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RESEARCH ARTICLE

Risk Factors for depressive symptoms during pregnancy in a sample of Iraqi women

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Abstract

Objective

The aim of this study was to find the factors that may associate with and increase the negative affective states like depression and anxiety in a sample of depressed Iraqi women.

Study Design

A two phase longitudinal study including 215 randomly selected pregnant Iraqi women, depression during pregnancy was diagnosed in 80 case at phase one of the study by using Edinburgh Postnatal Depression Scale 1 (EPDS). Those were offered to phase two of the study which includes further questions about social, economic, psychological, medical, surgical and sexual and relationship conditions that may increase anxiety and depression status during pregnancy. Risks were calculated by percentage and 95% confidence interval.

Results

Prevalence of depression was (37.2 %). The depressed mothers were significantly more likely to be older >35 years pregnant women (43.75%), and received secondary education (38.75%) , most of them are teachers in primary or secondary schools , and of moderate to low income, they are multiparous with irregular ANC antenatal care , 60% of them had history of either primary or secondary infertility , 8.75 % had bleeding at early pregnancy and >42 % had history of previous miscarriage , all these factors contribute to large fear of losing the fetus that create emotional and psychological distress . > two thirds of them had poor marital relationship and > one third had history of domestic violence , > one forth had history of previous psychiatric disorders , about 77.5% had poor family and social support and about 18.75% had unplanned pregnancy. And lastly, one fifth of them had history of medical disease of pregnancy and 15% of them using different type of drugs during pregnancy.

Conclusion

Psychosocial assessment of pregnant women may facilitate early interventions to augment support networks, thereby reducing the risk of emotional distress. . The strongest risk factor was history of depression prior to pregnancy. Other associated factors were fear of childbirth, low SES, lack of social support and marital relationship difficulties.

These factors and other factors that may be discovered during future studies set the stage for a next era of psychiatric and collaborative interdisciplinary research on pregnancy to reduce the burden of maternal stress, depression, and anxiety in the perinatal period. It is critical to identify the signs, symptoms, and diagnostic thresholds that warrant prenatal intervention and

to develop efficient, effective and ecologically valid screening and intervention strategies to be used widely.

INTRODUCTION

For more than a decade, psychiatry and related disciplines have been concerned about women experiencing symptoms of anxiety and depression during pregnancy and in the months following a birth. A literature has grown rapidly in other health disciplines, especially behavioral medicine, health psychology, and social epidemiology, regarding stress in pregnancy and the implications for mothers.[1,2]

The purpose of this article is to study the factors that may affect the negative affective states (referring throughout to anxiety and depression) and stress exposures in pregnancy. By highlighting these developments, we hope to encourage synthesis and new directions in research and to facilitate evidence based practices in screening and clinical protocols. Psychiatric research on pregnancy focuses mostly on diagnosable mental disorders, primarily anxiety, and depressive disorders. [3,4,5]

The prevalence of depression during pregnancy can be as high as 16% or more.[3] Firm estimates for prenatal anxiety do not exist, nor is there agreement about appropriate screening tools, but past studies suggest that a significant portion of women experience prenatal anxiety both in general and about their pregnancy.[1,4]

Some of the stressors that commonly affect women in pregnancy around the globe are low material resources, unfavorable employment conditions, heavy family and household responsibilities, strain in intimate relationships, and pregnancy complications.[6,7]

These results suggest that existing vulnerabilities that predate pregnancy may interact with the social, familial, cultural, societal, and environmental conditions of pregnancy to increase levels of pregnancy anxiety, producing effects on the maternal– fetal–placental systems, especially during sensitive periods such as early pregnancy. This process can then adversely influence fetal development by programming the fetus's HPA axis and also have effects on the initiation of labor via maternal, fetal, and placental hormonal exchanges. Although there is much we do not know, a worthwhile future goal for clinical researchers may be to identify women high in anxiety before conception, as well as women high in anxiety during pregnancy, and especially those women who are anxious about specific aspects of their pregnancies – about this child and this birth, and about competently parenting with this partner. These women would appear to be targets for early intervention such as evidence-based interventions for stress reduction, mood regulation treatments such as cognitive behavioral therapies, pharmacological treatments, and follow-up care during postpartum to prevent a range of adverse outcomes for mother, child, and family.[2]

Clinical screening for depression or anxiety in prenatal and postpartum healthcare has been widely recommended but is also potentially problematic. The issues concern what screening tools to use; what cutoffs to adopt for identifying women at risk; the need for expert clinicians to follow up on those women who score above thresholds to make diagnoses; and, for those who have established diagnoses, the availability of affordable and efficacious treatments .[8]

These issues must be resolved for prenatal (and postpartum) clinical screening to be recommended widely. For example, the Edinburgh Postnatal Depression Scale EPDS[9], which is a gold standard used widely in clinic settings for depression screening both prepartum and postpartum, actually measures both depressive and anxiety symptoms, which may contribute to confusion about risks .[10]

