A STUDY OF AWARENESS AND ATTITUDES OF PREGNANT WOMEN ADMITTED TO SOCIAL SECURITY HOSPITAL IN ZAHE DAN TOWARD CESAREAN SECTION

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ABSTRACT: Background and objective: Delivery mechanism is a spontaneous process without need for intervention; however, nowadays, we are faced with cesarean section growth as an unnecessary medical technology. In this regard, the present study aimed to examine pregnant women’s awareness and attitudes toward advantages and disadvantages of a cesarean section. Material and Methods: In this descriptive-analytical study, 271 pregnant women, admitted to Social Security Hospital in Zahedan, completed a researcher-made questionnaire including four sections, i.e., demographic characteristics, pregnancy records, questions concerning about advantages and disadvantages of a cesarean section and subjects’ attitude. Hence, to analyze the obtained data, chi-square test was used through applying SPSS software. Results: Answers about subjects’ awareness indicated that 64 women (32.6%) had high awareness, 81 women (29.9%) had moderate awareness and 127 women (46.5%) had low level of awareness about advantages and disadvantages of a cesarean section. Considering subjects’ attitudes, 4.8% of subjects had positive attitudes, 12.2% of subjects had negative attitudes and 83% of subjects had no idea. Job, level of education, pregnancy history, gestational age, type of care and counseling before pregnancy were significantly correlated with subjects’ level of awareness, That about the type of attitudes, only for Job, level of education, the same relationship was found. Moreover, there was a significant relationship between awareness and attitudes (p<0.05). Conclusion: In the current study, most of pregnant women had low level of awareness and neutral attitudes. Since human attitudes are formed based on people’s awareness and result in behavioral intention, enhancing people’s attitude and awareness through counseling, conducting training programs for pregnant women and related groups and supplying hospitals to perform natural delivery can be considered as effective steps taken to reduce cesarean section. Keywords: Awareness, Attitudes, Cesarean Section, Pregnant Women.

INTRODUCTION
Delivery is one of God’s blessings to produce human race on earth and has continued since the creation of Adam till now [1]. Hence, having a Normal Vaginal Delivery (NVD) monitored precisely and continuously by skilled and knowledgeable midwives and obstetricians should have priority over other methods of delivery [2]. A cesarean section, also known as a C-section, is defined as the delivery of fetus through cutting a mother’s abdominal wall and uterus [3-4], employed only as a way to save the lives of the mother and her baby in difficult labors to reduce maternal mortality [5-6] and certainly it is limited to conditions when normal vaginal delivery in not possible or it has serious risks for the fetus or the mother [7-8].

Hence, a cesarean section has limited and defined use and it is not necessarily the preferred method of delivery; since, like any other surgery, it has various complications and risks for the mother and her baby [9].
However, nowadays, the cesarean section has become one of the safest surgeries in the world [10]. Even among obstetricians, there are people who believe that a cesarean section is the most appropriate method of delivery and they have published their positive comments on this matter, while others assert that a cesarean section is a major surgery with various complications [11].

In the past decade, the cesarean section rate has dramatically increased and mothers’ request for elective cesarean in uncomplicated pregnancies has become prevalent. In some parts of the world, the cesarean section rate has reached 50% of all deliveries [12]. In 2010, World Health Organization (WHO), considering concrete and practical indications, recommended the maximum rate of the cesarean section up to 15% percent of deliveries [13-17]. However, according to previously conducted research, this increase in the cesarean section rate is mainly due to non-obstetric factors, including failure to use technology in natural childbirth, patients’ fear and complaints, financial incentives, physicians’ preference considering NVD as a pathogenic act [18], which influenced this rate and increased it from 5% to 25% in the last twenty years [19]. According to a report, in 2008, Brazil with 45.9% had the highest and Chad with 4% had the lowest cesarean section rate. Based on this report, this rate in Iran was 41.9% [20]. This is while, in the United States, this ratio, in 1998, was roughly one in every five deliveries [21].

