

Received: 13 October 2014 • Accepted: 22 November 2014

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doi:10.15412/J.JBTW.01031105

Cognitive Factors Related to Cesarean Intention among Iranian Pregnant Women

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ABSTRACT

Cesarean could lead to several side effects for both mother and children; the aim of this study was to determine the factors related to cesarean intention based on the social cognitive theory. In this cross-sectional study, conducted in Kermanshah County, the west of Iran, a total of 304 women's, was randomly selected to participate voluntarily in the study. Participants filled out a self-administered questionnaire. Data were analyzed by SPSS version 21 using correlation as well as linear regression at 95% significant level. Mean age of the respondents was 25.91 years (range, 15-40 years). Almost 41.1% of the participants reported who much and very much level of cesarean intention. Our findings showed the social cognitive variables accounted for 67% of the variation in the outcome measure of the cesarean intention. In addition, attitude, outcome expectancies, outcome expectancies, perceived behavior control and subjective norms were stronger factors to predict to cesarean intention. Based on our result we suggested designing and implementing education intervention among the women for reduce unnecessary cesarean.

Key words: Delivery, Cesarean, Cognitive Factors

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1. INTRODUCTION

Childbirth is a normal process starting with regular contractions of womb and finishing with expulsion of placenta and membranes; it leads the baby to be born (1). However, cesarean is a surgery to save both infant and mothers life through creating a cut via laparotomy and hysterotomy (2); it is one of the most common surgeries all over the world (3). World health organization proposed 15- 5 percent of cesarean surgery acceptable around the world (4). In proper condition and in the case of accessibility to medical technology, it is expected that cesarean rate should not be lower than 5 percent, while in the case of unnecessary surgeries, it increases to over 15 percent (5). Statistics show the meaningful increasing of cesarean surgery rate globally; more than 33% of childbirth in America includes cesarean section (6). In 2010, 25 percent of child birth in UK and 40 to 50 percent in the USA was allocated to cesarean delivery (7). In other developed countries such as Germany

cesarean rate increased twice from 1991 to 2010 (8). In Iran half of the infants are delivered through cesarean section (9). There are many medical and non-medical reasons for abdominal delivery; some included: fetal distress condition, breach presentation, multi gestation, and labor dystocia (10). Some other variables relative to accept cesarean surgery could be prime parity, education, mother's height and weight before pregnancy, overweight during pregnancy, mother's request and medical stress on regularities (3, 5). Additionally, cesarean imposes economical stress on family and increases delivery expenses as well as risk to mother and the infant due to unnatural reasons; Elective cesarean could lead to higher rates of maternal mortality, postpartum depression, infant mortality, keeping the infant in neonatal intensive care units due to various reasons such as respiratory distress syndrome (11, 12). Such surgery not only affects mother and fetus health during current pregnancy, but also includes consequences in later pregnancies; still birth,

abortion and ectopic pregnancy are reported to be some of the consequences of previous cesarean surgery (7). Considering the high rate of cesarean in Iran, it seems it's important to pay more attention to this issue and designing interventions to decrease the rate of the surgery. It is essential to recognize effective factors on behavior to plan the interventions. In this regard, one of the most common patterns and theories used to analyze behavior is social cognitive theory (SCT) introduced by Albert Bandura in 1986 (13). Several studies on various health fields have applied this theory in their investigations (14, 15). The present study aims to determine relevant of cognitive factors on cesarean intention among pregnant women in their first delivery attending health care centers in Kermanshah, Iran with using SCT.

2. MATERIALS AND METHODS

2.1. Participants and procedure

This cross-sectional study was conducted among 304 pregnant women referred to health centers in Kermanshah County, the west of Iran, during 2014. The sample size was calculated at 95% significant level according to the results of the pilot study. All participants signed the informed consent. The study protocol was approved by the institutional review board of the Kermanshah University of Medical Sciences.

2.2. Measures

Questionnaire included the 57 questions in following three sections.

2.3. Demographics scale

The variables assessed in this study including: age, education level (primary school, secondary school, high school, academic), occupation (housewife/working), and economic status (very weak, weak, average, good, very good).

2.4. Cesarean Intention

Cesarean intention was measured by one item. The statement of "I intend to do cesarean"; graded between 1(very low) to 5 (very much) scales.

2.5. Predictive variables (Social Cognitive Theory)

Predictive factors for cesarean intention include some variables of the SCT. This section is including 52 items.

2.6. Attitude, outcome expectation, outcome expectancies,

subjective norms, perceived behavior control towards cesarean

This section was designed based on a SCT standard questionnaire (13-15). Seven items were designed to measure attitude (e.g., cesarean for me is: unpleasant-pleasant; $\alpha = 0.81$). Seven items were designed to measure outcome expectation (e.g., if I'm doing cesarean, keep my attractiveness; $\alpha = 0.76$). Seven items were designed to measure outcome expectancies (e.g., Is it important to you to keep your attractiveness through having cesarean?; $\alpha = 0.84$). Six items were designed to measure subjective norms (e.g., if I'm doing cesarean delivery, my best friends will confirm it; $\alpha = 0.77$). Two items were formulated to evaluate the perceived behavioral control (e.g., It is impossible to me to have normal delivery; $\alpha = 0.80$).

