean rates from 62% to 72% among the world's societies. (5)

About 20 years ago, the American College of Obstetricians and Gynecologists (ACOG) began offering strategies for reducing cesarean delivery and reaching the WHO standard by 2010, including postpartum vaginal delivery Cesarean section (Vaginal birth after cesarean section). (6-7)

Following the launch of these strategies between 1989 and 1996, the rate of cesarean section in the United States is declining in the rate of VBAC. (7) A US study between 1997 and 2002 showed that out of 54,146 deliveries, 8,030 cases (14.8%) of vaginal delivery were postpartum after cesarean delivery, and the results of this study showed that maternal and fetal complications in this group, (group VBAC) were not statistically significant in terms of cesarean section (repeated cesarean section). (8)

The results of a retrospective cohort study in 2006 of 61,619 out of 17 American hospitals showed that if the conditions for vaginal delivery were observed after delivery of cesarean section, the maternal side effects in the VBAC group were significantly lower than those of the selected cesarean group. The researchers suggested that it is better for women to receive the necessary training if they have the necessary conditions for the delivery of vaginal delivery after delivery of cesarean section. (9) Postpartum vaginal delivery Cesarean section can be one of the biggest changes in women's care and midwifery in the current century. To perform this type of delivery, the clinical conditions (scientific) and legally prescribed conditions should be taken into consideration, and then the delivery should be done to avoid complications for mother and fetus. The purpose of this article is to review the conditions, benefits, complications and clinical care of women who are candidates for this type of delivery.

Discussion

Childbirth is a physiological and completely natural process that begins on the basis of some regular activities and regular changes that occur on their own. Delivery is divided into three general stages: the first stage, which initiates labor pain and progresses so that the uterus is ready for the baby to leave. The second stage, in which the baby leaves the womb and the birth occurs. The third stage, the delivery of the placenta.

Caesarean section is defined as the birth of an embryo by creating an incision in the abdominal wall (laparatomy) and the uterine wall (hysterotomy) (10) and is now commonly used as a surgical procedure in most cases of labor in Iran (11). The use of cesarean technique in recent years, has been increasingly prevalent, while cesarean was once used only for mothers who were at risk during their pregnancy and childbirth (12). The standard of delivery for cesarean delivery is 15% from the WHO statistics (10), but in many parts of the world it is significantly different from that recommended by the World Health Organization (13). Cesarean delivery in the United States from less than 5% in 1965 increased to 30% in 2005. (14) Martel 2005 reports that in Canada there is an initial cesarean section rate of 21.1% (15), Boewley (2013) in the United States in nulliparous women (30.8%), and in multiparous (11.5%), Bengal in India (22) at 24% (17) Festin (2009) reported in China at 25% (18) and Bragg (2010) in Italy reported 35% (19). In Iran, the actual cesarean section (2002) in Shahrood was 26% (2) Sayed Noori (2006) in Rasht, (57%) East Afshin (1389) in Ardebil, 58.6% (21) Shakerian (2002) Mahal and Bakhtiari, 44% (22) Farzan (1389) reported in public and private hospitals in Isfahan, 73.6% (23). Also, in a study done by Khosravi (2007) in Bojnourd, the rate of cesarean section was 25.4%. Natural treatment after cesarean section is associated with possible risks and sometimes has a clinical indication of cesarean section repetition. Clinical judgment is important in deciding whether to have normal delivery after cesarean section or to repeat cesarean section.

Natural prophylaxis after cesarean section.

