



## Predisposing Factors of Post-natal Depression

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### ABSTRACT

In this research, we study the predisposing factors of post-natal depression. This research is an applied survey which is done through participation. The data are collected through field study and by two types of questionnaire: depression questionnaire and demographic and midwifery questionnaire, the statistical society of this research were all the pregnant women of Kermanshah who have delivered their babies in summer of 2013 and then have moved to health care centers of Kermanshah. The sampling method was the cluster sampling and some clinics were picked from them randomly and then the available samples were collected. Data analysis was done by SPSS, descriptive statistical indices (frequency, Mean and standard deviation) and other comprehensive statistical indices (Pearson's correlation coefficient and independent group T-test). The hypotheses were accepted and we understood that the maternal midwifery factors (like number of pregnancies, types of deliveries and abortions), neonatal factors (like gender, nutrition), maternal factors (like age, occupation, and education) are related to the delivery of infant. All of these factors have many items that are accepted before the analysis.

**Key words:** depression, delivery, predisposing factors of post-natal depression.

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### INTRODUCTION

The pregnancy period is one of the most important stages of every woman's life. Even though this period is very joyful but it's one of the stages with many stress and physiological and mental changes that make a woman more sensitive and make identity changes for that person.

For most of the women having a baby is a stressful factor that can be a cause of depression disorders. Nowadays, depression is the most prevalent disorder among the adults and based on the ideas of WHO, it's the fourth biggest health problem around the world [1,2]. We can say that the highest level of behavioral disorder in women happens during pregnancy and can cause post-natal depression. Depression is one of the most mental disorders of the post-natal period which starts about a few weeks after delivery and about 13% of women experience it [3].

In fact, the post-natal period is a transformational condition which the mother faces new roles and relationships in that and she should come up with all of them. On the other hand, since her energy decreases during pregnancy and after delivery and because of the drugs that she takes, because of the delivery duration and because of the other issues like fear of delivery, fear of giving birth to an abnormal baby, fear of attraction loss for the partner, and fear of having disability to taking care of the baby, the depression may happen for the mother in the post-natal period. Specially, in the first 6 weeks after delivery, we are facing many mental diseases and emotional problems.

Since the post-natal depression occurs for several times and affects mother, baby, family, relationships and social effectiveness, we have to look for effective treatments. So this research is an effective work that tries to improve the health level of the family.

**Theoretical concept and background:**

Depression: the term "depression", can be used for creation, description, and categorizing the mental disorders. We know a depressed person is an unhappy person. This experience includes: having a feel of sin, non-valuableness, and self-abjection.

Most of researchers are agree about the factors that cause depression and many measures are available for measuring these factors.

Feeling of sadness, failure and depression, loss of interest in doing activities, sleep and energy disorders and concentration problems are some common mental problems among people. 15-20% of peopled are depressed due to an important event of their life.

**Symptoms of post-natal depression:**

While we don't count depression as a complete unit of disorder in interests but it has 4 symptoms that are: cognitive, physical, and material but its not necessary for all of those four symptoms to be presented at the same time. But as these symptoms increases we will be sure that the person is depressed. Sadness is one of the symptoms of depression. In this case the person cries and maybe he thinks about suicide. A depressed person loses his intention and interest to family activities and entertainments. Many depressed people say that they lost their interests about things that were interesting for them in the past. The main symptoms of cognitive disorders appear as the negative thoughts. The self-confidence is very low Among these people. They think that they are non-valuable and blame themselves because of their mistakes. They are frustrated about the future and don't do anything to improve their situations, they also have little intention to participate.

**Types of depression disorders:**

The depression disorders are divided into two groups of unipolar and bipolar disorders. The bipolar disorder appears with the periods of depression and disturbance. The disturbance period can be extended up to several periods or weeks while the depression period can be extended up to 3 times more than the disturbance period.

This kind of disorder happens in both women and men equally but the unipolar depression (sadness) happens in women three times more than in the men. The depressed people feel that they are sinful and worthless. They have low energy and they are not intended to eat food or to have sexual behaviors. They also don't have regular sleep times (they sleep on time but they get up too early) they have constipation and their salivation decreases [5, 6].

