Prevalence of Depression among Pregnant Women with Hyperemesis Gravidarum in Thi-Qar Maternity Hospitals, 2016

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Abstract

Background: Globally, depression is considered as the first leading cause of disease burden in women at child bearing age (15-44year). Nationally, scarce information was published regarding the prevalence of depression in pregnant women with hyperemesis gravidarum.

Objectives: This study was carried out to measure the prevalence of depression among pregnant women with hyperemesis gravidarum in Thi-Qar Maternity hospitals.

Materials and methods: A hospital based cross sectional study was carried out in two teaching hospitals in Thi-Qar Maternity hospitals from first of Sep 2015 to 31st of Jul 2016. All pregnant women who were suffering from hyperemesis gravidarum, and attended the obstetric outpatients in these two hospitals were included. Based on assumed prevalence of depression among pregnant women in a previous study in Iraq was (37.2%), so the needed sample size to calculate such prevalence with precision of 5%, confidence level of 95%, and added extra sample of 10%, was almost equal to 322. Women data were collected by using Arabic version of Beck depression inventory-II and specialized questionnaire which was designed for the purpose of the study. Depression considered when patients had Beck depression inventory-II score of > 20.

Results: this study showed that prevalence rate of depression among pregnant women with hyperemesis gravidarum was 37.1%. This rate was significantly affected by increased gestational age (P = 0.003), high socioeconomic status (P = 0.009), previous history of hyperemesis (P = 0.03), unwanted pregnancy (P = 0.03), and increased gravidity (P = 0.03).

Conclusions: one-third of pregnant women with hyperemesis gravidarum in Thi-Qar Maternity hospitals had depression. It is recommended to reinforce mental health care of pregnant women through the antenatal care services at primary health care level, with strengthening the mental and social rehabilitation method that were used for diagnosed women with depression.

Key words: Depression, pregnant, hyperemesis gravidarum, Thi-Qar Maternity hospitals.

Introduction

Hyperemesis gravidarum is known as the severe intractable form of nausea and vomiting during early pregnancy, affecting 0.5% - 2% of pregnant women.[1,2,3]

Globally, the first leading cause of disease burden in women at child bearing age is depression.[4] Depression is a common and serious mental disorder that negatively affects how you feel, the way you think and how you act, accompanied by low self-esteem and loss of interest or pleasure in normally enjoyable activities. [5] Depression earned its global public health importance from its higher rate during pregnancy [6] and its impact on the health of both mother and fetus. [7] Depressed pregnant women have 3.4 times risk of preterm delivery, 4.0 times risk of low birth weight baby, and higher rates of maternal suicide.[8] Prevalence of depression in pregnant women ranged from 7.4% to 51.4%. It varies in different stages of pregnancy, ranging from 7.4% - 24.6% in first trimester, 9.1% - 48.9% in second trimester, and 8.8% - 51.4% in third trimester. [9] Women have twice risk of experiencing depression than men. [10] Furthermore, women during pregnancy, and postpartum periods are more likely to develop depression than any other time in their lives.[11]

Nationally, scarce information was published regarding the prevalence of depression in pregnant women with hyperemesis gravidarum. [12]This study was carried out to measure the prevalence of depression among pregnant women with hyperemesis gravidarum in Thi-Qar Maternity hospitals.

Subjects & Methods

A hospital based cross sectional study was carried out in two hospitals (Al Habobi teaching hospital and Bent Al Huda teaching hospital) in Thi- Qar province from first of Sep 2015 to 31st of Jul 2016.

All eligible pregnant women who were suffering from severe vomiting (> 3 times/day) without any other obvious underlying cause and were unable to maintain oral uptake with >3 Kg weight loss, and positive ketone urea, and who were attending the obstetric outpatient of the two hospitals were recruited for this study. Pregnant women with

evidence of antenatal bleeding, with mild to moderate nausea and vomiting, preexisting medical or psychiatric comorbid conditions, patient refused to participate, and those using antibiotic, proton pump inhibitor, and H2 blocker at time of inclusion were excluded from this study.

An appropriate sample size was calculated by applying the following equation [13]: n= (z^2pq) /d^2, Based on assumed prevalence of depression among pregnant women in a previous study in Iraq was (37.2%), so the needed sample size to calculate such prevalence rate with precision of 5%, confidence level of 95%, and added extra sample of 10% after adjustment according to target of pregnant women (4%) in Thi-Qar province, was almost equal to 322.