The classic scars of caesarian section are the lower vertebral scar, extending up to the upper segment scar. (5) If the choice of the patient is accurate and the delivery is adequately monitored, most women who have already received cesarean section can undergo subsequent vaginal delivery (5) The success rate of normal delivery after cesarean delivery in selected patients is approximately 60-80% (5)(Naji (2013) in England). The success rate of postnatal delivery after 2013 in the study of cesarean section was 61%. (Bengal showed that 85% of people who entered normal delivery after cesarean section succeeded and 15% failed (2012). If normal delivery is successful after cesarean section, complications such as hospitalization, maternal fever, and repeated cesarean section will be less (26), but problems in normal delivery after cesarean section occur when the supervision is not directly on the patient. Detection of uterine rupture is delayed (5). Due to the importance of the subject and the complications of repeated cesarean section and that we did not have access to research work in this field, a research aimed at determining the frequency and some maternal and neonatal outcomes of the natural delivery after cesarean section was conducted in the hope that the results of this study would be a step towards child-rearing policies. Sisters usually take 45 minutes to 1 hour to perform a caesarian section.. It can be done with an anesthetic of the spine, where the woman is woman awake or under general anesthesia. Then an incision about 15 cm is usually done through the mother's abdomen. The uterus then opens with a second incision and the baby is delivered. The =incision is then closed (24). This incision is not limited to the abdominal skin and it is necessary to split several layers so that the surgeon can access the embryo inside the uterus. Caesarian section is a surgical procedure. As a result it can have complications for the mother across three categories: physical, emotional and fetal complications. The physical complications of cesarean delivery are higher than normal delivery. These complications are usually postpartum hemorrhage, infection, pelvic damage and coagulation disorders for the mother, and can lead to complications such as respiratory problems for the infant before the onset of labor pain for the mother, due to the lack of a respiratory system and subsequent shortness of

breath. Caesarean section can cause urinary problems such as urticaria, urinary tract infections and bladder pain after cesarean delivery. Mothers who undergo caesarean section undergo a longer process to return to their original state, and in the subsequent t pregnancies of those who have had with cesarean section, the probability of having a placenta other than the normal place in the uterus (or pathways) or growth-related adhesions. Abnormalities occur in the tissues of the uterus and in the adjacent organs, causing severe complications for the mother, or even causing maternal death. Iran is ranked second in terms of cesarean section statistics. Caesarean section indications are because of probable infection of the uterus. It is higher than in a natural delivery due to the opening of the abdomen and the uterus, the risk of infection, the location of sutures, and the amount of bleeding in the body. Due to the loss of large amounts of blood, the likelihood of need for blood transfusions increases, which can cause complications. There are also drowsiness-related illnesses. The possibility of constipation due to the use of anesthetic drugs in Caesarean section is more than normal delivery. There is a risk of uterine rupture due to the opening of sutures in subsequent pregnancies. In the cesarean section of mothers, there is a risk of contracting the placenta to the site of uterine suturing in the next pregnancy, resulting in a risk of uterus more in mothers Cesarean delivery than mothers with normal delivery. The duration of hospitalization is higher in mothers with cesarean section. As a result, the risk of infection increases on the one hand, and on the other hand it is more economically costly than normal delivery. In cesarean section women, the probability of a subsequent cesarean section increases. Complications may also occur after several weeks, several months, or even several years after cesarean section. These include abdominal pain due to abdominal bloating, bowel obstruction due to adhesions due to surgery, and opening of the surgical cutting site in the next pregnancy. Cesarean section mothers feel tired and sleepy, which can be due to anaesthesia drugs. These mothers may not necessarily have a good emotional and immediate relationship with their baby because of the state of aches and pains after the operation. Sitting and walking after this operation is associated with severe pain, but mothers must walk in order to prevent the accumulation of gas in the intestines. The mother should be hospitalized for several days after surgery. Respiratory and jaundice problems from birth problems can occur with cesarean section. Caesarean section is better for the baby as it does not impose pressure on the baby, but this pressure is also beneficial for the baby, because their lungs are moved by the stimulation of the condition. That is why respiratory problems in newborns are more in caesarian births than normal birthd. The pressure on the head of the fetus should also not be worrying because the bones in the head are constructed naturally in a way that can tolerate this pressure. Anesthetic agents can have effect on the fetus because we know that the use of any drug can affect the fetus. It is possible that fetal injuries such as fetal skull fractures or fracture of other bones and paralysis may occur. The failure rate of breastfeeding is also higher than in normal delivery. Since the benefits of breastfeeding are natural, cesarean delivery will be problematic for mothers who are feeding their babies with breast milk. Breastfeeding does begin in women with cesarean delivery. The most dangerous side effect of cesarean section is neonate premature inflammation, the term “prematurely” is commonly used to describe a neonatal condition where the baby was born prematurely due to the timing of the cesarean section. It has been found that babies who are born with a selective cesarean section are significantly at increased risk of developing RDS (respiratory distress syndrome). In most hospitals, general anesthesia is performed for cesarean section and unfortunately, the drug used for maternal anesthesia reaches the baby’s body through the placenta. In this case, the baby is occasionally touched and lacks the necessary responses. Based on scientific research, newborn babies who are born with selective cesarean section are at risk of 50% more asthma, 20% more diabetes and 50% more obesity. The results of studies in England have shown that the risk of maternal death from cesarean delivery is three times higher than normal delivery. During delivery, cesarean section babies lose significant bacteria in their stomachs, which can be reconstituted if they are breastfed up to 4 months of age. These bacteria are produced, but the loss of these bacteria can cause many problems Neonates born in the cesarean section are four times more likely to have lung-borne bacteria than the other infants and, therefore, are more likely to be admitted to as infants to the neonatal intensive care unit. In cesarean section, due to the lowering of cortisol secretion in the mother whose secretion of the hormone is due to the onset of labor pain, there is no chance of maturation of the baby’s lungs. Short-term complications of cesarean section include:

Clot formation in the arteries of the legs: This clot is associated with redness and swelling and causes lung complications. If the clot is not treated, it enters the bloodstream and causes lung embolism. As a result of lung embolism, the patient also suffers from shortness of breath and it can be fatal. This clot is seen in obese women, especially those who have had multiple cesarean delivery or too much rest.

Lack of weight, need for special care, gastrointestinal tract failure, jaundice and respiratory distress can be long-term complications of cesarean section. Laryngeal congestion due to the use of anesthetic drugs, having uterine fibroids, women with large embryos or Twin or multiple pregnancies have been sequelae of caesarean section.

In those who have a waters break, or secretions of infection, there are symptoms such as fever, redness, swelling and contaminated discharge from the cutting site. With these complications, the mother needs re-admission.

Mastitis: Because milk is secreted later in mothers who have had cesarean section, mammary wounds such as nipple wounds or inflammation of the breast are more common. From the definitive and relative indications of cesarean section, during the delivery, the incongruity of the cervix with the pelvis is determined. Fetal distress means changes in the amount of fetal heart rate, indicating that

that its oxygen levels are not sufficient and volume of blood is excessive. The normal position is the placement of the embryo head-to-head inside the pelvis of the mother. If the embryo is transversely situated , there is no possibility of normal delivery. If the legs of the embryo are in the pelvis, sometimes there is a possibility of normal delivery, but caesarean section is the preferred route. If the placenta is discontinued or the placenta is placed on the cervix, the best way to deliver is by cesarean section.

Failure to recognize the type of cesarean section may cause uterine rupture during normal delivery, in which case the health of both mother and infant is threatened. It should be noted that the type of incision on the abdominal skin with the type of incision created on the uterus may differ, so that only the abdominal cavity cannot be detected in the uterus, so having a medical record with an incision on the womb is mandatory. For this reason, and due to the precautions required by physicians, in our country, usually a cesarean section often is sleected.. Early use of medications or contraceptive stimulants (over-the-counter) can slow the progress of labor and cause cesarean delivery. Premature and late (less than 38 weeks and more than 42 weeks) may cause complications. Embryos with problems with blood RH should be born with cesarean section. Sometimes the delivery of twins is performed naturally, but in most cases cesarean section is chosen as the best way. More than two pregnancies should end in cesarean section. Cases such as herpes simplex infection, high blood pressure, fibroid tumors, diabetes, maternal aids, and prolonged delivery pain are other than cesarean section. The history of the baby's death, the history of infertility and the first abdomen (over 35 years old) is also often associated with cesarean section.

Vaginal birth stages:

Normal delivery stages: The first stage of delivery is divided into "hidden" and "active" stages. (15) The hidden phase is generally a starting point in which the woman is aware of regular contractions of the womb. (16).

