

Prevalence of Depression among Saudi Pregnant Women

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Abstract: Depression affects about 20% of women during their lifetime, with pregnancy being a period of high susceptibility. Prevalence of depression during pregnancy ranges from 4% to 20%. Depression during pregnancy is not only the sturdiest risk factor for post-natal depression but also precursor to adverse obstetric outcomes.

Aim: to identify the prevalence of depression among Saudi pregnant women & correlate between sociodemographic, medical and psychological history and depression.

Methods: the study was conducted at two primary health care units at two hospitals (Al-Yammama & King Saud Medical Complex) at Riyadh city. A convenient subject of 316 pregnant women from the 2nd month of pregnancy till 9th. A structured interview questionnaire was developed. It consisted of questions related to socio-demographic aspects & a validated Beck's Depression inventory was used to screen for antenatal depressive symptoms. (December 2013 – March 2014) were screened and approached individually by the researcher.

Result: The current study reveals that the prevalence rates of antenatal depression were mild to severe and extreme depression were 18.6%, 11.7% and 6.6% respectively. Spearman's rho test showed a significant correlation between depression and marital status of mother, status of the pregnancy, health complications of previous pregnancies, number of previous abortions, number of dead newborn, and number of children with low birth weight (less than 2.5 kg)

Recommendation: Early detection of depression during pregnancy is awful because depression can unfavorably affect birth outcomes and neonatal health and, if left untreated, can persist after the birth can impair mother-infant attachments and have cognitive, emotional, and behavioral impact for children.

Keywords: Antenatal depression, depression during pregnancy, prenatal depression, gestational depression

I. Introduction

Although pregnancy is a jubilant event for most women, the prenatal period is often a stressful one, both biologically and psychologically.

Depression is a mood disorder that is considered the greatest cause of disease burden in women of child bearing age^(1, 2, 3). Antenatal depression is serious because of the serious impact on the mother and her infant, about 20% of pregnant women in this period are subjected to depression^(4, 5). The signs and symptoms of depression during pregnancy are not so different from those of depression in any other time. Depression rate at different times of pregnancy ranges from 7.4% to 15%^(6, 7). In women with previous history of depression the incidence is (42.5%) while those who did not have any previous history (21.7%)⁽⁸⁾.

Although there are no direct causes leading to depression, certain biological, psychological and socio-cultural variables increase the vulnerability of women among variables are; personal and family history of depression, stressful life events, absence or minimal social support, infant temperament, low self-esteem, low socio-economic status, immigration, multiple births (twin, triplets...etc.) or unwanted pregnancy; prenatal mortality (spontaneous abortion, death in utero); severe baby blues; disturbance in pregnancy hormones' levels; limited access to prenatal and postnatal care^(3, 4, 5).

Depressive symptoms in mothers have been linked with an increased risk of delivery of low birth weight (LBW) or small for gestational age (SGA). Also, neonates born to mothers with a depressive disorder have increased risk of irritability, less activity and attentiveness, and fewer facial expressions compared to offspring born to mothers not suffering from depression. (9,10)

There is evidence that pre-natal depression is more common, and becomes the main risk factor for postpartum depression. Certainly, in many cases it is the continuation of the depression that started during pregnancy. The signs and symptoms of depression in pregnancy do not differ from depression at any other time. Though, antenatal depression may go undiagnosed because of a focus on maternal and fetal well-being and the attribution of complaints to the physical and hormonal changes associated with pregnancy.

Because of a woman suffering from antenatal depression less concerned with her health in general, not follow prenatal care, suffer from insomnia and diminished appetite, results in a decrease in the quantity and quality of her nutrition. Also depressive states that are not treated during pregnancy tend to decrease the frequency of prenatal consultations, which has been closely associated with neonatal mortality. Moreover, Women with depression have higher cortisol rates which may lead to prematurity and low birth weight^(11, 12&13)

Nurses must assess the prevalence, signs and symptoms, and risk factors associated with antenatal depression because of they are the first caregivers to come into contact with pregnant women; they, therefore, have a unique opportunity to monitor women's moods over several weeks. Early detection of symptoms could facilitate timely treatment and prevent ongoing depression.