Women data were collected by the researcher by using two sets of questionnaires. The 1st is the Arabic version of standard Beck depression inventory questionnaire-II, [14] and the 2nd is a specialized questionnaire which was designed for the purpose of the study. Beck depression inventory (BDI) consist of (21) questions, with a scoring ranging from 0-3 for each question. A total scoring of 1-10 is considered normal, 11-16 is considered mild mood disturbance, 17-20 is considered borderline clinical depression, 21-30 is considered moderate depression, 31-40 is considered severe depression, and over 40 is considered extreme depression. A total BDI score of >20 is considered as depression. The 2nd questionnaire includes different variables that are suspected to be associated with the rate of depression among enrolled participants.

All collected data were entered in to computerized statistical software; Statistical Package for Social Sciences (SPSS) version 23 was used. Descriptive statistics were presented as (mean ± standard deviation) and frequencies as percentages. Multiple contingency tables were conducted and appropriate statistical tests are performed, Chi-square was used for categorical variables and Fishers exact test was used when more than 20% of expected variable was less than 5. t-test analysis was used to compare between means. In all statistical analysis, the level of significance (p value) sets at ≤ 0.05 and the result were shown as tables.

Results

A total of 313 pregnant women with hyperemesis gravidarum (HG) women were included in the present study, the refused rate was(2.8%). The mean age of included women was 27.1±6.3 years. A mean BDI score of HG was 20±12. Generally, depression prevalence among pregnant women with hyperemesis gravidarum was 37.1% as shown in Table No1 . This rate was significantly affected (P = 0.009) by high socioeconomic status of the study participants as shown in Table No2. HG pregnant women with increased gestational age at the study time were significantly had

higher depression prevalence (P = 0.03), this was shown in Table No3. HG pregnant women with previous history of HG in previous pregnancies and HG pregnant women who were unwanted this pregnancy had significantly higher depression prevalence (p=0.03 on both) as shown in Figure No1. Socioeconomic score mean and gravida mean were significantly higher (p= 0.001 and 0.03 respectively) among depressed pregnant than non-depressed pregnant as shown in Table No4.

Table 1. Beck Depression Inventory score and depression distribution of Hyperemesis Gravidarum women.

Variable	No.	%
BDI score: Mean ± SD (20±12)		
Normal	64	20.4
Mild mood disturbances	72	23.0
Borderline clinical	61	19.5
Moderate depression	49	15.7
Severe depression	31	9.9
Extreme depression	36	11.5
Total	313	100.0
Depression		
Yes	116	**37.1**
No	197	62.9
Total	313	100.0

Table 2. Distribution of sociodemographic characteristics and socioeconomic status of Hyperemesis Gravidarum women according to depression status.

Variable	Depression		No		χ^2	P
	No.	%	No.	%		
Age: mean±SD (27.1±6.3 years)					1.7	0.6
<20 years	11	33.3	22	66.7		
20-29 years	67	39.4	103	60.6		
30-39 years	32	33.0	65	67.0		
≥40 years	6	46.2	7	53.8		
Occupation					5.8	0.2*
Housewife	87	34.7	164	65.3		
Sciences and engineering professional	5	31.3	11	68.8		
Health professional	10	58.8	7	41.2		
Teaching	12	48.0	13	52.0		
Student	2	50.0	2	50.0		
Residence					1.5	0.2
Urban	85	39.4	131	60.6		
Rural	31	32.0	66	68.0		
Educational level					5.9	0.1
Illiterate	22	46.8	25	53.2		
Primary level	34	36.2	60	63.8		
Secondary level	26	28.6	65	71.4		
College/institute	34	42.0	47	58.0		
Socioeconomic status: Mean ± SD (3.8±0.9)					9.4	**0.009**
Low	6	26.1	17	73.9		
Moderate	70	33.0	142	67.0		
High	40	51.3	38	48.7		

*Fisher Exact test.

Table 3. Distribution of gestational characteristics of Hyperemesis Gravidarum women according to depression status.