**Factors related to depression:**

Researchers believe that the different biological and environmental factors lead to depression. These factors vary from one person to another. The studies show that the inheritance plays an important rule here. Genes can affect the chemical balance of the brain, and can develop those parts of brain that stop the negative expressions and the hormonal response of the body to stress causes depression also.

Experience can also lead to depression and makes those biological changes. Depression and other mental disorders are more common among the parents of depressed children. While this problem can move from one generation to another, the depressed parents behave maladaptive to their children so they can hurt them and their self-esteem and affect their cognitive and social abilities.

The depressed people usually accept that their positive results of education and relationships are out of control. So some events like failures, parents' divorce, and break up in a relationship or a friendship can lead to depression.

**Pregnancy:**

Any women can be a mother one day. However this is considered a normal subject but we should know that while its not a small event but it makes deep changes in a woman's life. Some people think that after the birth of the baby, the mother has already passed the recovering period and attend to the newborn only. While the mother has already passed the stressful period of pregnancy and delivery but now she feels more fatigue.

**Puerperium :**

The women in the post-natal period especially in the first month, feel the highest level of depression in their lives. After delivery, the changes of 9 months pregnancy become normal in few weeks immediately after the delivery and their feeling also will change and they may need some accommodation in their personal relationships so there may still be a risk of depression [7].

The factors that lead to post-natal depression:

There is no agreement about why post-natal depression occurs but there are many factors that can affect it [8].

Mothers age:

1. It seems that as the age increases the accommodation with conditions increases and so the stress and anxiety should decrease but in fact, it increases too. In most of the studies, age is a

paradoxical finding. The low age of mothers during pregnancy can increase the anxiety about future, because the insufficient experiences that they have can cause post-natal depression and also in old mothers the importance of the infant and his future cause depression too.

Education of parents:

2. One of the factors that can decrease the post-natal depression is the high level of education and high socio-economic conditions because they make the relationships stronger. In such situation, people can solve their problems easily.

Number of delivery:

3. The number of delivery can change the family due to its effects on the mothers and as the number of children increases, the responsibility and anxiety of parent increases and this can affect the post-natal depression. Sharifi et al. showed that there is no relationship between number of children and depression, while Rahmani has another belief.

Infant gender:

4. There is a meaningful relationship between the expected gender by parents and the post-natal depression and when the gender of infant is not as the same as what they expected it to be, depression occur more obviously. Researchers observed in Kermanshah found out that its because of the cultural issues in different families that make some people think the boys can support their family.

## MATERIAL AND METHOD

This research uses a participating method. The data collection has been done through questionnaires, library sources and websites. The statistical society of the research was all pregnant women in Kermanshah who had delivered their babies in summer of 2013. The samples were collected through cluster sampling and some schools were choose randomly then the analysis was done through SPSS and descriptive statistical indices (frequency, standard deviation and comprehensive ones (the Pearson's coefficient and independent T-test)

### MATERIALS FOR DATA COLLECTION

Demographic and midwifery questionnaire:

This questionnaire includes demographic and midwifery info about mother (like number of deliveries, abortion, number of pregnancies, types of delivery, infertility, mothers age, education, occupation, stress, mothers fatigue, mothers illness, her readiness to accept a new role) family factors( economical support, social support, religion, education, husbands job, sexual satisfaction, location, love and support from partner) and newborn factors (infants gender, weights, nutrition, disorders, death) that are accepted by experts.

The depression measure of Beck:

In this study the Beck's questionnaire [11] was used to measure the depression level of samples. This questionnaire has 21 questions and each question has 4 choices and respondents have to circle the choice that is more similar to their attitude. 15 statements are about psychological symptoms and 6 statements are about physical symptoms and the total number is evaluated by the statements and the range is between 0 to 63. In this questionnaire, 0-9 shows no depression, 10-16 shows weak depression , 17-29 shows average and 30< shows intense depression.