Aim of the Study:

1. Identify the prevalence of depression among pregnant Saudi women
2. correlate between sociodemographic, medical and psychological history and depression

II. Subjects & Methods

Setting

The study was conducted at two primary health care units in two hospitals (Al-Yammama & King Saud Medical Complex) at Riyadh City, as these settings serve a large population and there is an antenatal clinic where pregnant mothers are served and followed up.

The Subject:

The subject consists of 316 pregnant women from the 3rd month of pregnancy. And have the following inclusion criteria:

1. Saudi nationality
2. No Fetus abnormality
3. Women who are over eight weeks of pregnancy

Study Tool:

Data were collected from patients using a questionnaire sheet. The questionnaire consisted of two main parts.

☞ *Part one:* the socio-demographic and clinical data as age, sex, number of previous pregnancies, number of child with low birth weight.

☞ *Part two:* Beck Depression Inventory (BDI)⁽¹⁴⁾, 21 item screening questionnaire comprising 13 cognitive and 8 somatic questions used to screen for depression.

The reliability and validity of the Beck scale in psychiatric and epidemiologic studies have been extensively demonstrated. There is also evidence for the sensitivity and utility of this diagnostic tool in diabetes, where in symptoms of the medical disease, such as fatigue, sleep disturbances and sexual dysfunction, emulate criterion symptoms of psychiatric disorder. It is accepted as the best measure and is used to guide clinical management. This is performed with cut off point for severity (score: 0–13 minimal; 14–19 mild; 20–28 moderate and 29–36 severe).

Data Collection:

All women who attended the antenatal clinics within the data collection period (December 2013–March 2014) and eligible for inclusion in this study on the basis of their obstetric record. These women were screened, and the researchers then approached them individually to confirm that those who was eligible had satisfied the selection criteria before they were invited to participate. All the women who were approached were given a full explanation of the study and informed to their right to refuse to participate.

Data Analysis:

The Statistical Package for Social Sciences (SPSS 20) was used for performing the statistical analysis for both descriptive and inferential statistics. Descriptive statistics was used to summarize socio-demographic, obstetric and medical characteristics (frequency distribution). The χ^2 test was used to compare between qualitative variables and proportion, the level of significance was set at $p < 0.05$ & $p < 0.01$. The Chi-square test was used to examine the association between variable. A Spearman's correlation coefficient is used to associate between depression & socio-demographic and obstetrical factors.

Ethical consideration:

An official permission to carry out the study was secured by sending official letters to directors of both hospitals, in order to get the permission for data collection. Each participant was interviewed individually

by the researchers and after explaining the aim of the study , oral consent to participate in the study was obtained.

Conduction of interviews was done individually and development of communication and trusting relationship was important. The major ethical issue encountered was maintaining the confidentiality of the patients and of the hospitals. We ensured this by omitting patient identities from the questionnaires and aggregating the results at the district level. Each interview lasted for about 20 to 25 minutes according to participant’s response. Data were collected for about four months from December2013 till the end of March 2014

III. Results:

Table “1”: Distribution of Pregnant Women According to their Socio-demographic Data

Variable	Number	Percentage (%)
<i>a. Age:</i>		
- Less than 17 years	25	7.9
- 18-27 years	118	37.3
- 28-37 years	129	40.8
- 38 years & more	44	13.9
<i>b. Mother’s Education Level:</i>		
- Illiterate	35	11.1
- Reads & Writes only	58	18.4
- Primary or Intermediate School	106	33.5
- Secondary education or higher	117	37.0
<i>c. Husband’s Education Level:</i>		
- Illiterate	24	7.5
- Reads & Writes only	65	20.6
- Primary or Intermediate School	109	34.5
- Secondary education or higher	118	37.4
<i>d. Marital Status of the Mother:</i>		
- Married	250	79.1
- Widowed	40	12.7
- Divorced	26	8.2
<i>e. Family’s Monthly Income:</i>		
- < 2500 S.R.	57	18
- 2500 S.R. to < 5000 S.R.	81	25.6
- 5000 S.R. to < 10000 S.R.	108	34.2
- > 10000 S.R.	70	22.2
<i>f. Having Assistant at Home:</i>		
- Yes	109	34.5
- No	207	65.5
<i>g. Troubles Faced:</i>		
- Divorce	31	9.8
- Domestic Violence	32	10.1
- Financial Trouble	110	34.8
- None	143	45.3
<i>h. Practicing any Type of Sport:</i>		
- Yes	81	25.6
- No	235	74.4
<i>i. Having someone in their Direct Family having Psychological Troubles:</i>		
- Mother	23	7.3
- Sister	14	4.4
- Father	13	4.1
- Aunt	3	9.0
- Mother & Father	5	1.6
- No one in the family	258	81.6
Total	316	100.0

