



Original Article

Social Factors Affecting Elective Cesarean in Iran

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ABSTRACT

Background and Aim: Cesarean section is a type of delivery, which has recently attracted the interest of numerous pregnant women. According to the general principles of medical ethics, to respect the individuals' right to independence, the medical staff must provide the patients with the necessary information to enable them to involve in the decision-making process freely and informedly. In addition, the medical staff must adhere to the rule of "evaluation of risks and benefits" in the treatment process. This rule should be also applied in the selection of delivery methods for pregnant women. The present study aimed to evaluate the social factors affecting the tendency of pregnant women toward an elective cesarean section in the past few years.

Materials and Methods: This descriptive-analytical study was conducted on 200 women in the third trimester of pregnancy referring to the hospitals located in the District one of Tehran, Iran. The data were collected using a researcher-made questionnaire. Data analysis was performed using descriptive and inferential statistics.

Ethical Considerations: After the explanation of the study objectives, written informed consent was obtained from all participants.

Findings: According to the results, elective cesarean delivery showed a significant relationship with maternal awareness of cesarean birth complications, encouragement by physicians, fear of normal delivery, imitation of others, maintenance of the body beauty, social and economic status, maternal occupation, family income, and parental occupation. However, the elective cesarean section had no significant association with awareness about the benefits of vaginal birth and decreased maternal role.

Conclusion: Although pregnancy and delivery are physiological phenomena, they are regarded as a "disease" in modern medicine. Moreover, gynecologists have prevented the women from consciously deciding about their own choice of delivery. The encouragement of the mothers to undergo cesarean section by the specialists, along with the women's attitudes about vaginal delivery, has led to the enhanced use of cesarean birth in Iran. The women's higher awareness about the benefits of normal delivery and cesarean section complications assisted them in making a better choice about their delivery method.

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Introduction

The provision, maintenance, and promotion of maternal and neonatal health as two vulnerable groups of society are of paramount importance. Therefore, the promotion of normal delivery has always been considered a fundamental policy at all levels of the health system

of Iran (1). According to the literature, more than 70% of the pregnant women in Iran undergo cesarean section for unnecessary reasons, 92% of whom require this procedure due to the fear of labor pain and its associated complications (2).

Meanwhile, contrary to the beliefs of the mothers, in the absence of particular problems, vaginal delivery is safer than cesarean birth. Moreover, the pain, weakness, disability, recovery period, and physical problems occurring after cesarean surgery are higher, compared to those of the normal delivery (3). The rate of cesarean section varies in different parts of the world, and it is on a growing trend.

Accordingly, the rate of this surgery has increased from 15% to 25% in the past 20 years. There are several differences in the rate of cesarean section at the national and international levels (4). Based on the statistics announced by the Monitoring and Evaluation System of the Ministry of Health and Medical Education in 2014, the cesarean section had the prevalence rate of 41.2% in Iran, according to which Sistan and Baluchestan and Guilan provinces, Iran, had the lowest (13.6%) and highest (64.3%) rates, respectively (5).

However, based on the unofficial statistics, this amount has been reported to be over 80% in the private hospitals of Tehran, Iran. In 2010, based on the records of the university hospitals, the rate of cesarean delivery was reported to be 48% in the whole country. This rate was higher than 90% in private hospitals and even 100% in some hospitals. The unconventional enhancement of the cesarean section prevalence has increased the financial burden on the community health systems (6). As a result, some plans are made in the countries having a cesarean birth prevalence rate of 20-30% to reduce this trend. Meanwhile, the prevalence of cesarean delivery in these countries is approximately one-fourth of that in Iran (7).

According to the first report provided by the Health Monitoring System of Iran, the study of multiple health and population indices in Iran in 2010 indicated that 54.5% and 45.5% of the deliveries were normal and cesarean section methods, respectively, which is indicative of a 3% increase of cesarean surgery in 2010, compared to that in 2006 (8).

Factors other than medical necessity or scientific indications are responsible for undergoing a cesarean section in the majority of cases. Based on the literature⁹, the fear of delivery pain, bad labor experience, wrong beliefs about the superiority of cesarean section, and lack of knowledge about its adverse effects are the determining factors in the selection of cesarean delivery. Even in some societies, performing cesarean section has turned into a luxurious act. In most cases, the actual reason behind the selection of this procedure is unknown.

These statistics are indicative of the effects of economic, social, and cultural factors on the prevalence of cesarean delivery.