In addition, experts have questioned the validity of a diagnosis of depressive disorders using standard diagnostic criteria for mood disturbance because they include typical somatic symptoms of pregnancy such as fatigue, sleep disturbance, and appetite changes .[11]

The Edinburgh Postnatal Depression Scale (EPDS) is a 10-item questionnaire that was developed to identify women who have prenatal or postnatal depression.[9] Items of the scale correspond to various clinical depression symptoms, such as guilt feeling, sleep disturbance, low energy, anhedonia , and suicidal ideation. Overall assessment is done by total score, which is determined by adding together the scores for each of the 10

items. Higher scores indicate more depressive symptoms. [9] The EPDS may be used within 8 weeks postpartum and it also can be applied for depression screening during pregnancy.[12]

The Edinburgh Postnatal Depression Scale is a widely used depression screening tool, which has been adapted and validated in many languages.[13,14]

Method

Design

This is a longitudinal study with a two phase assessment procedure (antenatal) followed by a one month another assessment prospective cohort of depressed mothers.

Recruitment of subjects

The sample of women included Iraqi pregnant women attending outpatient private clinics and antenatal clinics at al-noaman teaching hospital in Baghdad during the period between the beginning of 2013 and the end of 2014..

Antenatal assessments: phase-1

All women attending the antenatal clinic were approached by a research assistant and invited to take part in the study; an information leaflet was given to explain the study. Verbal information was given to those who were unable to read. All the women who were in their second trimester of pregnancy were screened at the antenatal clinic with the Edinburgh Postnatal Depression Scale (EPDS) [9] for depression (phase 1 interview). An Arabic translated version of the EPDS was completed by all women who were included in the study and for those who were illiterate the research assistant would read the EPDS word for word for the participant and they would respond accordingly. Women with multiple pregnancies, or diagnosed physical or learning disability were excluded.

Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987)[9]

EPDS is a screening tool to detect prenatal and postnatal depression. This is a 10 item self-report questionnaire with four possible responses. The response categories are scored 0, 1, 2, 3 according to increased severity of symptoms, items 3, 5–10 are reverse scored (i.e. 3, 2, 1, and 0).

The total score is calculated by adding together the scores for each of the 10 items. A score of ≥ 12, the most commonly used cut-off, was used to distinguish cases from non-cases.

Edinburgh Postnatal Depression Scale 1 (EPDS)

In the past 7 days:

1. I have been able to laugh and see the funny side of things
    - As much as I always could
    - Not quite so much now
    - Definitely not so much now
    - Not at all
2. I have looked forward with enjoyment to things
    - As much as I ever did
    - Rather less than I used to
    - Definitely less than I used to
    - Hardly at all
3. I have blamed myself unnecessarily when things went wrong
    - Yes, most of the time
    - Yes, some of the time
    - Not very often
    - No, never
4. I have been anxious or worried for no good reason
    - No, not at all
    - Hardly ever
    - Yes, sometimes
    - Yes, very often
5. I have felt scared or panicky for no very good reason
    - Yes, quite a lot
    - Yes, sometimes
    - No, not much
    - No, not at all

6. Things have been getting on top of me
    - Yes, most of the time I have not been able to cope at all
    - Yes, sometimes I have not been coping as well as usual
    - No, most of the time I have coped quite well
    - No, I have been coping as well as ever
7. I have been so unhappy that I have had difficulty sleeping
    - Yes, most of the time
    - Yes, sometimes
    - Not very often
    - No, not at a
8. I have felt sad or miserable
    - Yes, most of the time
    - Yes, quite often
    - Not very often
    - No, not at all
9. I have been so unhappy that I have been crying
    - Yes, most of the time
    - Yes, quite often
    - Only occasionally
    - No, never
10. The thought of harming myself has occurred to me
    - Yes, quite often
    - Sometimes
    - Hardly ever
    - Never

Antenatal assessments: phase-2

Women scoring 12 or more on the EPDS were only included in this study (80 case) and invited to attend phase-2 interviews, which included further questions about other factors that may contribute to depressive state during pregnancy. These questions include information about maternal age , education marital relationship conditions , domestic violence history , social and economic status , and about obstetrical , gynecological , medical , surgical , drug and previous psychological history , also information about any psychological trauma during pregnancy including death of one of the family member.

Statistical methods

A total of 215 women were screened in phase 1, of whom 80 scored 12 or more, and all those 80 women of these took part in the phase-2 interviews. Flow of participants through two-phase antenatal screen and interviews.

The weighted prevalence of depression at antenatal assessment is presented. All depressed pregnant women were assessed with respect to all the socio-demographic factors and marked difficulties and also the relationship of these factors with depression state.