The second stage: Embryo withdrawal. The stage of deposition (stimulated by prostaglandins and oxytocin) begins when the cervix is fully developed and when the baby is born. Then the embryo head continues down to the pelvis, under the arc of the abdominal area and outside through the. The appearance of the embryo is called the "crown" . At this point, some women can feel fatigue. (19) Stage III: The third stage is called labor. Plasma excretion begins as a physiological separation of the uterine wall. (20) Plasma exit can be controlled continuously, which allows the pair to be expelled without medical help. (21) The fourth stage is a period that begins immediately after the birth of a child and lasts about six weeks. (22) It is time for mother's body, including hormone levels and uterine size, to return to normal. (23) Outcome from normal delivery in some few women, and fear of childbirth can cause anxiety and emotional disturbances. While most natural births are simple, unforeseen complications such as maternal hemorrhage during delivery can occur. Pelvic rupture risk can increase the duration of recovery. In very rare cases, uterine inversion may occur. If this problem is not treated in a timely manner, it can be dangerous and serious. If a wound or episiotomy occurs, the woman may feel pain in their sexual relationship for 3 months after the baby is born. (9) Pregnancy causes problems and disorders in the urinary system and feces. Problems such as bladder dyspnea, followed by frequent urination problems and, on the other hand, stool problems. Of course, these problems are not always present in normal vaginal delivery, although after natural vaginal delivery of these complications are more frequent. Bladder discomfort means changes that occur in the bladder area and cause the mother to have urinary incontinence in the coming years. Of course this may also be the case in those who have not even given birth, but more common among those who have more pregnancies (4 and 5deiveries), especially if the delivery is natural. Infection and bleeding may be other problems of childbirth. Rarely a rupture of the pathway or excretion of the stool, as well as other complications may occur due to normal vaginal delivery. Some women attribute the fall of the uterus to normal or cesarean section, while in most cases it is due to faulty walking, false sitting and lumbar injuries.

Short-term complications of normal delivery:

Uterine contractions during delivery

Embryo, pressing the infant's umbilical cord during delivery: In this case, the mother may have bleeding during delivery. Bleeding up to 500 cc is normal. If the amount of bleeding is high and the mother is referred to a doctor late, the baby may die.

The change in the genital form, bladder dislocation, or rupture of the vagina, may occur mainly in women who have multiple births or have a large embryo.

Infection, high blood pressure, severe pain, is one of the methods of pain control, injection of medication into the muscle. The second method is the use of respiratory gases, and the mother's labor pain decreases slightly by breathing the gas. The third method is to create numbness through the epidural in the lumbar region. An anesthetic is injected into the epidural by using a narrow needle through the mother's spine, and a local anesthetic in the waist, which causes these complications. Anorexia injection in the epidural space delayed delivery, which means that if the baby is to be born within 6 hours, this time will change to 8 hours. Injecting an anesthetic causes the mother to not have the power to strain and the doctors use forceps to remove the baby. Physicians may remove the baby from the abdomen using a physical device called forceps or a suction device. This device should not be used by non-specialists, as it sometimes causes damage to the baby's brain and skull, as well as tearing of the mother's genital tract. Direct and unprotected direct local anesthetic for episiotomy of the mother may cause a newborn seizure. Oxytocin consumption can increase the risk of newborn jaundice and excessive consumption of it results in pulmonary contractions and anoxia in the newborn.

Complications of normal delivery in the newborn are more: long and hard labor, increased risk of mechanical lesions, and hypoxia.

With very short and fast breathing there is increased risk of intracranial hemorrhage and asphyxia. The births cause tachycardia and increased blood pressure and rarely anemia in the mother. Pain in the mother has been shown to decrease the blood flow of the uterus, and the blood of the neonate is lower.

Method

The purpose of this study was to compare the complications after normal delivery after cesarean section and repeated cesarean section. In the United States, the overall rate of cesarean section increased from 4.5% in 1965 to about 25% in 1988. Approximately one million births (24%) are done in the United States through cesarean section. (29). In Iran, the prevalence of cesarean section was reported to be 82.8%, which increased to 96.64% in 1996. The prevalence of cesarean section in the years 1378 and 1379 was 32.3% and 34.8%, respectively. This is reported in higher private hospitals (30-31). With normal delivery after cesarean section, the number of cesarean sections can be reduced. In 1978, Gibbs and Marble reported that 83% of patients who had a history of cesarean section had a normal delivery without risk. Impi and Is, Impi and Oehrelli 1998 reported that even taking the most precise criteria for diagnosis of dystocia, the normal delivery rate after cesarean delivery reached 68%. Between 1996 and 1989, cesarean section rates declined in the United States, the main reason being the increase in natural birth after cesarean section (32-33). In a study conducted at the California Hospital in 1995, 61 percent of women experienced natural vaginal delivery after cesarean section, out of which 35 percent had normal delivery (5). Despite the advice of the College of Women, the prevalence of natural birth after Cesarean section is less than 7%, and this belief is that after a cesarean section, cesarean section is more often due to fear of complications such as uterine rupture (35-34). Uterine rupture is a life-threatening or risky condition for mother and baby whose incidence is less than 0.1% in pregnancy and in normal delivery, after cesarean section less than 1%, which is monitored carefully during normal delivery. The availability of staff and equipment to carry out an emergency cesarean can minimize mortality and morbidity. (36). The natural delivery over cesarean leads to less risk to his mother and baby. It allows mother to leave hospital as soon as possible and with less (37).