A cesarean section has various complications and according to statistics, maternal mortality in a cesarean section is twice-thrice of normal vaginal delivery and the inability caused by this surgery is 5-10 times more than normal vaginal delivery [9-15]. In another study, the complications and maternal mortality in a cesarean section was reported 4-5 times more than a normal vaginal delivery [22-23] and the risk of neonatal death in a cesarean section is 4 times more than that of a normal vaginal delivery [24]. However, despite this increasing rate, no improvement was observed in mothers’ condition. The lowest the cesarean section rate, the lowest the mortality rate around childbirth [16].

Many factors, including medical issues, maternal age, primiparous mothers, previous cesarean sections, demand for tubal ligation, mothers’ willingness to a cesarean section due to fear of NVD pain and social and economic problems, have great impacts on the rate of cesarean section in various societies [25]. Moreover, wrong attitudes and behaviors, obstetricians’ views and provincial, hospital and intersectoral policies are other important factors affecting the cesarean section rate [26-27].

Although, in some cases, a cesarean section is the only way for solving obstetric emergencies, it has various mental and physical complications, including infection, more bleeding compared to a normal vaginal delivery, anesthesia and thromboembolism [10-28-29]. Therefore, not only a cesarean section does not significantly decrease mortality rate and pathogenicity, but also it increases health care costs, endangers the mother’s health and slows down the recovery process [30-31].

The prevalence of NVD and the cesarean section in pregnant women in a country is one of the main indicators for evaluating the performance of maternal health programs and increasing unnecessary cesarean sections and reducing the number of NVDs among women suggest inappropriate health system performance [32-33]. In every society, there are certain beliefs, values, attitudes and behavior patterns. Among the main factors playing a key role in the formation of desires are people’s level of knowledge and their attitude. People’s attitude is created based on their knowledge; therefore, to change one’s attitude, a basis for raising the level of knowledge should be provided to increase the possibility of performing an appropriate behavior. Hence, determining individuals’ level of knowledge and awareness is the first step to determine and present educational programs, recognition of which is essential before developing such plans [34-35]. In a study conducted in 1999 by Faramarzi, lack of knowledge of complications of a cesarean section and promoting it, negative attitudes toward NVD, false rumors and complications ascribed to normal vaginal birth were considered as the main reasons for preferring a cesarean section. Prevention is an issue including three main concepts of knowledge, attitude and performance and the occurrence of a proper health behavior requires the existence of factors such as motivation, perceptions and personal values accompanied with emotional tendencies [36].

Therefore, considering the mentioned reasons, the current study attempted to investigate the level of knowledge and attitude of pregnant women, admitted to Social Security Hospital in Zahedan, toward the cesarean section to aid health planners, health authorities and relevant administrators to make appropriate decisions in order to reduce the growing rate of the cesarean section.

MATERIALS AND METHODS
This descriptive-analytical study was conducted from May to September 2014 in maternity ward of Social Security Hospital in Zahedan. The statistical population included 271 pregnant women whom were in different stages of pregnancy and referred for routine prenatal care. Interviewers initially became familiar with the questions. Furthermore, ethical considerations and pregnant women’s status were regarded as the main requirements of the study. The subjects were willing to cooperate and their consent was obtained. After coordination with hospital administration and security for achieving their authorization for interviewers to interview women referred to the hospital to get prenatal care, the required data were obtained without referring to patients’ medical records, through talking with pregnant women.

Data was collected using a questionnaire including four main sections. The first section associated with demographic characteristics (including age, education, place of residence, and occupation). The second part related to obstetric records (gestational age (first trimester, second and third), pregnancy history (How many times did they get pregnant?), previous delivery experience, type of prenatal care, time of prenatal care initiation, pre-conception counseling. The third part, included 14, three-option questions, related to pregnant women’s knowledge about the advantages and disadvantages of the cesarean section. Correct, wrong and I don’t know responses were respectively scored 2, 1 and 0. In this regard, the scores calculated for patients’ knowledge ranged from 0-28, classified into three groups of low (0-9), moderate (10-190, and high knowledge (20-28).