2.7. Social Support Scale

Social support was measured by the standard scale (16), and consists of 12 items, for example: "There is a special person around when I am in need". Using the 1 (strongly disagree) to 5 (strongly agree) scale. Reliability coefficient for the social support scale in our study was 0.86. The pregnancy-related anxiety scale was measured by a standard questionnaire (17) and includes ten items, for example "I am worried about having more medical problems during my pregnancy". Using the 0 (strongly disagree) to 4 (strongly agree) scale. Reliability coefficient for the pregnancy-related anxiety scale in our study was 0.81.

2.8. Statistical analysis

The data were analyzed by the SPSS software version 21 by using correlation as well as linear regression at 95% significant level.

3. RESULTS AND DISCUSSION

Mean age of the respondents was 25.91 years (range between 15-40 years). In the case of level of education, 9.9 percent (n=30) had an elementary, 16.1% (n=49) middle education, 33.2 % (n=101) were with high school or diploma qualification and 40.8 % (n=124) were academic graduate. Almost, 14.5 % (n=44) were employed and 85.5 % (n = 260) housewife. Our findings indicate that, 3.3%, 37.2%, 50.3%, 7.6%, and 1.6% of participants reported the economic status of very weak, weak, average, good, and very good, respectively. The cesarean intention status is shown in the [Diagram 1](#).

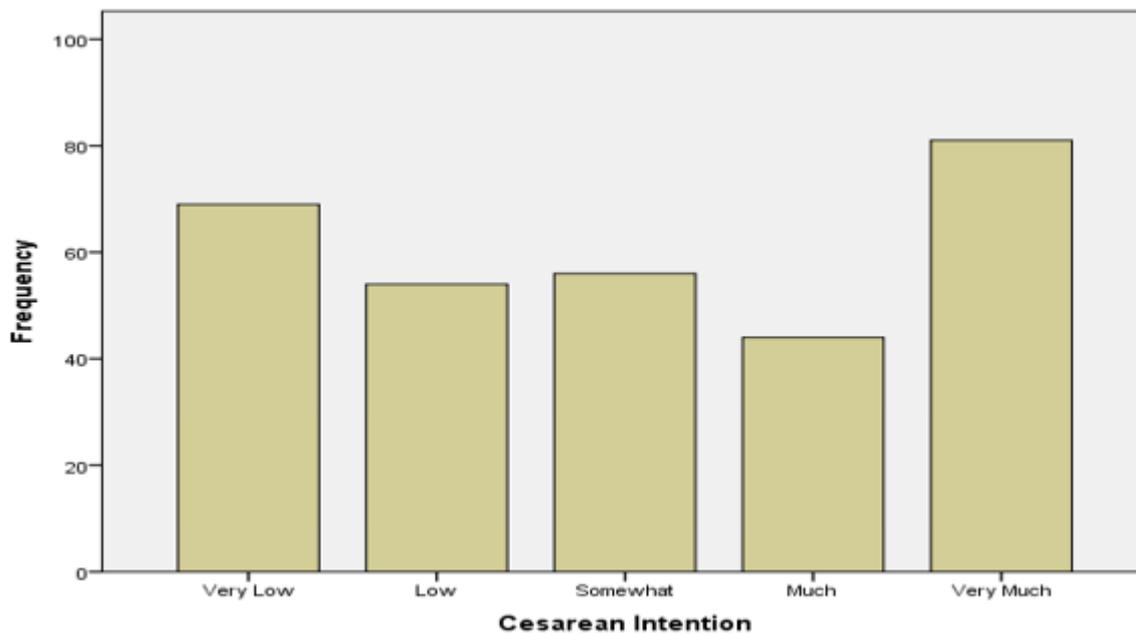


Diagram 1. Cesarean intention status among participants

between the cesarean intention and SCT variables.

Table 1 shows mean (\pm SD) and bivariate correlations

Table 1. Predictor variables of cesarean intention based on bivariate correlation analysis

	Mean (SD)	X ¹	X ²	X ³	X ⁴	X ⁵	X ⁶	X ⁷
X ¹ . Attitude	30.42 (9.25)	1						
X ² . Outcome expectation	22.10 (4.86)	0.675**	1					
X ³ . Outcome expectancies	25.03 (6.09)	0.438**	0.627**	1				
X ⁴ . Perceived Behavior Control	5.90 (2.33)	-0.470**	-0.490**	-0.392**	1			
X ⁵ . Subjective norms	14.51 (5.21)	0.357**	0.404**	0.293**	-0.348**	1		
X ⁶ . Social Support	46.80 (8.45)	-0.047	0.007	0.018	0.019	0.029	1	
X ⁷ . Anxiety	32.65 (7.74)	0.134*	0.223**	0.201**	-0.348**	0.230	-0.006	1
X ⁸ . Behavioural intention	3.04 (1.51)	0.622**	0.644**	0.533**	-0.693**	0.491**	0.060	0.309**

Finally, a linear regression analysis was performed to explain the variation in cesarean intention. As it's shown in Table 2, collectively, the SCT variables accounted for 67%

of the variations in cesarean intention among the participants.

