

## Caesarean Section, Vaginal Delivery and Post Natal Depression

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### Abstract

**Background:** Depression is a kind of sorrow that decreases the level of juiciness. Most studies have maintained that psychological risk factors have the most profound effect on the development of postnatal depression (PND). We compared the postnatal depression among the women with elective caesarean and vaginal delivery.

**Methods:** This cross-sectional study was carried out on 120 women 1-4 months after their delivery. Samples were divided in two groups (60 mothers with caesarean and 60 with vaginal delivery). The samples were selected by cluster sampling in Health Center of Yazd City, Yazd Province. To assess the level of depression, we handed the Beck Depression Inventory (BDI) to participants. For data analysis, chi-square, ANOVA and descriptive statistic were used.

**Results:** The mean grade scores of depression of women with caesarean delivery was 17.16 (SD=11.57) and for women with vaginal delivery was 11.05 (SD=9.41). The major depression in women with caesarean was twice the women with vaginal delivery (16.7 via 8.3). There was significant difference between mode of delivery and depression of participants ( $P= 0.02$ ). Tendency of sexuality in women with caesarean was lower than women with vaginal delivery.

**Conclusion:** Although the prevalence of PND symptoms seems to be the same across the cultures, risk factors differ significantly. This study identified caesarean delivery as a certain risk factor for increasing prevalence of depression in postnatal delivery. This factor must be taken into consideration when planning intervention and preventive strategies for these women.

**Keywords:** Postnatal delivery, Caesarean, Vaginal delivery, Depression, Test of Beck, Iran

### Introduction

Depression is a kind of sorrow that decreases the level of juiciness. It is a natural reaction and many of people have this condition. In sever and long conditions, it is a disease. Depression is a major source of morbidity in the world and especially in developing countries (1). The rate of depression in men is half of the women (2).

The average prevalence rate of non-psychotic postpartum depression based on the results of a large number of studies is 13% (3). The results of a study showed that the prevalence of postnatal depression (PND) in their participants in 12 and 24 wk after delivery, respectively was 7.93(SD= 4.68) and 7(SD= 4.66) (4). Postnatal depression is the most common mood disorder associated with childbirth (5). It has been claimed that PND may be less prominent in countries where the struggle for survival is more promi-

nent (6). Nevertheless, it seems that there are few differences in the prevalence of postpartum psychiatric disorders throughout the world (7).

Most studies have maintained that psychological risk factors have the most profound effect on the development of PND. Finding concerning the contribution of obstetrics and socio demographic risk factors has been conflicting (8-10). The prevalence of depression in the postnatal period is similar to background population rates of depression (11). Infants of depressed mothers have been found to perform less well on object concept tasks and are more insecurely attached to their mothers (12). If labor is complicated and the delivery unexpectedly performed as an emergency procedure, it can potentially be stressful to the mother. In such scenarios there may be an association between emergency operative delivery and post-

natal depression. Several studies have investigated this association, though the current evidence is conflicting with some studies reporting an association (13-15), and others not (16-19). Conversely, there may be an association between elective caesarean section and reduced risk of postnatal depression. A recent review showed that postnatal depression could be treated with psychosocial techniques (20). Other results pointed to the need for rigorous evaluations of preventable intervention (21.) We can prevent postnatal depression with design the methods of delivery.

This study compared the postnatal depression between women with elective caesarean and vaginal delivery to design health education program for prevention and control their depression.

**Materials and Methods**

This cross-sectional study was carried out on 120 women, 1-4 month after their delivery. Samples were divided in two groups (60 mothers with caesarean and 60 with vaginal delivery), and were selected by cluster sampling from the city of Yazd, Yazd Province. The depression tendency of the participants was examined with the Beck Depression Inventory (BDI). The instrument of study was a questionnaire containing demographic information with 7 questions and 21 questions about the BDI. The BDI is a 21- item self report rating scale designed to measure the severity of depression (22). The reliability and validity of the BDI, including the Chinese version, have been established in previous studies (23, 24). The questionnaires were completed in home visit by interview.

Total scores of using test were 63, and the range of scores about status of depression was as follows: no depression and low depression was indicated by scores 0-19, mild depression was indicated by scores from 20-29 and sever depression indicated by scores more than 30. All data were transferred directly into SPSS.11. We obtained consent from all participants.

**Results**

All of the participants were educated. More than 28% of them had university ' education. About 20% of pregnancies were unplanned. The mean age of the subjects was 24.82±5.2 yr (range15-38) and the mean age of marriage was 20.5±3.8 yr (range 13-30).