Finally, fourth section included ten 5-point Likert type questions which were developed in a way that the subjects were able to express their opinions on various levels containing strongly disagree, disagree, no idea, agree, and strongly agree. In this regard, for each response a score from 1 to 5 was considered. Therefore, the scores for patients’ attitude ranged from 10 to 50 and were classified into three groups of negative attitude (10-23), neutral (24-37), and positive attitude (38-50). To determine the scientific validity of the questionnaire, content validity was used, in a way that this questionnaire was designed and developed using authentic books and sources in this field. With the approval of some faculty members, necessary reforms were made. This questionnaire’s validity was confirmed using test-retest method (r=%89). To analyze the obtained data, chi-square test was used applying SPSS 17 software.

RESULTS

The mean age of the population under study was 16.26 ± 39.6, with the minimum age of 15 years old and the maximum age of 42 years old. 52 women (19.2%) were 15-22 years old, 130 women (48.9%) were 22-28 years old, 70 women (26.3%) were 29-35 years old and 19 women (7.1%) were 36-42 years old. Among the subjects, 245 women (90.4%) were housewives and 26 women (9.6%) were employed. In terms of education, 14 women (5.1%) were illiterate, 11 women (41%) were under diploma, 78 women (28.8%) had diploma and 68 women (25.1%) had a higher degree. 247 individuals (91.5%) lived in the city and 23 individuals (8.5%) lived in rural areas referring to the hospital from their village.

Considering their gestational age, 63 women (23.2%) were in the first trimester, 57 subjects (21%) and 151 women (55.7%) were respectively in the second and third trimester of their pregnancy. Examining their pregnancy history indicated that 73 women (26.9%) were primiparous, 92 subjects (33.9%) and 106 women (39.1%) respectively experienced their second and third or more than third pregnancy. Of this 271 pregnant women under study, 65 women (24%) did not experience pregnancy, 133 (49.1%) had a previous normal vaginal delivery and 73 (26.9%) previously had a cesarean delivery.

In this hospital, with the onset of pregnancy, 126 women (46.5%) only referred to health care centers for prenatal care, 71 women (26.2%) referred to a doctor and 74 women referred to both a health care center and a doctor. 177 women (65.3%) initiated the prenatal care in the first trimester, 82 women (30.3%) initiated the prenatal care in their second trimester and 12 women (4.5%) started their prenatal care in the third trimester. Among the subjects, only 52 women (19.2%) had pre-conception counseling. Investigating the responses to the questions assessing the subjects’ knowledge indicated that 64 women (23.6%) had high knowledge, 81 women (29.9%) had moderate and 126 women (46.5%) had low knowledge of advantages and disadvantages of the cesarean section.

Examining the relationship between demographic characteristics with the subjects’ level of knowledge indicated that the level of education and occupation were significantly associated with the level of knowledge (P=0.000); however, place of residence and age had no significant correlation with the level of knowledge (P<0.05). Subjects’ obstetric records included gestational age (P=0.011), history of pregnancy (P=0.006), the type of prenatal care (P=0.021) and pre-conception counseling (P=0.008) had a significant correlation with the
level of knowledge and they had no significant relationship with other variables (p>0.05). Considering the level of knowledge of advantages and disadvantages of the cesarean section, regarding its advantages, less pain and examination (39.1%) and with regard to its disadvantages, the risk of anesthesia (59.3%) and longer hospitalization (44.3%) had the highest percentage. In the fourth section, examining subjects’ attitude toward the cesarean section demonstrated that 13 women (4.8%) had a positive attitude toward the C-section, 33 women (12.2%) had a negative attitude and 225 women (83%) had no idea. The relationship between the level of knowledge and attitude was significant (P<0.05). Table 1 indicates the level of knowledge of advantages and disadvantages of the C-section demonstrating the level of significance of the relationship between the level of knowledge and attitude.