47% of mothers who were able to complete delivery / a total of 8 natural cases following cesarean section. From the maternal outcomes, the mothers of the normal delivery group had less constipation than those who had after cesarean section. There was no statistically significant difference between the two births. Today, because of the possible risks of cesarean delivery, many women who have been given cesarean section during their previous pregnancies are encouraged to have normal delivery, since normal birth has many benefits and risks as low as possible (38-39)

Some complications of normal delivery after cesarean delivery:
normal delivery fails, the 25% of women who choose normal delivery after cesarean delivery in their previous births cannot tolerate normal delivery. As a result an emergency cesarean section will be necessary. The risk of infection with the uterus, in emergency cesarean section, will be more than planned cesarean section. Because of the use of medications to accelerate the natural delivery process, it can sometimes cause severe contractions in the mother's womb, which may cause uterine rupture. This complication usually occurs along the previous delivery line performed by the cesarean section. However, in the case of rupture of the uterus before or during normal delivery, the mother will need an emergency cesarean section. Also, in some cases, cesarean section is essential to prevent any life-threatening complications such as blood loss, infections, or brain damage in the baby.

The benefits of vaginal delivery after delivery of cesarean section, include low postnatal infections, reduced postpartum hemorrhage, reduced bladder and intestinal injuries, and reduced mortality (40)

Summary

Complications of Vaginal Birth After Caesarian (VBAC): VBAC complications t may be one of the causes of fear and concern of gynecologists and obstetricians for this type of delivery. Postpartum vaginal delivery of cesarean section benefits VBAC. Shorter maternity stay in a hospital (41) Reduced likelihood of infections (42-43) Reduced mortality

Reduce blood loss during delivery or after delivery (44)
Reduce the likelihood of need for blood transfusions or blood products (41)

Reduce thromboembolic events (44) Reduce perinatal mortality to less than 1% 42)

Reducing interventions in the pain and delivery room (including decreasing the use of oxytocin) (43)

Complications.
Rupture of the uterus (the most common complication) (44-45)

Increased probability of hysterectomy following uterine rupture (46)

Increased VBAC-induced injuries and accidents are an increase in VBAC-induced injuries and events of the fetuses, rupture of the uterus after vaginal delivery.

In a 2006 Cahill study in each group of VBAC and cesarean delivery, rupture of the uterus and rupture of the bladder and intestine, as well as uterine arterial injuries, were significantly lower in the VBAC group than in the cesarean group. Postpartum infection (fever) and the need for blood and blood products were significantly lower in the

VBAC group than in the cesarean group. The incidence of uterine rupture in the VBAC group was 0.4% in the study, compared with uterine rupture in the cesarean group (selective (0.6%) and statistically significant.) (10)

In the US Department of Obstetricians and Gynecologists In the lower segment of the laryngeal scar, it is possible that the tear reaches approximately 0.2% (47). In a study by Rageth in 1999, among 33,698 women with a history of previous cesarean section, 17,897 women (53.1%) were ready for vaginal delivery after cesarean section and 15,801 (49.9%) cesarean section.