Variable	Depression		No depression		χ^2	P
	No.	%	No.	%		
Gravida: Mean ± SD (3±2)					0.1	0.6
Prime	22	34.9	41	56.1		
Multi	94	37.6	156	62.4		
Parity: Mean ± SD (2±1)					3.7	0.1
No	27	39.1	42	60.9		
1	44	31.4	96	68.6		
≥ 2	45	43.3	59	56.7		
miscarriage number: Mean ± SD (1±1)					2.3	0.3
No	79	34.8	148	65.2		
1	23	40.4	34	59.6		
≥2	14	48.3	15	51.7		
Gestational age at time of interview: Mean ± SD					4.3	**0.03**
≤8	33	29.5	79	70.5		
>8	83	41.3	118	58.7		
Gestational age at appearance of HG: Mean ± SD					0.7	0.3
≤6	62	35.0	115	65.0		
>6	54	39.7	82	60.3		

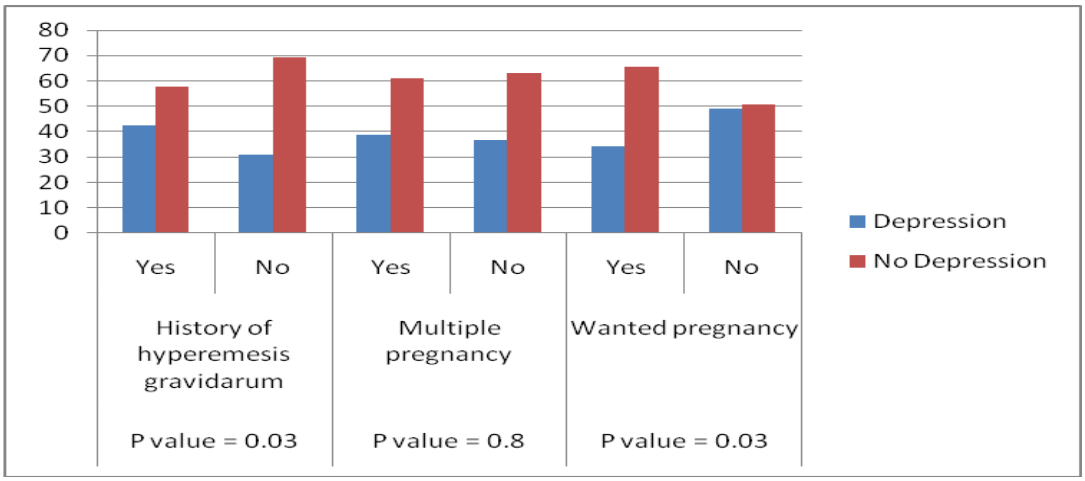

Figure 1. Percentages distribution of obstetric history of Hyperemesis Gravidarum women according to depression status.

Table 4. Distribution of characteristics means of Hyperemesis Gravidarum women according to depression status.

Variable	Depression	No depression	t-test	P
	Mean±SD	Mean±SD		
Age (years)	27.1±6.7	27.1±6	0.03	0.1
Socioeconomic	4.1±0.8	3.6±0.8	2.1	**0.001**
Gravida	4±2	3±1	2.1	**0.03**
Parity	2±2	2±1	1.8	0.07
GA (weeks) at	9.6±2.2	9.4±3.2	0.6	0.5
GA(weeks)at	6.6±2	6.1±2.6	1.8	0.06
Miscarriage	1±2	1±1	1.6	0.09

Discussion

World Health Organization (WHO) states that the main HG risk factors are stress, social relationships, stressful life events, anxiety and depression .[15] Despite that, a few researches were done to discover the prevalence and relations of psychopathological factors which accompany the pregnancy. [16]

This study reported a prevalence of depression among early pregnant women with hyperemesis gravidarum was 37.1%. This is lower than that reported by the previous study in Turkey(53.9%) [17], and higher than that reported by a Malaysian study(19%)[18], and an Omani study(24.3%)[19]. These differences in depression prevalence among HG pregnant women from our study might be attributed to discrepancies in lifestyle and cultural habits, socioeconomic status and general mental health in the community in addition to the differences in studying designs and depression scores among studies. Our finding in the current study like the findings of the Turkish study [20] which reported a significant association between high socioeconomic level and depression during early pregnancy, and this finding inconsistent with USA study[21] and Tanzania study[22]. This study reported a significant association between increased gestational age at time of interview and depression (p=0.03) which consistent with the findings of the Egyptian study [23], and inconsistent with that of the USA study [24] . Like the findings of an Indian [25] studies which reported a significantly higher gravida mean among depressed pregnant than non- depressed

pregnant which was similar to findings of the current study, and this finding inconsistent with the Turkish study[26]. Similar to current study findings, a Turkish study [27] reported significant association between previous history of HG and development of depression during pregnancy. Pregnant women with HG who do not wanted pregnancy in the present study had higher depression prevalence (p=0.03). This is consistent with results of the previous studies carried out in Finland[28]. In many literatures, unwanted pregnancy was considered as a precursor of depression and HG [29, 30] ,in other studies it was considered as an outcome of depressive symptoms and HG in early pregnancy .[31]