Table 1: Distribution of absolute and relative knowledge of pregnant women about advantages and disadvantages of the C-section and its correlation with attitude

<table>
<thead>
<tr>
<th>Knowledge questions</th>
<th>N (Percent)</th>
<th>P-value</th>
<th>Knowledge questions</th>
<th>N (Percent)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less pain *</td>
<td>106(39.1%)</td>
<td>0.008</td>
<td>More bleeding</td>
<td>118(43.5%)</td>
<td>0.041</td>
</tr>
<tr>
<td>Less examination*</td>
<td>106(39.1%)</td>
<td>0.000</td>
<td>Longer hospitalization</td>
<td>120(44.3%)</td>
<td>0.031</td>
</tr>
<tr>
<td>Smarter child*</td>
<td>71(26.3%)</td>
<td>0.015</td>
<td>Lumbago</td>
<td>96(35.4%)</td>
<td>0.002</td>
</tr>
<tr>
<td>Less damage to the urinary-genital organs*</td>
<td>70(25.8%)</td>
<td>0.000</td>
<td>Need for more care</td>
<td>104(38.4%)</td>
<td>0.043</td>
</tr>
<tr>
<td>Prevention of urinary and fecal incontinence*</td>
<td>73(26.9%)</td>
<td>0.039</td>
<td>Premature infants</td>
<td>80(29.5%)</td>
<td>0.044</td>
</tr>
<tr>
<td>Anesthesia risks</td>
<td>161(59.3%)</td>
<td>0.009</td>
<td>Maternal mortality</td>
<td>84(31%)</td>
<td>0.000</td>
</tr>
<tr>
<td>Uterine infection</td>
<td>112 (41.3%)</td>
<td>0.001</td>
<td>Later intercourse</td>
<td>84(31%)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

This * indicates the advantages of the cesarean section

With regard to subjects’ attitude, 31% of pregnant women under study considered the C-section as an easier method of delivery and the highest percentage (34.3%) went to the belief that a C-section has less complications compared to a normal vaginal delivery and the lowest percentage (32.4%) was for the idea that those who have a C-section belong to the higher social class. 67.9% of women had no idea about personnel’s better attitude when having a C-section. 21.8% of women believed that having an insurance card affected their decision and 17% of women asserted that others’ attitudes and guidance impacts their decision. The type of attitude toward factors associated with cesarean sections, in the population under study, is presented in Figure 1.
DISCUSSION

The prevalence of NVD and the cesarean section in pregnant women in a country is one of the main indicators for evaluating the performance of maternal health programs and increasing unnecessary cesarean sections and reducing the number of NVDs among women suggest inappropriate health system performance [33]. However, in many countries, including Iran, the cesarean section rate is high and having a C-section has become a culture [7]. Willingness to a C-section has cultural, social, psychological and even racial roots [37]. In Iran, a study conducted by Gangi et al. in Shahrekord in 2006 indicated that 50-65% of deliveries were cesarean among which 90% of these cesareans section were performed in urban private hospitals [38]. Nowadays, mothers participate in making decision about their child’s birth method [11-39]. One of the important factors affecting their decision is their level of knowledge of delivery methods [32]. The cesarean rate in Iran is 3-4 times more than the international standard and 70% of cesarean sections in Iran are conducted without natural indications requested by pregnant women [40]. This study indicated that 23.6% of pregnant women in Zahedan had high knowledge of advantages and disadvantages of a C-section, 46.5% of pregnant women had low knowledge and 29.9% of subjects had moderate knowledge of the issue. In another study, carried out by Faraji on pregnant women admitted in Rahst health care centers in 2004 demonstrated that most of the pregnant women under study had moderate knowledge and the number of women with high knowledge were low [41]. In a similar study, carried out by Salehian et al. in Shahrekord in 2006, the results indicated that respectively 1%, 34%, and 65.5% of pregnant women had high, moderate and low knowledge of advantages and disadvantages of the C-section. Moreover, Arjmandi et al. conducted a study in Tehran in 2005 and reported that 2.2%, 67.3%, and 30.5% of women under study had respectively high, moderate and low knowledge of the issue [42]. Additionally, Movahhed conducted a study on pregnant women in Shiraz in 2012 and reported that women’s knowledge was respectively 10%, 55.3%, and 34.7% [43].