The study population consisted of 316 Saudi pregnant women; the majority of them (40.8%) aged 28-37 years. While 18.4% knew how to read and write only and 11.1% was illiterate. On the husband’s side, 20.6% knew how to read and write only, while 7.6% were illiterate.

Concerning the marital status of the pregnant mothers, most of them were married (79.1%), 12.7% were widowed and 8.2% were divorced. 18% of them their monthly income was less than 2500 Saudi Riyals per month.

About two third of pregnant women in the current study (65.5%) didn’t have any assistance at home. 35% had financial problems, 10% suffered from domestic violence, and 7.3% of the pregnant women’s mothers had psychological problems

Most of the studied subjects (81.6%) haven’t had anyone in her direct family suffering from psychological troubles, while 18.4% had one or more family members suffering from psychological troubles

Table “2”: Distribution of Pregnant Women According to their Obstetric History & Predisposing Factors for Depression

Variable	Number	Percentage (%)
Time of Visit to the Ante-Natal Clinic:		
– In their 3 rd Month	66	20.9
– 4 th – 6 th Month	138	43.6
– 7 th – 9 th Month	112	35.4
Number of Previous Pregnancies:		
– None	75	23.7
– One	56	17.7
– 2-3 times	91	28.8
– 4-5 times	58	18.4
– More than 5 times	36	11.4
Status of Pregnancy:		
– Planned	227	71.8
– Accidental Pregnancy	51	16.1
– Undesirable pregnancy by husband	38	12.1
Period between Previous & Current Pregnancy:		
– Less than one year	110	34.8
– From 1 – 2 years	75	23.7
– More than 2 years	131	41.5
Complications of Previous Pregnancies:		
– Medical Complications	50	15.8
– Psychological Complications	38	12
– Obstetrical Complications	18	5.7
– More than one complication	50	15.8
– No Complications	160	50.7
Number of Births (Deliveries):		
– None	66	20.8
– One	68	21.5
– 2 – 3	87	27.5
– 4 – 5	65	20.6
– More than 5	30	9.5
Number of Living Newborn:		
– None	59	18.7
– One	64	20.3
– 2 – 3	92	29.1
– 4 – 5	65	20.6
– More than 5	36	11.4
Number of children with Low Birth Weight:		
– None	200	63
– One	75	23.7
– 2 – 3	30	9.4
– 4 – 5	6	1.9
– More than 5	5	1.6
Complications after Delivery:		
– Medical Complications	24	7.6
– Psychological Complications	73	23.1
– None	219	69.3
Number of Previous Abortions:		
– None	185	58.5
– One	72	22.8
– 2-3 times	36	11.4
– 4-5 times	6	1.9
– More than 5 times	17	5.5
Complications after Abortion:		
– Medical Complications	45	34.4
– Psychological Complications	78	59.5
– No Complication	8	6.1
Psychological Complications after Abortion:		
– Depression & Frustration	48	61.5
– Tension	15	19.25
– Sadness	15	19.25
Suffering from Obesity or Slimness:		
– Obesity	195	61.7
– Slimness	121	38.3

The current results shows in table (2) that 28.8% of the pregnant women have from 2 to 3 pregnancies before, while 23.7% of them did not become pregnant before. 43.6% of those pregnant women attended their first antenatal visit between their 4th and 6th months, and more than one third (35.4%) came at their seventh and ninth month. Moreover, the majority of subjects of this study (71.8%) mentioned that their pregnancy was planned, while 16.1% became pregnant by accident, whereas 12.1% said that their pregnancy was undesirable.