For categorical variables, 95% confidence intervals and significance are presented.

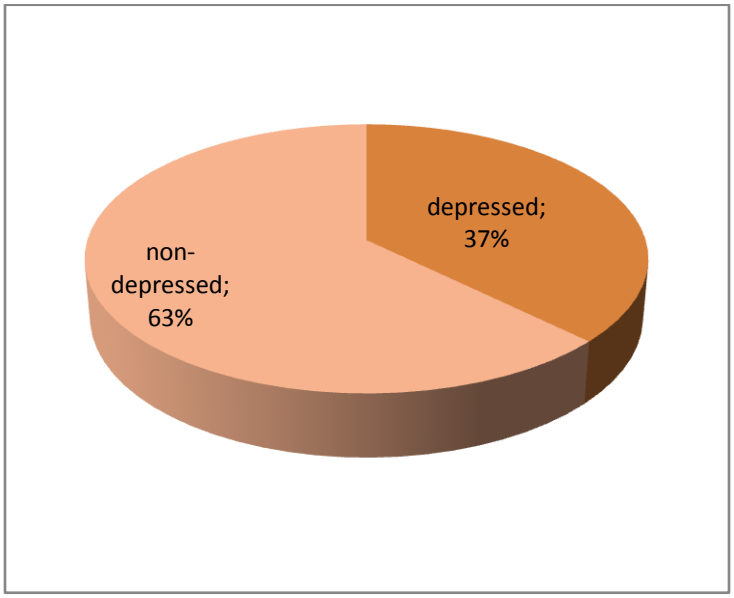
Results

Prevalence of depression

From total 215 case that screened at phase 1 from the study, only 80 case had the criteria of depression , the prevalence was (37.2%).

FIGURE-1-

Pie chart showing percentage of depressed Iraqi pregnant women (no=80) from the whole 215 pregnant women screened.



All further analyses on data obtained at the second-phase interview were carried out using all high EPDS scorers.

Possible correlates of depression:

The depressed mothers were significantly more likely to be older >35 years pregnant women (43.75%), and more likely received secondary education (38.75%) . Table -1-

Table 1: Social factors

Maternal age	< 25		25-29		30-34		>35		95% confidence interval
	No.	%	No.	%	No.	%	No.	%	
	15	18.75	18	22.5	12	15	35	43.75	2.26

Education	No education		Primary		secondary		Tertiary		95% confidence interval
	No.	%	No.	%	No.	%	No.	%	
	7	8.75	19	23.75	31	38.75	23	28.75	2.19

They are more likely to be employers (56.25%) (most of them working as a teachers) of moderate income (50%) .Table -2-

Table 2 : Economic factors

Occupation	House wife		employer		95% confidence interval
	No.	%	No.	%	
	35	43.75	45	56.25	0.02

Income	Low		moderate		High		95% confidence interval
	No.	%	No.	%	No.	%	
	22	27.5	40	50	18	22.5	2.57

Regarding the obstetrical and gynecological history , most depressed women are multiparous (67.5) with irregular antenatal care ANC (66.25%) during pregnancy , (8.75) had complication during early pregnancy periods most

likely bleeding or threatened miscarriage, (60%) of them had history of infertility, primary infertility about (31.25%) and significant percentage of them (42.5%) had previous miscarriage ,about (25%) had previous recurrent miscarriages. Table -3-

Table 3 : Obstetrical and gynecological factors

parity	Primi		multi		95% confidence interval
	N0.	%	No.	%	
	26	32.5	54	67.5	4.34

ANC	Regular ANC		Irregular ANC		No ANC		95% confidence interval
	No.	%	No.			%	
	23	28.75	53	66.25	4	5	5.41

Complication during pregnancy	No complication		Early pregnancy complication		95% confidence interval
	No.	%			
	73	91.25	7	8.75	10.23

infertility	No infertility		Total infertility		Primary infertility		Secondary infertility		95% confidence interval
	No.	%	No	%	No.	%	No	%	
	32	40	48	60	25	31.25	23	28.75	2.48

Previous miscarriages	No previous miscarriages		total previous miscarriages		1 previous miscarriages		> 1 previous miscarriages		95% confidence interval
	No.	%	No.	%			No.	%	
	46	57.5	34	42.5	14	17.5	20	25	1.86

They were also significantly more likely to have marked difficulties, particularly non-health related ones (housing, financial and marital or relationship difficulties (63.75%)) , about (38.75%) severed from domestic violence and were more likely to have previously suffered with “nerves”, depression (21.25%) or to have received psychological treatment, only (11.25%) had family history of psychological disorders , (18.75%) had unplanned pregnancy and most of them have moderate family support (77.5%) , only (16.25%) had poor or no family support .