## RESULTS AND DISCUSSION

Hypothesis 1-1: there is a relationship between wanted or un-wantedness and the depression

Table 1: Kai Do test- relationship between wanted or un-wantedness and the depression

	Value	Degree of freedom	Meaningful level
Kai Pearson test	124.855	1	.000
Number	400		

We see that the Kai Pearson with one degree of freedom is statistically meaningful and the level is less than 5% so the Ho will be rejected based on the relationship between the pregnancy condition and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 2-1: there is a relationship between abortion and the depression

Table 2: Kai Do test- relationship between abortion and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson test	115.058	1	.000
number	400		

We see that the Kai Pearson with one degree of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between abortion and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 3-1: there is a relationship between mother's physical disorder and the depression

Table 2: Kai Do test- relationship between physical abortion and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	319.856	1	.000
Number	400		

We see that the Kai Pearson with one degree of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between physical disorder and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 4-1: there is a relationship between delivery type and the depression

Table 4: Kai Do test- relationship between delivery type and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	131.358	2	.000
number	400		

We see that the Kai Pearson with two degree of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between delivery type and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 5-1: there is a relationship between delivery time and the depression

Table 5: Kai Do test- relationship between delivery time and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	87.951	3	.000
number	400		

We see that the Kai Pearson with three degrees of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between time of delivery and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 6-1: there is a relationship between number of children and the depression

Table 6: Kai Do test- relationship between number of children and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	87.951	3	.000
Number	400		

We see that the Kai Pearson with 3 degrees of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between number of children and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 1-2: there is a relationship between the gender of baby and the depression

Table 7: Kai Do test- relationship between the baby's gender and the depression

	Value	Degree of freedom	Meaningful level
Kai Pearson	2.348	2	.000
Number	400		

We see that the Kai Pearson with two degrees of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between baby's gender and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 2-2: there is a relationship between baby's disorder and the depression

Table 8: Kai Do test- relationship between baby's disorder and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	86.436	1	.000
Number	400		

We see that the Kai Pearson with one degree of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between baby's gender and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 3-2: there is a relationship between baby's nutrition and the depression

Table 9: Kai Do test- relationship between baby's nutrition and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	132.619	1	.000
number	400		

We see that the Kai Pearson with one degree of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between baby's nutrition and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 4-2: there is a relationship between infant's admission and the depression

Table 10: Kai Do test- relationship between infant's admission and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	50.412	1	.000
number	400		

We see that the Kai Pearson with one degree of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between infant's admission and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 1-3: there is a relationship between age and the post natal depression

Table 11: Kai Do test- relationship between age and the post-natal depression

	value	Degree of freedom	Meaningful level
Kai Pearson	70.84	3	.000
number	400		

We see that the Kai Pearson with 3 degrees of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the absence of relationship between age and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 2-3: there is a relationship between education and post-natal depression

Table 12: Kai Do test- relationship between education and the post-natal depression

	value	Degree of freedom	Meaningful level
Kai Pearson	210.7	4	.000
Number	400		

We see that the Kai Pearson with 4 degrees of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the relationship between education and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 3-3: there is a relationship between occupation and the depression

Table 13: Kai Do test- relationship between abortion and the depression

	Value	Degree of freedom	Meaningful level
Kai Pearson	75.362	1	.000
number	400		

We see that the Kai Pearson with one degree of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the absence of relationship between occupation loss and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 4-3: there is a relationship between being a married/single/divorce/widowed and the depression

Table 14: Kai Do test- relationship between being a married/single/divorce/widowed and the depression  
The table shows the relationship between marriage and depression so most of the 78 depressed people are divorced and widowed.

	value	Degree of freedom	Meaningful level
Pearson-Kai do	286.128	3	.000
number	400		

We see that the Kai Pearson with 3 degrees of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the absence of a relationship between being a married/single/divorce/widowed and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

Hypothesis 5-3: there is a relationship between partner's job and the depression

Table 15: Kai Do test- relationship between the partner's occupation and the depression

	value	Degree of freedom	Meaningful level
Kai Pearson	200.259	3	.000
Number	400		

We see that the Kai Pearson with 3 degrees of freedom is statistically meaningful and the level is less than 0.05 so the Ho will be rejected based on the absence of a relationship between partners occupation and the depression condition and the other hypothesis would be accepted with 95% of accuracy.