Table 2 also illustrate that the period between the previous pregnancies and current, for 41.5% of the pregnant women was more than 2 years, 34.8% of them was pregnant less than one year from their previous pregnancy, while for 23.7% of them the period ranged from 1 to 2 years. More than half (58.6%) of the pregnant women did not abort before, while 22.8% had previously aborted once. 61.5% of those women who aborted before suffered from depression and frustration, while the rest suffered from tension and sadness with equal percentages (19.25%).

15.8% of the pregnant women who were pregnant before suffered from medical complication, 12% had psychological complications, 15.8% had mixed complications and 50.6% did not suffer from any complications during their pregnancy.

Table “3”: Distribution of Pregnant Women According to the Level of Depression

Level of Depression	Number	Percentage (%)
1 – 10	135	42.7
11 – 16	26	13.1
17 – 20	20	7.3
21 – 30	54	18.6
31 – 40	27	11.7
Over 40	21	6.6
Total	283	100.0

Table “3”, shows that 42.7% of Saudi pregnant mothers do not suffer from depression, while only (6.6%.,7.3%.11.7% & 18.6%) of studiedsubject were suffering from extreme depression .,borderline clinical depression, severe depression &moderate depression respectively.

Table “4”: Spearman’s rho for correlation between Beck’s Depression Scale & Study Variables

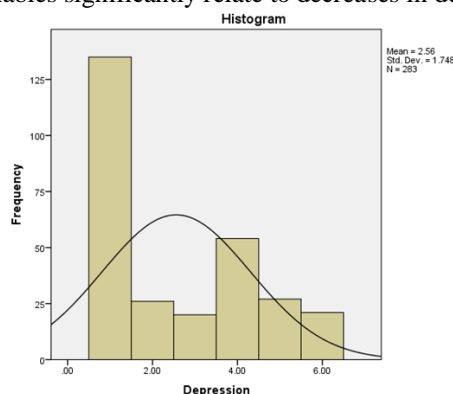
Variables	P. value
Pregnant age	-0.093
Mother’s education level	-0.212**
Father’s education level	-0.307**
Mother’s marital status	0.170**
Family monthly income	-0.477**
Suffering from obesity	0.078
Having help at home	-0.093
Having family trouble	0.121
Practicing any type of sports (gymnastics)	-0.256**
Having someone in the immediate family who suffers from psychological problems	-0.453**
Having a family member suffering from psychological problems	-0.167
Status of pregnancy	0.361**
Number of previous pregnancies	-0.056
Complications of previous pregnancies	0.397
Health complications of previous pregnancies	-0.357*
Psychological complications of previous pregnancies	0.046
The period between the previous and current pregnancy	-0.141*
Number of previous abortions	0.184**
Health complications of previous abortions	0.571
Psychological complications of previous abortions	-0.287
Number of births	-0.058
Health complications after delivery	-0.189
Psychological complications after delivery	0.000
Number of living newborn	-0.016
Number of dead newborn	0.209**
Number of children with low birth weight (less than 2.5 Kg)	0.324**
Pregnancy month	-0.078
Consuming a medication before or during pregnancy	-0.121

** Significant at level 0.01, * Significant at level 0.05

Table “4”, shows the Spearman’s rho (which is designed to analyze variables that are not normally distributed). The results showed a positive significant correlation between depression and the fowling variables:Marital status of mother,Status of the pregnancy .health complications of previous pregnancies, number of previous abortions, number of dead newborn& number of children with low birth weight (less than 2.5 kg). Also, the results showed a negative significant correlation between depression and the fowling variables: monthly income

of the family, practicing any type of sports (gymnastics), health complications of previous pregnancies, the period between the previous pregnancy and current one.

That means, increases in these variables significantly relate to decreases in depression level and vice versa.



The Chi-Square results revealed that there was a significant relationship between the age, level of education, having an income less than 2500 Saudi Riyals per month, having a member of the family suffering from psychological problems, being pregnant for the first time, being pregnant for 4-5 times, and having more than 5 children, and attending the antenatal clinic at their first trimester and having an “extreme” level of depression.