When comparing these figures, it is determined that over time women’s high knowledge has increased from 1% to 23% and similarly, in a study conducted in Samirom in 2012, pregnant women’s high level of knowledge was 19.2% and their moderate and low level of knowledge were 40.4% [44]. Increasing the level of knowledge over time can be found in a study conducted by Pourheidari who compared pregnant women’s high level of knowledge in Kerman, Babol and Rasht and concluded that respectively their level of knowledge had increased 4.2%, 4.8% and 7.5% from 1999 to 2001 [32]. This is in line with the results of the current study, i.e. over time pregnant women’s high knowledge of advantages and disadvantages of the cesarean section has increased; however, unfortunately, actual willingness and desire toward the C-section has also increased. Therefore, main factors influencing this willingness should be detected.

In the current study, according to Table 1, respectively, 59.3% and 41.3% of subjects considered risks of anesthesia and uterine infection as the most major disadvantages of a cesarean section. In a study conducted by Chung, respectively 74% and 82% of pregnant women under study considered the probability of infection and C-section pain as the main disadvantages of a cesarean section [45]. Pregnant women admitted in Social Security Hospital in Zahedan considered having less pain as the major advantages of a cesarean section. This was the most frequent advantage considered by these women, i.e. they believed that the major disadvantage of a normal vaginal delivery is that it is so painful. This result is in line with the results of the study conducted in Shahrekord, since most of the pregnant women admitted to health care centers mentioned having labor pain as the most important disadvantage of normal vaginal delivery [42]. However, contrary to these findings, in a study conducted by Mantata, subjects asserted that having delivery pain is a natural process of delivery which should be dealt with. This difference is probably due to insufficient training of methods of controlling and reducing delivery pain [46]. Through providing essential information about complications of C-sections, mothers can overcome their fear of normal vaginal delivery pain and prefer a NVD to a cesarean section [47].
In this study, 4.8% of pregnant women had a positive attitude toward the C-section and 12.2% of subjects had negative attitude toward the C-section and 83% of them were neutral. In another study, Faramarzi indicated that in Babol 19.6%, 31.6%, and 48.8% had respectively positive, neutral, and negative attitude toward C-sections [36]. In a study carried out by Movahhed, respectively, 12%, 69%, and 19% of subjects had positive, neutral, and negative attitude toward C-sections [40]. Moreover, Jamshivi Avanaki conducted a study in Rasht and showed that 71.4% of pregnant women under study had a neutral attitude toward C-sections. This finding is closer to the results of the current study [48].

In the present study, among demographic characteristics, level of education and occupation had significant relationships with attitude and level of knowledge, i.e. of 64 individuals who had high level of knowledge of advantages and disadvantages of C-sections, 1 individual (1.6%) finished elementary school, 13 individuals (20.3%) had an under diploma degree, 14 individuals (21.9%) had a diploma and 36 individuals (56.3%) had a higher degree. Moreover, considering their occupation, of 26 individuals who were employed, 15 individuals (57%) had a high level of knowledge. Therefore, with an increase in the level of education and also being employed, the subjects’ level of knowledge of advantages and disadvantages of the C-section increased. Like these correlations, these two demographic characteristics had similar relationships with attitude (P<0.05). In the current study, pregnant women with higher degree had higher levels of knowledge and better attitude toward delivery methods. These findings are consistent with the results of the studies conducted in Babol [49] and Tehran [41]. Hence, educated women are more interested in acquiring knowledge about the delivery methods [32-41-50].