Table 2. Predictors of the perceptual variables in cesarean intention

Variable	B	SE B	Beta	T	P-value
Attitude	0.036	0.008	0.221	4.717	0.001
Outcome expectation	0.044	0.017	0.140	2.609	0.010
Outcome expectancies	0.034	0.011	0.135	3.137	0.002
Perceived Behavior Control	-0.255	0.027	-0.391	-9.423	0.001
Subjective norms	0.049	0.011	0.167	4.458	0.001
Social Support	0.010	0.006	0.055	1.633	0.103
Anxiety	0.009	0.007	0.047	1.299	0.195

SE = Standard Error
 Methods: Enter, Adjusted R squared=0.67. F=86.201 & P <0.001

The present study aims to recognize relevant cognitive factors to accomplish cesarean tendency among pregnant females based on social cognitive theory. Generally, results of the study show that understudy structures could predict

67 percent of variations of intention to choose cesarean. Also, among studied variables, attitude, outcome expectation, outcome expectancies, perceived behavior control and subjective norms were stronger factors to

predict aim of cesarean intention. Results from the present study reported that 41.1 percent of females had high rate of intention to do cesarean delivery, of which is along with other studies done in Iran; for instance, Khan-Jeihoon et al. reported intention to accomplish cesarean is 34 percent (18). However, Liu et al. reported contrastive results where the most pregnant women preferred normal delivery (19). Also, Micheal Aziken et al. stated that only 6.1 percent of pregnant ladies showed their intention to cesarean (20). Such difference of results could stem from the influence of social, individual and cultural factors governing the understudy community. Considering that unnecessary cesarean could include some risk to mother and fetus, it seems essential to administer preventive programs and interventions to decrease the high rate of cesarean accomplishment. Attitude is a functional concept in social psychology; it was used commonly during 1950s. The combination of recognition, feelings and preparation to react to a given item is defined as individual attitude to that item (21). Several studies reported attitude as a determinant to accomplish cesarean (22, 23). Results from the present study showed that women had deep beliefs that cesarean included less danger and decreased the pain of delivery; therefore, it seems important to consider these items while planning educational programs on avoiding unnecessary cesarean for women. Results from present study suggested that subjective norms could predict women intention to accomplish cesarean; along with this, many studies mentioned the role of subjective norms in predicting behavior and behavior intention (24-28). Subjective norms refer to ideal individuals who are effective on accomplishment of given behavior; therefore, educational interventions are not enough to decrease the high rate of cesarean surgery among pregnant women and it seems essential to consider mental norms to decrease the tendency toward cesarean. Educational interventions should be planned considering mentioned items. Another effective factor on accomplishing cesarean was perceived behavioral control; it was first introduced by Ajzen in his theory of planned behavior. In Ajzen's point of view controlling perceived behavior is the rate of feelings felt by an individual while controlling or not controlling a behavior, which means behaviors happen along a continuum of full control to no control (21). Several studies mentioned the role of perceived behavior control in predicting health behaviors (29). Perceived behavior control shows the amount of individual's control on the behavior. Results of the present study suggested that women with less control on their tendency toward normal child delivery showed higher intention to accomplish cesarean. Note that the present study investigated tendency of women to have cesarean in their first delivery, therefore it could be concluded that offering training programs could be beneficial to enhance control feeling among pregnant women about normal deliveries in this regard. In addition, results of present study showed that outcome expectation and outcome expectancies could predict cesarean

accomplishment intentions, which is corresponding to other studies in the field (30-32). It seems that positive expectations and also expectancies of women toward cesarean play an important role on tendency to have cesarean surgery; as the result, planning educational interventions based on negative effects of cesarean could significantly decrease women tendency toward it. Another issue related to cesarean accomplishment is mother's choice on delivery method which has created much argument among experts. Considering women's rights on their decision to delivery method, Christlaw and Penna suggested to inform women about merits and demerits of cesarean (33, 34).

4. CONCLUSION

Attitude, outcome expectancies, outcome expectancies, perceived behavior control and subjective norms were stronger factors to predict intention to accomplish cesarean delivery. It seems that considering these factors while planning interventions could be efficient to decrease the rate of having unnecessary cesarean cases and step forward for better health conditions of mother and infant.

ACKNOWLEDGMENT

This article is a part of research project supported by Kermanshah University of medical sciences, Kermanshah, Iran. We would like to acknowledge Deputy of Research of Kermanshah University of Medical Sciences for financial support of this study; this study was funded by the Deputy of Research of Kermanshah University of Medical Sciences.

AUTHORS CONTRIBUTION

This work was carried out in collaboration among all authors.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

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