IV. Discussion:

Depression affects about 20% of women during their lifetime, with pregnancy being a period of high susceptibility. Antenatal depression has a public health importance due to many reasons: Firstly, rate of depression during pregnancy is high during antenatal period^(15,16) Secondly, it is the strongest risk factor for post-natal depression.^(17, 18, 19) finally it leads to divergent maternal and fetal outcomes.⁽²⁰⁾ Thus, depression during pregnancy a matter of great importance.

So the current study was conducted to identify the prevalence of depression among Saudi pregnant women & correlate between sociodemographic, medical and psychological history and antenatal depression

The study subjects was 316 Saudi pregnant women, The study illustrates that The prevalence rate of prenatal depression was 44.2% by using Beck’s Depression Inventory .This results may be from cultural perspectives that pregnancy is usually viewed by the public and as a period of emotional well-being that protects the pregnant woman against mental disorder, and hence antenatal care focuses on somatic health rather than psychological health. Consequently, antenatal depression is overlooked and under diagnosed. This result is similar to that of previous researches It was estimated that the prevalence of depression during pregnancy is 7.4%, 12.8%, and 12% at the first, second, and third trimesters, respectively. Epidemiological studies of postnatal depression, in Western societies, have generally reported that 10–15% of women are affected⁽²¹⁾. An important review showed that the 19.2% of women have a depressive episode during the first months postpartum⁽²²⁾

Regarding socio-demographic, the results revealed that there is a relationship between the age, level of education, husband’s level of education, monthly income of the family and the level of depression (i.e. mother aged less than 27 years old). Being illiterate along with the husband, suffering from marital problems, having low income

This come in the same line with **Marcus et.al** who conclude that among risk factors of antenatal depression are young age and low educational level⁽²³⁾, and other study⁽²⁴⁾ stressed on low income as a predictor of depression

Concerning psychological history the current study revealed that having someone in the immediate family suffering from psychological is a predictor of antenatal depression family this may be due to hereditary factor.

In relation to obstetric & medical history ,there are several risk factors that predispose to depression during pregnancy. Incurrent study, risk factors and found that multigravidas, status of pregnancy, and pregnant women with current obstetric complications, number of previous abortions, and a past history of obstetric complications were significantly associated with depression during pregnancy. This was similar to the findings from various other studies. (22,23,25,26&27)

The current study found that previous history of abortions and history of obstetric complications in the past was significantly associated with depression during pregnancy. was significantly associated with depression during pregnancy, which was similar to the studies done by Rich-Edwards et al.⁽²⁷⁾ who had documented that unplanned pregnancy had two-fold risk of antenatal depression. The most likely reasons could be that these are severely stressful events during pregnancy, which increase the vulnerability for depressive episodes

being a mother who is primigravida, or having more than 4 children, as well as being in the early months of pregnancy, all of which have been factors that increased and had a significant relationship with the high level of depression, a fact that is in consistent with available evidence^(23, 24, 25, 26, 27, 28)

The current study concluded that there is a positive relation between number of children with low birth weight (less than 2.5 Kg) and antenatal depression, this results come in the same line with Some studies which suggest that gestational depression is related to low birth weight, premature births and other problems in the development of the child (28).

Concerning number of previous abortion the current study concluded that there is appositive correlation with antenatal depression this may be place women under great psychological risks &having many concerns if she complete pregnancy or abort again, predisposing them to depression.

Those findings suggests that preventive measures to decrease the levels of depression among pregnant women must be a priority everywhere and that referral of the pregnant women to psychological counseling might help assist in coping during this vulnerable times in their lives.

V. Conclusion & Recommendation:

The current results confirmed studies indicating high rates of antenatal depressive symptoms in developing countries, clearly, such high rates of depression points out the need for an intervention.

Efforts should be made to incorporate preventive screening procedures into the prenatal care packages offered to women in antenatal clinics and primary care settings. The researchers are confident that this recommendation provides a foundation for nurses to identify, educate and treat women affected or being considered at risk for antenatal depression.

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