In the current study, it was attempted to find the answer to the following questions:

1. Which social factors affect maternal tendency toward the selection of cesarean section?
2. Are these factors affected by the lack of adherence to the ethical principles of medicine?
3. Is the lack of sufficient knowledge about the benefits of normal delivery and complications of cesarean birth responsible for the selection of cesarean section as the delivery method?
4. Is this due to the lack of doctors or medical staff's respect for the right of mothers to be informed?
5. Is the fear of vaginal delivery responsible for females' higher tendency to elective cesarean birth?
6. Is there a relationship between elective cesarean section and maternal socioeconomic status?
7. Are medical domination and non-compliance with medical ethics responsible for the increased tendency of women toward cesarean delivery?

Ethical Considerations

Before the distribution of the questionnaires, the objectives and method of implementation of the study were explained to the participants. In addition, written informed consents were obtained from the subjects before the study, and they were assured of the confidentiality terms regarding their personal information. The participants were also allowed to withdraw from the study at any time.

Materials and Methods

This descriptive-analytical study was conducted on 200 pregnant females in the third trimester of pregnancy referring to the hospitals located in district one of Tehran, Iran. In this study, the documents, articles, books, and dissertations available in this field were applied to collect the data related to the issue of interest; subsequently, the research hypotheses were produced.

The study population was selected through the multistage cluster sampling technique. The sample size was determined as 200 cases using Cochran's formula. The data were collected using a researcher-made questionnaire, consisting of open- and closed-ended questions. The questionnaires were filled out

in person. The majority of the items were rated on a five-point Likert scale. In addition, data analysis was performed in SPSS using descriptive and inferential statistics.

Findings

According to the results, the majority of the participants (32%) were within the age range of 21-25 years with the mean age of 26.4 ± 5.6 years.

In terms of the education level, most of the subjects (31.2%) had junior high and high school degrees. Moreover, the majority of the participants (51%) were housewives. The mean number of pregnancies was 1.5 ± 0.85 , and most of the mothers (5.54%)

were primiparous. In addition, 8.7%, 2.7%, and 4.1% of the subjects had a history of miscarriage, stillbirth, and infertility, respectively.

According to Table 1, no significant correlation was observed between elective cesarean delivery and awareness of vaginal birth benefits. On the other hand, there was a direct relationship between the elective cesarean section and awareness about the complications of this surgery. Therefore, learning about the complication of cesarean birth increased the tendency of the subjects toward its selection. In contrast, decreased knowledge about the complications of this procedure was associated with reduced willingness to undergo this surgery.

Table 1. Correlation of elective cesarean section with dependent variables

	Elective cesarean section	
	Correlation coefficient	Level of significance
Awareness of vaginal delivery benefits	0.11	0.175
Awareness of cesarean section complications	0.26	0.003
Fear of vaginal delivery	0.25	0.001
Individualism and decreased maternal duties	0.14	0.070
Modernization and maintenance of the body beauty	0.32	0.001
Maternal encouragement by physicians	0.49	0.001
Imitating others	0.34	0.001

Moreover, a significant positive relationship was observed between elective cesarean section and fear of normal delivery. In this respect, the fear of vaginal birth increased the tendency of the subjects toward cesarean section, whereas reduced fear of normal delivery decreased their tendency toward the selection of cesarean birth.

Nonetheless, elective cesarean delivery showed no significant relationship with individualism and decreased maternal role. In addition, a significant positive association was observed between the elective cesarean section and modernization and maintenance of the beauty of the body. In this regard, the tendency toward modernization and maintenance of the body beauty enhanced the individuals' tendency toward cesarean section, whereas decreased willingness toward

modernization and maintenance of the body beauty reduced the tendency of the women toward this delivery method.

The results of this study were indicative of a significant positive relationship between elective cesarean delivery and gynecologists' role in encouraging this act. In this respect, the individuals' tendency toward elective cesarean section was increased by the encouragement of gynecologists, whereas their decreased encouragement reduced the willingness of the pregnant women toward undergoing elective cesarean birth.

Furthermore, the enhancement of women's tendency to imitate others increased elective cesarean delivery, while the reduced imitation of others decreased the willingness of these women toward the selection of cesarean section.

Table 2. Results of independent t-test in terms of the tendency toward cesarean section between the employed females and housewives

Group	Mean	Standard deviation	T	Degree of freedom	P-value
Housewife	5.45	2.75	-3.69	187	0.001
Employee	7.10	2.50			

As observed in Table 2, there was a significant difference between the housewives and employed women in terms of elective cesarean section. According to the results, elective cesarean birth was more frequent in the employed women, compared to that in the housewives. Moreover, the subjects with incomes higher than 5,000,000 Rials had a higher tendency toward elective cesarean birth than those with salaries below this amount.