The level of knowledge in employed groups had a significant correlation with the level of knowledge and subjects’ attitude toward the C-section. This is in line with previously conducted studies [41-51]. In Chung’s study, like the current study, there was no significant relationship among age and place of residence and the level of pregnant women’s knowledge and their attitude toward the C-section [52]. Women’s request for a cesarean section is a complicated matter which is under the influence of so many social and cultural factors. The most common reason is fear of labor which is more prevalent among primiparous women compared to multiparous women [53-54-55]. In the current study, the best advantage of the cesarean section considered by pregnant women under study was having less pain (39.1%). This had a significant correlation with the level of knowledge (P=0.006). These findings are in line with the results of Jamshidi Avanaki’s study conducted in Rasht whom reported that 38.3% of pregnant women had fear of pain [48].

In this study, there was a relationship between pregnant women’s level of knowledge and their attitude (Table 1). Other studies also confirmed the significant relationship between the level of knowledge and attitude [32-50-51]. In various studies, the level of mothers’ knowledge was considered as a key factor in determining their type of attitude. In another study, it was asserted that there was a significant relationship between the level of knowledge and the type of attitude toward the cesarean section. Through increasing mothers’ level of knowledge and creating a proper attitude toward the C-section, mothers’ choice of selecting a method of delivery can be affected [36-41-51]. This is while a study conducted in Taiwan indicated that the cesarean section rate in women who had access to medical data and had higher level of knowledge was low. Moreover, in another study, although subjects’ level of knowledge of advantages and complications of cesarean sections was high, they were willing to have a cesarean section [56-57].

In the present study, the positive attitude toward C-sections was low (4.8%). This is important since, in an article conducted in 2007, Lolaee mentioned that in Sistan and Baluchestan, the cesarean section rate was 6% and it was the lowest rate in Iran [58]. Therefore, it is hoped that, through effective planning and training, a proper attitude toward delivery may be created in people with neutral attitude toward the cesarean section aiding them to choose NVD. Probably, studying the methods of delivery is the main strengths of the current study. Therefore, it is recommended that future studies investigate the type of delivery that pregnant women choose.

**CONCLUSION**
Knowledge of the main factors affecting health and acquisition of knowledge is essential and it is the first step in adopting a healthy behavior [1]. After nearly a decade, repeated studies show that still mothers’ knowledge of disadvantages and complications of the cesarean section has not reached an appropriate level and there is still a wrong attitude toward cesarean sections. This indicated a lack of adequate training of health care centers...
providing prenatal care during pregnancy. This finding is consistent with the results of the study conducted by Yarandi et al. [59-60].

According to the obtained results, the majority of pregnant women had low and moderate level of knowledge toward various delivery methods; therefore, various solutions can be presented for reducing the cesarean section rate, including:

1. Method of reducing labor pain: Equipping hospitals, using Entonox, Lamaze, water birth [61], using breathing exercises, relaxation, hypnosis, acupuncture, complementary therapies such as homeopathy, using mind or other senses including listening to Quran or music, inhaling plants’ vapor, providing a proper condition for delivery with the presence and aid of the husband or a close relative [48].

2. Training: Holding training classes for helping mothers and their husbands become aware of advantages and disadvantages of the normal vaginal delivery and the cesarean section [61], increasing mothers’ support during delivery pains, improving the quality of obstetric care, training midwives explaining their important role in aiding mothers to choose the method of delivery, encouraging obstetricians who have conducted less cesarean sections [54], using media including radio, TV, holding workshops explaining method of painless delivery conducted by obstetricians, adding a new form to patients pregnancy records considering indications of the cesarean section, and encouraging personnel of maternity ward to have a better interaction with patients [40].

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