Conclusions and Recommendations

- About one-third (37.1%) of pregnant women with hyperemesis gravidarum in Thi-Qar Maternity hospitals found to had depression. Although this rate was high on the provincial level, but it was consistent with a previous study conducted at another province in the country.
- For that reason it is recommended to:

1. Implement mental health care programs targeting pregnant women through the antenatal care services provided at the primary health care level.
2. National campaign and educational programs for early detection of depression before and during early pregnancy to mitigate the impact of this disease on the mother and her fetus.
3. Large sized longitudinal studies on the relationship between depression and hyperemesis gravidarum in early pregnancy must be supported at the country level.
4. The awareness of medical Personal about depression among pregnant women should be raised.
5. The family Planning activities to mitigate unwanted Pregnancy must be reinforced.

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نسبة انتشار مرض الكآبة بين النساء الحوامل اللواتي يعانين من التقيؤ الحملي الشديد في مستشفيات ذي قار للامومة،٢٠١٦

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الخلاصة

الخلفية: على الصعيد العالمي، يعتبر مرض الاكتئاب السبب الرئيسي الأول للعبيء المرضي بين النساء في سن الإنجاب (١٥-٤٤سنة). اما على الصعيد الوطني، فأن المعلومات المنشورة حول انتشار الاكتئاب في النساء الحوامل اللواتي يعانين من التقيؤ الحملي الشديد هي معلومات شحيحة .

الأهداف: تم إجراء هذه الدراسة لقياس مدى انتشار الاكتئاب بين النساء الحوامل اللواتي يعانين من التقيء الحملي الشديد في مستشفيات ذي قار للامومة.

الطرائق: تعتبر هذه الدراسة دراسة مقطعية منفذة في اثنان من المستشفيات التعليمية لمحافظة ذي قار (مستشفى الحبوبي التعليمي و مستشفى بنت الهدى التعليمي) للفترة ما بين الأول من شهر أيلول ٢٠١٥ و لغاية الواحد و الثلاثون من شهر تموز ٢٠١٦. جميع النساء الحوامل اللواتي يعانين من التقيؤ الحملي الشديد و اللواتي راجعن العيادات الخارجية لأقسام النسائية في هذه المستشفيات ، تم تضمينها في هذه الدراسة. تم احتساب العينة البحثية بناءً على نسبة انتشار الاكتئاب بين النساء الحوامل في دراسة سابقة في العراق (٣٧.٢٪)، وبنسبة دقة انتشار ٥% و مستوى ثقة ٩٥%، و بعد أضافة ١٠% لتغطية استمارات التحري الناقصة و النساء الحوامل الرافضات للاشتراك في هذا البحث، يكون حجم العينة البحثية (٣٢٢) مشاركة. تم جمع البيانات بواسطة استمارتي استبيان، الأولى النسخة العربية من مقياس بيك للاكتئاب-II والثانية صممت خصيصاً لغرض هذه الدراسة. النساء الحوامل المشاركات في البحث و اللواتي يجمعن نقاط تقييم استمارة النسخة العربية لمقياس بيك – II اكثر من (٢٠) نقطة، تعتبر المشاركة مصابة بالاكتئاب .

النتائج: تبين هذه الدراسة أن معدل انتشار الاكتئاب بين النساء الحوامل اللواتي يعانين من التقيؤ الحملي الشديد في مستشفيات ذي قار للامومة هو ٣٧.١٪. يتأثر هذا المعدل بشكل كبير بزيادة العمر الحملي " Increased gestational age" (P = 0.003)، الوضع الاجتماعي والاقتصادي المرتفع " High socioeconomic status" (P = 0.009)، التاريخ السابق للأصابة بالتقيؤ الحملي الشديد" previous history of Hyperemesis gravidarum" (P = 0.03)، الحمل غير المرغوب فيه "Unwanted pregnancy" (P = 0.03)، وزيادة عدد مرات الحمل "Gravidity" (P = 0.03) .

الاستنتاجات و التوصيات: ثلث النساء الحوامل اللواتي يعانين من التقيؤ الحملي الشديد في مستشفيات ذي قار للامومة يعانين من الاكتئاب. عليه يوصى بأ عادة فرض برامج الرعاية الصحية النفسية للنساء الحوامل من خلال خدمات الرعاية الصحية الاولية السابقة للولادة في مستوى الرعاية الصحية الأولية، مع تعزيز أساليب إعادة التأهيل النفسي والاجتماعي التي تستخدم لتأهيل النساء الحوامل المصابات بالاكتئاب.