The target of this study is to evaluate the factors that can make post-natal depression which is discussed in 3hypotheses.

1<sup>st</sup> hypothesis: the maternal obstetric factors (number of pregnancies, types of delivery, abortion, infertility) have relationship with post-natal depression.

#### **Types of delivery:**

The results showed that there is a meaningful relationship between Caesarean, emergency caesarean and NVD. So 8% and 11% of these women who had affective or emergency caesarean had post-natal delivery. These results are the same as those by [12-14].

#### **Wanted or un-wanted pregnancies:**

In this study 19.3 from 34.5 of depressed people have un-wanted pregnancy. This is an unexpected event that brings an over power and brings a lot of stress. Researchers show that unwantedness of pregnancy causes depression. It is also the same as findings by [12, 13,15-17].

In this study we say that there is a meaningful relationship between the history of abortion and doing that a symptom of post-natal depression.

#### **Number of deliveries and its time:**

In the study by Beck, there is no relationship between depression and number of deliveries but Sehati and Rahmani [12] are agree with the findings of current researches and say that as the number of children increases the responsibilities of mothers increases so they have less time to rest and the possibility of depression increases.

2<sup>nd</sup>: neonatal factors (gender, nutrition, death, disorders) have a meaningful relationship with post-natal depression.

#### **Neonate's gender:**

Shaghaei et al. [18] didn't find any relationship between depression and pregnancy because the mothers in the study were giving birth to their first child so in the first delivery they think of his/her health more than the gender will be affected by the 1<sup>st</sup> experience of being parents but in this study we saw that the mother who give birth to girls are depressed due to social problems.

#### **Nutrition type of new born:**

In this study, we see that there is a meaningful relationship between post-natal depression and the nutrition so breast feeding is more among un-depressed mothers. It seems that breast feeding can leads

to accommodation with the role of being a mother so mothers are more satisfied and less stressful and it's the same as findings by [19-21].

**Admission and infant's mortality:**

In studies by Rahmani *et al*, [21] said that the admission of infant for some reasons like Jaundice, fever, hearing disorders, and physical problems leads to depression of their mother. The current study also showed that those mothers who gave birth to died infants or their infants were died in 1 month after birth may have more intension to be depressed and that can be because of feeling of sin for the infant's illness.

3<sup>rd</sup> hypothesis: maternal factors like mothers age, occupation, education, occupation of partner, marital status, mothers sickness, ability to accept new roles have relationship with depression.

Mother's age: in this research, 22% of women are in the high risk groups of less than 20 and more than 30years old. So 10% were less than 20 and 12% were more than 30. And most of them were about 21 to 30 years and the average was 24.7 +3.6. in this research, of Rahmani *et al* [21], there was no meaningful statistical difference between two groups of depressed and un-depressed mothers.

Occupation and education of parents:

In the study by Rahmani *et al* [21] there was a meaningful relationship between mothers education and depression.

In the current study, the relationship between education and post natal depression is caused from the increase in knowledge of mothers about social rights, personal needs and increase in educational level of partners.

**Marital status:**

Dennis believes that the single parents (specially mothers) are more intended to depression and Rahmani *et al* [21] and also reported a meaningful relationship between marital status and post delivery depression. While in this study there is no statistical difference between depression and marital status.

**RESEARCH LIMITATIONS**

1. Current study is done on mothers who have passed five weeks after delivery so the effects of some variables like social support before delivery and up to one year after that is evident.
2. This study is based on the ideas of participants and they can be affected by their believes and intention to keep some family secrets.
3. This study is done on rural women who have visited the health care institutions of Kermanshah while the urban women may have a different depression rate due to their cultural problems.

**PRACTICAL SUGGESTIONS**

1. Based on the outcomes of post-natal depression we need to learn the problem solving abilities and try to learn about decision making in the field of depression problems with the help of psychiatrists and in the mental health care centers.
2. Increasing the women information about how to improve their life with the help o psychiatrists.
3. Presence of psychiatrists in the depression treatment group to identify the pregnancy based problems and their outcomes.
4. The women should go to health care centers during pregnancy and after delivery to check their psychological condition and be tested and treated if needed.

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