The mean grade scores of depression in women with caesarean was 17.17±11.57and in women with vaginal delivery was 11.05±9.41. About 31.7% of women with caesarean and 56.7% with vaginal delivery were free of any depressive tendency, or very minor depressing. More than 16% of women with caesarean and 8% of vaginal delivery suffered from major depression (Table1).There was significant difference between mode of delivery and depression of participants (P= 0.02).

Table 2 shows the data about mode of delivery and feeling of sadness, feeling of hopelessness, decrease of self-interest, decrease of pleasure of life, decrease of tendency of sexuality and change the pattern of sleep. There was significant difference between the mode of delivery of participants and all of complication of their depression (P< 0.05) except decrease of pleasure of life( P> 0.05).

**Table 1:** The distribution of mode of delivery of women and their depression

Depression	Caesarean		Vaginal delivery		Total	
	n	%	n	%	n	%
No and low depression	19	31.7	34	56.7	53	44.2
Mild and indicated depression	31	51.7	21	35	52	43.3
Sever depression	10	16.6	5	8.3	15	12.5
Total	60	100	60	100	120	100

P = 0.02

**Table 2:** The distribution of mode of delivery of women and complication of their depression

Feeling of sadness	Mode of delivery	Low		Moderate		Severe		Total		P
		n	%	n	%	n	%	n	%	
Feeling of hopelessness	Caesarean	29	48.3	18	30	13	21.7	60	100	0.002
	Vaginal	46	76.7	12	20	2	3.3	60	100	
	Mode of delivery	n	%	n	%	n	%	n	%	P
Decrease of self interest	Caesarean	43	71.7	10	16.7	7	11.6	60	100	0.022
	Vaginal	54	90	4	6.07	2	3.3	60	100	
	Mode of delivery	n	%	n	%	n	%	n	%	P
Decrease of pleasure of life	Caesarean	40	66.6	10	16.7	10	16.07	60	100	0.042
	Vaginal	51	58	7	11.7	2	3.33	60	100	
	Mode of delivery	n	%	n	%	n	%	n	%	P
Decrease of tendency of sexuality	Caesarean	33	55	15	25	12	20	60	100	0.056
	Vaginal	47	78.3	6	10	7	11.7	60	100	
	Mode of delivery	n	%	n	%	n	%	n	%	P
Change the pattern of sleep	Caesarean	21	35	25	41.7	14	23.3	60	100	0.038
	Vaginal	35	58.3	12	20	13	21.7	60	100	
	Mode of delivery	n	%	n	%	n	%	n	%	P
	Caesarean	14	23.3	22	36.7	24	40	60	100	0.021
	vaginal	13	21.7	37	61.7	10	16.7	60	100	

## Discussion

Our results had wide confidence interval, and we could find association between postnatal depression in women with caesarean and vaginal delivery. In our study the mean grade scores of depression in women with caesarean was 16.16 (SD=11.57) and for women with vaginal delivery was 11.05 (SD= 9.41). There was significant difference between depressed and no depressed with regard to their mode of delivery ( $P= 0.02$ ). We can say that caesarean delivery is a certain risk factor for increasing prevalence of depression in postnatal delivery. This finding agrees with those from studies in other western and nonwestern culture (25-28).

One prospective cohort found a weak association between some complication in pregnancy and postnatal depression, but none with mode of delivery (29). Results of a research found that mode of delivery do not predict postnatal depression at 8 to 12 weeks (30). One study

found some evidence of higher rates of raised depression scores at three months postpartum in women who had an emergency caesarean section compared with those who had a spontaneous vaginal delivery (31). An Australian study found that both elective and emergency caesarean delivery was associated with a small but not significant increased risk of postnatal depression at eight weeks postpartum (32).

Our results are significant with those of a small retrospective cohort study in Malaysia (33). Higher depression scores were found among women who had an emergency delivery with non emergency delivery, although the former group included emergency caesarean and vacuum delivery. The Edin berg scale, however, has not been validated in a Malaysian population (33). Regarding assisted vaginal delivery our results do not support some studies that have not found an association with postnatal depression (31, 32).

Although the prevalence of PND symptoms seems to be the same across the cultures, risk factors differ significantly. This study identified caesarean delivery as a certain risk factor for increasing prevalence of depression in postnatal delivery. This factor must be taken into consideration when planning intervention and preventive strategies for these women.

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