In addition, the participants whose spouses had an income level of below 5,000,000 Rials showed a significant difference with those with the spousal income of above 5000,000 Rials. In this regard, the subjects whose spouses had an income level of

above 5,000,000 Rials had a higher tendency toward elective cesarean delivery, compared to those with a spousal income of below 5,000,000 Rials. Therefore, a high-income level was one of the effective factors in the selection of cesarean section. It seems that the people with low-income levels refuse to select this delivery type even if there is a desire to select this method due to the high costs of this procedure.

There was a significant difference between the subjects whose husbands were laborers and those with self-employed and employed spouses in terms of elective cesarean birth (Table 3).

Table 3. Comparative evaluation of elective cesarean section in terms of spouse's occupation

Level of difference Level of significance	Employed	Self-employed	Laborer	Technical
Employed		0.82	1.81	0.48
Self-employed	0.105		0.98	-0.34
Laborer	0.001	0.059		-1.33
Technical	0.550	0.657	0.102	

According to Table 4, the mean elective cesarean delivery was significantly different between the subjects with low and high social status. In other words, the women with higher social levels had a higher tendency toward elective cesarean birth than those with medium and low social levels. Therefore, it could be stated that the individuals' tendency

toward elective cesarean delivery was increased by improved knowledge about the complications of this procedure. On the other hand, low knowledge about the complications of this surgery would result in a lower tendency toward undergoing cesarean birth.

Table 4. Comparative evaluation of elective cesarean section in terms of social level

Level of difference Level of significance	Low	Medium	High
Low		-0.40	-2.23
Medium	0.367		-1.83
High	0.009	0.024	

Furthermore, fear was found to be one of the important factors affecting the tendency toward elective cesarean section. In this regard, the women were more willing to undergo cesarean delivery due to the fear of labor pain. Meanwhile, the medical staff offers no help to reduce this fear in women. Another factor involved in elective cesarean birth is the maintenance of the beauty of the body and

fitness. The women who cared more about their appearance and body shape showed more tendency toward this delivery method.

In addition, those with a higher tendency toward imitating others demonstrated a higher willingness to elective cesarean birth. The most important finding of this was maternal encouragement toward cesarean delivery by the gynecologists, which led to

the preference of this procedure by women due to their confidence in their gynecologist.

All of the above factors are understood in the context of social class. In other words, the employed women had a higher tendency toward elective cesarean section, compared to the housewives. In addition, the women with higher income levels or higher spousal income were more willing to undergo cesarean birth. It could be concluded that the occupation of the spouse was another factor affecting the mothers' decision about their choice of delivery.

Conclusions

Females' awareness about their bodies is one of the medical issues. The women's higher knowledge about the benefits of normal delivery and complications of cesarean section assists them to make a more proper decision in this regard, and consequently prevent physical damages and financial loss. Therefore, we can use the theories in the field of medical sociology. Any form of medical service is associated with a complicated network of rules, regulations, habits, procedures, and social values.

Similar to the western countries, the sensitivity of women toward their body shape has increased in Iran despite the associated health concerns and threats (11). Any society has its interpretation of the cesarean section based on its culture. Some women believe that they can have control over their bodies in vaginal delivery. The differences arise from the specialist's and women's different interpretations of a good delivery process and its associated concepts as well as various attitudes toward new technologies.

Oakley is a prominent figure in this domain, who conducted various studies on delivery and maternity during 1979-1980. Oakley paid special attention to the gap between the imagination of childbirth and the actual process. He described the reason that the new medicine has allocated the title of "disease" to pregnancy and delivery.

This disease must be managed in the hospital with the aid of the medical staff. Therefore, the preference of the women is neglected in favor of the specialists' opinions. This issue was also highlighted in the study performed by Rothman, who evaluated the history of medicine and indicated how medical professionals have control over the time of birth (12).

However, Oakley believed that today, there is an exaggerated need for medical services during the

maternal process. He remarked that the gynecologists have taken the control of the pregnant females to the extent that the females cannot make an informed decision about the type of delivery (13). Some experts believe that females' increased selection of cesarean section is motivated by the tendency to escape from the labor pain. However, cesarean birth is associated with the pain itself and has various negative outcomes. One of the causes of increased cesarean delivery in Iran might be due to the role of gynecologists, who encourage the women toward the use of this surgery. The females' attitudes toward vaginal delivery is another issue leading to the enhancement of the cesarean section rate in Iran. In a normal delivery, a gynecologist must spend a great amount of time to complete the procedure.