Table 4 : sexual and relationship history

Relationship quality	Good relationship	Poor relationship	95% confidence interval

	No.	%	No.	%	
	29	36.25	51	63.75	3.41
domestic violence	No		yes		95% confidence interval
	No.	%	No.	%	
	49	61.25	31	38.75	2.79

Table 5 : psychological factors

Psychological disorders before pregnancy and/ or received psychological treatment	No		Yes		95% confidence interval
	No.	%	No.	%	
	63	78.75	17	21.25	7.13
Family History of Psychological disorders	No		Yes		95% confidence interval
	No.	%	No.	%	
	71	88.75	9	11.25	9.61
History of psychological trauma during pregnancy (e.g. death of a member of the family)	No		Yes		95% confidence interval
	No.	%	No.	%	
	76	95	4	5	11.15
Social and family support	Good		moderate		poor		95% confidence interval
	No.	%	No.	%	No.	%	
	5	6.25	62	77.5	13	16.25	6.76
Planned pregnancy or not	Yes		No		95% confidence interval
	No.	%	No.	%	
	65	81.25	15	18.75	7.75

One fifth of the depressed women were having medical diseases during pregnancy , about (15%) were using drugs including sedative , antihypertensive and glucose lowering agents .
2 cases had surgery at late first trimester , one for ruptured ovarian cyst and the other one for ruptured appendix.

Table 6 : Medical and surgical history

Medical diseases	No medical disease		Hypertension or diabetes or hypothyroidism		95% confidence interval
	No.	%	No.	%	
	64	80	16	20	7.44
Drug history	_ve drugs use during pregnancy		+ve drugs use during pregnancy		95% confidence interval
	No.	%	No.	%	
	68	85	12	15	8.68
Surgical history	No surgery		Surgery during pregnancy (ovarian cyst or appendectomy)		95% confidence interval
	No.	%	No.	%	
	78	97.5	2	2.5	11.78

Discussion

Evidence of high exposure to stress in pregnancy is more widely available, at least for certain subgroups of women. For example, a recent study of a diverse urban sample found that 78% experienced low-to-moderate antenatal psychosocial stress and 6% experienced high levels [15].

It is not clear why 'pregnancy anxiety' has such powerful effects on mothers and their babies. In fact, the nature of this concept has not yet received sufficient attention to be fully explicated. Possibly what makes it potent is that measures of pregnancy anxiety captures both dispositional characteristics, or traits, and environmentally influenced states. For example, women who are most anxious about a pregnancy seem to be more insecurely attached, of certain cultural backgrounds, more likely to have a history of infertility or to be carrying unplanned pregnancies, and have fewer psychosocial resources.[7].

Our study is unique in that it considered the first study in Iraq that focus the attention towards the psychological states during pregnancy and the factors that may be related to increase depression and anxiety status during antepartum period .

Prevalence estimates of depression and anxiety during pregnancy are usually considerably higher than estimates during the postnatal period[16, 17].

In our study , the prevalence of depression is 37.2 % , while in a study done at 2004[18] the prevalence was found about 12% , and another study done at 2010 in Finland[19] the prevalence was 0.8% , this wide range of variety in prevalence may attributed to large difference in sample size , our to the social and political conditions and wars fought by Iraq till now .

In our study we find that most of depressed women aged about 35 years and above , and had secondary education while in study done by Stephanie they are more likely to be of no or low education.[16]

Regarding to socioeconomic status , in our study more than half of depressed women (56.25%) were employers and half of them of moderate income , while in Finland ,major depression during pregnancy occurred most frequently in women with low or unspecified SES [19] , the same result was found by Husain in British Pakistani mothers .[20]

Regarding obstetrical and gynecological history , most of depressed women are multiparus (67.5%) and >two thirds had irregular antenatal care , an approximate result found by Schetter[1] , 8% had early pregnancy complications , about (42.5 %) had previous abortion and 60% had history of infertility most of them had primary infertility all these three factors create a considerable sense of fear to those women from losing the child in agreement with 2 of Matthey studies one at 2012 and the other done at 2013 on English speaking women and also similar to result found by Glazier at 2004 [21,22,23].

About two third (63.75%) of depressed women had poor marital relationship, and more than one third (38.75%) were exposed to domestic violence in agreement with Finland study, Leight and Husain.[19,3,20]
In accordance with study done by Woods at 2010 [15], we found that significant percent of depressed mother had comorbid medical disease during pregnancy and (15%) were using drugs.

In agreement with Räisänen study in Finland [19], more than half of the depression episodes occurred in women without a history of depression prior to pregnancy or previously received psychological treatment , the same result found by Husain in British Pakistani mothers .[20] family history of psychological disorders was found in (11.25%) of our sample.
About 77.5% had moderate family support , only 16.25% had poor support , this result different from the result of other studies which show that most of depressed women have poor family and social support .[19.20,23]
Also about 5% of depressed women experienced major life events such as the death of a family member in accordance with Glazier 2004 .[23]

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