(See:Table 3: Recommendations for vaginal delivery after delivery Cesarean section (conditions) VBAC delivery recommendations. Table 2: Complications of vaginal delivery after cesarean delivery. There is no definitive midwifery condition for performing definitive cesarean section (Breech, shoulder, twin, post-trauma, etc.). (48-49)

The incidence of erythrocyte rupture and uterine rupture symptoms among the VBAC group was about 0.7%, and this difference was not statistically significant in the CR group. In this study, the rate of fetal ischemia and hypoxemia was not statistically significant between the two groups.(16) The College of Obstetricians and Gynecologists recommended reducing the most important complication of VBAC, uterine rupture, in conditions such as the high number of previous cesareans of longitudinal or classic scars on the uterus Excessive uterine distension does not occur in this type of delivery. Postpartum Cesarean: Several studies have shown that 60-80% of women with previous cesarean section can easily have vaginal delivery, provided that the conditions mentioned by the American Association of Obstetric and Gynecological Obstetrics (ACOG). The individual and the care team are executed thoroughly and accurately. The requirements for this type of delivery (VBAC) are given in Table 3. Suggested VBAC Candidate Care Options: The American College of Obstetrics and Gynecology has developed and presented a series of supportive care measures for post-cesarean vaginal delivery that minimize the possible complications of this type of delivery by implementing these care programs. These conditions and care are given in Table 4.

Natural delivery after cesarean section: Today, because of the possible risks of cesarean section, many women who have had cesarean delivery during their previous pregnancies are encouraged to have normal birth because, as stated, normal labor has many benefits.

The most common VBAC complication, which may be one of the causes of fear and concern for gynecologists and obstetricians for this type of delivery, is rupture of the uterus following vaginal delivery.

Table 1: The benefits of vaginal delivery after delivery of cesarean section

Benefits of VBAC
Short stay mother's stay in hospital
Reduce the likelihood of infections
Reduce maternal mortality
Reduce blood loss during delivery or after delivery
Reduce the likelihood of need for blood transfusions or blood products
Decreases the incidence of thromboembolism
Reduce perinatal mortality to less than 1%
Reducing interventions in the pain and delivery room (including decreasing the use of oxytocin)

Table 2: Complications of vaginal delivery after delivery by cesarean section

Complications
- uterine rupture (the most common complication)
- Increased risk of hysterectomy following uterine rupture
- Increased VBAC-induced injuries and accidents
- Increased vaginal and fetal events caused by VBAC delivery

Table 3: Recommendations for vaginal delivery after delivery of cesarean section

(Conditions) VBAC Delivery Advice
- There is no definitive midwifery condition for performing a definitive cesarean section (breech arm, shoulder, twin, post term, etc.)
- There are no symptoms of hip disorder (CPD).
- Self-priming (cervical dilatation 4-3 cm).
- Do not instigate or initiate labor pain and soothe the cervix with drugs such as prostaglandins and oxytocin (to reduce the chance of uterine rupture).
Do not use gadgets such as Vacuum or Forceps for childbirth.
- The fetal weight is less than 4000 grams (macrosomia not proved).
- Term of gestational age (accurate diagnostic methods used to determine LMP).
- The distance between the current pregnancy and the previous cesarean delivery is at least 24 to 19 months ago (a short interval in pregnancy can increase the chance of uterine rupture by 2-4 times).
Cut the cesarean delivery as a low transverse (the lower segment).
- The number of previous cesarean section is not 2-1 times higher.
There is no scar or rupture on the womb.
- The mother is ready during pregnancy and has received training in this type of childbirth.
- There are no putative problems, such as a decollete.

- Conditions that increase the likelihood of uterine rupture, such as multi-striae, macrosomy, Polyhydramnios , are absent.
- There are no medical and internal diseases in the mother (diabetes, obesity, hypertension, etc.)
- Have a history of once-in-time vaginal delivery.
- There are no muscle problems

Table 4: Care of women with VBAC conditions

Care

- Delivery is done in a well-equipped hospital
- A well-functioning and active operational team including a gynecologist, pediatrician, anesthesiologist, midwife in the operating room, and more.

Uterine contractions and embryonic heart rate are regularly recorded by the electrodes and, if urgent action is required, do this without waste of time. (Check every 10-5 times the monitor).

- Use local anesthetics and anesthetics to reduce maternal stress (pethidine and epidural).
- Do not exacerbate labor pain (no induction).
- The signs and symptoms of uterine rupture are monitored regularly (embryo heart monitoring, uterine contraction control, etc.) and, if uterine rupture is possible, laparotomy is performed immediately.
- Apply to save blood for at least 24 hours.
- The vital signs and hemodynamic status of the person should be monitored regularly.
- Mental and psychological support of the woman in the pain and delivery room (especially by the spouse).