In this regard, the gynecologist must be present at the hospital upon the emergence of pain in the pregnant mother at any time of the day. On the other hand, wage differences between vaginal delivery and cesarean section have caused gynecologists to encourage women to undergo cesarean birth. In addition, the decreased midwifery role or reduced presence and interference of the midwives in the delivery process and females' education and encouragement to normal delivery, which is regarded as the major duties of the midwives, and lack of sufficient attention of the healthcare providers to this matter have adversely contributed to the enhancement of cesarean section implementation.

The patients themselves are another cause of the increased rate of cesarean deliveries. Some women consider cesarean section as a modern phenomenon and think that normal delivery is an outdated method. Some other females believe that cesarean birth is better for their infant since there is no pressure on the neonate's head. On the contrary, the pressure put on the fetus is beneficial since the lungs are cleaned by the suction created in this procedure. Therefore, the infants born through vaginal delivery experience fewer respiratory problems, compared to those delivered through cesarean section.

The head of the neonate can withstand the pressure-induced within the labor process. This pressure does not cause any complications for the infant, except for the cases in which the head of the neonate is larger than the pelvis of the mother. In such cases, cesarean delivery is necessary and beneficial for both mother and fetus. Based on the modern perspectives, normal delivery is regarded as a major success for women in developed countries, which

increases mothers' self-confidence. This procedure is considered as the potential talent of women, and unnecessary cesarean delivery is observed as a failure due to missing the chance of experiencing this ability.

Moreover, although the cesarean section is an advanced method, it is a surgical procedure that would be detrimental to the patient if performed unnecessarily. Today, no medical practitioner in the USA is allowed to perform this surgery without an acceptable reason, and the patient can sue the physician, who is punished according to medical ethics principles. Unlike Iran, there is no elective cesarean delivery in the USA.

It is not clear whether the decision about performing normal delivery or cesarean section should be made by the mother or gynecologist. Some individuals imagine that this decision must be made by the medical group. On the other hand, some people disagree and say that mothers must decide about this issue. However, these two views can be combined (14).

The delivery method should be determined in a two-way relationship between the physician and the patient. The patient's decision for undergoing a cesarean section cannot be changed by the physician's recommendation for normal delivery. The physicians do not recommend cesarean birth unless it is beneficial to the patient. However, the physicians finally conform to the patient's decision (15).

The encouragement of the mothers to use cesarean birth by the physicians, along with the women's general imagination of normal delivery, has increased the application of this technique in Iran. The specialists encourage the women to undergo a cesarean section. Generally, a gynecologist must spend several hours for normal delivery.

In addition, labor can occur at any time of the day or night. The difference in the wages of vaginal birth and cesarean section, long distances and traffic, physicians' problems, and several referrals have caused the physicians to prefer cesarean delivery because it is predetermined and takes less time, compared to the normal delivery (16).

The fear of vaginal delivery or labor pain was another major factor in the selection of cesarean birth. Pain is an unpleasant but beneficial feeling. About 7-22% of the cesarean deliveries are performed due to fear, which is more observed in the primiparous women, compared to the multiparous ones. Fear of pain is the cause of

choosing cesarean section in the majority of females .

Women select the cesarean section to escape from the pain of vaginal delivery since they think that this surgery causes no pain or complications. In a normal delivery, pain comes intermittently, and the mothers have time to rest in between, whereas in a cesarean section, pain comes after the implementation of the surgery (17).

Our findings were in line with those obtained by the previous studies conducted in Iran and other countries. In a study conducted by Rafati¹⁸, there was a relationship between elective cesarean section and social class. Furthermore, Moasherati (19) reported an association between elective cesarean delivery and fear of labor pain. In another study performed by Hadizadeh (20), elective cesarean birth was observed to have a relationship with the methods of pain reduction and maternal training.

In addition, Wei Cai (21) demonstrated that elective cesarean section was associated with economic and social classes as well as income level. In a study carried out by Elizabeth (22), there was a relationship between elective cesarean section and socioeconomic status. Ryding (23) observed an association between elective cesarean birth and fear of normal delivery complications, such as the fear of losing the beauty of the vagina. In a study conducted by Lamaz (24), elective cesarean birth was associated with the level of income. Furthermore, Jordan (25) reported an association between the selected type of delivery and social culture.

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Conflict of Interest Statement

The author declares that they have no conflicts of interest.

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