The complications of VBAC are listed in Table 2. (16-19). Several studies have shown that 60-80% of women with previous cesarean section can easily vaginal delivery, provided that the conditions mentioned by the American Association of Obstetrics and Gynecology (ACOG) by the individual and the team Care should be taken thoroughly and accurately. (15) The conditions for this type of delivery (VBAC) are given in Table 3. (17-17 and 15), the American College of Obstetrics and Gynecology has developed and presented a series of supportive and care measures for vaginal delivery after cesarean section that, by implementing these care programs, it is possible to minimize the possible complications of this kind of childbirth. . These conditions and care are presented in Table 4. Currently, the most commonly used cesarean section rate in the United States is one million cases per year. In a study by Jazel et al. (2001) in Brazil, the percentage of cesarean section increased from 68.3 to 81.8 (13) during the study. The economic burden of cesarean delivery in the United States is twice that of normal births, and in addition, the length of stay and recovery time and return to work are twice as likely to occur in cesarean delivery. Various studies and studies have shown that, if there is no specific monitoring system for assessing cesarean section and normal delivery, normal delivery with all the undeniable benefits will increase the likelihood of cesarean delivery (14). A review by Fatemeh Abbasalizadeh and colleagues in Tabriz in order to evaluate the women's desire for delivery after a single cesarean section showed that 67.5% of women tended to repeat cesarean section, the most common cause (88%) mentioned was less pain. While 32.5% of women tended to have normal delivery, 83% of them reported eating more comfortably after cesarean section (4). In a study conducted by Gamble et al. (2001) in Australia, the cause of women's cesarean section was the previous unpleasant experience of normal delivery, maternal anxiety and insufficient knowledge of the complications of cesarean section (15). In a study by Masoomeh Ali Mohammadian and colleagues to examine the effect of mother's request on the amount of elective cesarean sections was conducted in Tehran hospitals. It found that the most common cause of elective cesarean section (73.5%) was repeated cesarean section (16). In the present study, 134 (52.9%) patients tended to repeat cesarean section. According to studies, 80-60% of women with previous cesarean section could have normal and normal delivery. In a study by Linda French and colleagues in Nova Scotia (1984-92), about 53% were able to have normal delivery (14). In a study conducted by Malyha Arab in Hamedan to evaluate the natural outcome after cesarean section, the results show that out of 81 deliveries no maternal deaths were reported and only 3 cases of postpartum complications were observed, while of 271 cases of cesarean section w 19 cases were observed after cesarean section (17). The results of this study indicate that complications after cesarean delivery are higher than normal delivery. The results showed fever in 36 cases, bloating in 13 cases, constipation in 3 cases, hysterectomy in 1 case and uterine and abdominal damage was seen in 1 case. While in normal delivery, only 1 case of fever was observed There were no complications in the womb and adnexa. Also, in the research conducted in Hamedan, the mean hospital stay was 2.8 days in the cesarean section and 1.1 days in the normal delivery group (16). In the present study, the duration of hospitalization in the two groups was 3.1 days versus 1.2 days. The most important complication of natural birth due to previous cesarean section is the risk of uterine rupture. According to available evidence, rupture of the uterus following normal delivery is in mothers who have had a transverse cesarean section is 0.5-1.2%. In the study of Linda French and colleagues, also reported uterine rupture in the natural delivery group at 0.3% (15).

Conclusion

The results of this study showed the need for precise selection of subjects for natural delivery after cesarean section and with care during delivery, normal delivery after to cesarean section has no severe complications and can be used to reduce unnecessary cases of natural delivery following cesarean section. Vaginal delivery after cesarean delivery is one of the most appropriate and scientific methods for controlling and reducing the selective and unreasonable cesarean section rate among women and thus reducing the risks of this type of delivery for the mother

and the fetus. Therefore, in order to achieve these goals, women and midwifery professionals need to be aware of the conditions, benefits and goals of this type of delivery, and if necessary have the knowledge and awareness to do so. The results show that in the case of repeating of cesarean section, duration of hospitalization was less, so were complications following surgery.

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