

**Levels of depression in pregnant women attending the Ticul community hospital, Yucatan, Mexico****Niveles de depresión en mujeres embarazadas que acuden al hospital comunitario de Ticul, Yucatán, México**

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**Abstract**

**Objective.** To describe levels of depression in pregnant women treated at the Ticul community hospital, Yucatan, Mexico. **Methodology.** Cross-sectional design. The participants were pregnant women who attended their prenatal check-ups at the community hospital in Ticul, Yucatán, Mexico, to whom the Aron T. Beck Depression Inventory (BDI-II) was applied. **Results.** 121 pregnant women participated. The age range was from 16 to 42 years old. 81.5% of pregnant women were in the third trimester of pregnancy. 85% presented levels of depression with ups and downs considered normal, 5% mild disturbance in mood, 10% presented levels of depression located between intermittent states of depression, moderate depression and severe depression which are indicators that it can need professional help. **Contribution.** This study contributes with results that show that levels of depression occur during pregnancy that may require professional support as preventive measures for serious complications.

**Resumen**

**Objetivo.** Describir niveles de depresión en mujeres embarazadas atendidas en el hospital comunitario de Ticul, Yucatán, México. **Metodología.** Diseño transversal. Participaron mujeres embarazadas que acudieron a sus controles prenatales al hospital comunitario de Ticul, Yucatán, México, a quienes se aplicó el inventario de depresión de Aron T. Beck (BDI-II). **Resultados.** Participaron 121 mujeres embarazadas. El rango de edad fue de 16 a 42 años. El 81.5% de las embarazadas se encontraba en el tercer trimestre de gestación. El 85% presentó niveles de depresión con altibajos considerados como normales, el 5% leve perturbación en el estado de ánimo, el 10% presentó niveles de depresión situados entre estados intermitentes de depresión, depresión moderada y depresión grave los cuales son indicadores de que puede necesitar ayuda profesional. **Contribución.** Este estudio contribuye con resultados que demuestran que durante el embarazo se presentan niveles de depresión que pueden requerir de apoyo profesional como medidas preventivas de complicaciones graves.

**Level, Prenatal, Preventive****Nivel, Prenatal, Preventivo**

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## Introduction

Pregnant women are considered a vulnerable group, as they are susceptible to various life-threatening morbidities and complications during pregnancy. The causes of depression in pregnancy have been little studied, compared to the study of biological causes, of which the scientific literature has published extensively. Although pregnancy is considered a physiological stage in a woman's reproductive life, the chemical and biochemical changes that occur during pregnancy, as well as the influence of the unfavourable context and environment in which the pregnant woman lives, influence her mood, which can lead to depression. Among the main morbidities related to mental health in pregnant women, depression is the most prevalent, affecting more than 13% of them (1).

Depression is a state of mind in which feelings of sadness, frequent crying, social distancing, among others, predominate and can last for weeks or months. Major depression or major depressive disorder (MDD) is a debilitating illness characterised by a feeling of profound sadness, diminished interest, impaired cognitive functions and vegetative symptoms, such as disturbed sleep or appetite. All these symptoms can affect pregnant women and cause disability (2, 3).

Depression is a global problem, responsible for more "annual losses" due to disability than any other condition.

Disability than any other condition; because so many people suffer from it, an estimated 350 million according to the World Health Organization; when ranked by disability and death combined, depression is the death combined, depression ranks ninth behind heart disease, stroke and HIV.

Stroke and HIV. However, depression goes undiagnosed and untreated due to a lack of effective therapies and resources.

Effective therapies and inadequate mental health resources (4).

Depression in pregnant women may be present during pregnancy, childbirth and postpartum. In the latter stage, depression has been most studied. However, among the three trimesters of pregnancy, the prevalence is highest during the second and third trimesters. According to CDC reports, the rate of women with depression at the time of delivery increased 7-fold between 2000 and 2015 (5).

In Mexico, it is one of the most prevalent mental disorders and the leading cause of disability (6).

(6); and it has been reported that 2 out of 10 women have depression in pregnancy, which is not diagnosed in a timely manner. Women living in rural areas find it more difficult to seek help for the diagnosis of depression, due to a lack of resources, both in terms of personnel who can apply the instrument and specialised personnel who can confirm the diagnosis of depression. There are validated instruments that can be applied to pregnant women to help the doctor diagnose depression, such as the Beck Depression Inventory (7).

The objective of this study is to describe the levels of depression in pregnant women residing in rural communities in the State of Yucatan, Mexico.

## Methodology

A cross-sectional survey-type study was designed. Pregnant women were selected for consultations at the community hospital in the municipality of Ticul, Yucatán. This hospital is attended by pregnant women from the municipal capital and its commissariats; in addition, the hospital provides consultations to pregnant women from other municipalities and commissariats located in the same southern region of the state of Yucatán. The instrument applied to detect levels of depression in women was the Beck Depression Inventory (BDI), developed to assess the severity of depression in normal and psychiatric populations; it is based on the theory of negative cognitive distortions as a central element of depression (7).

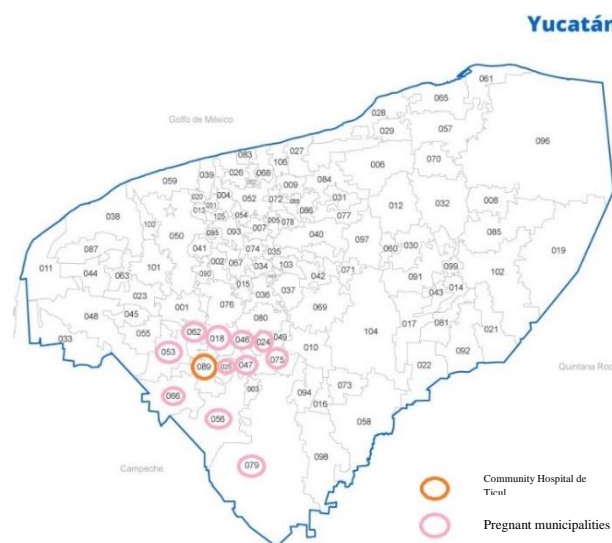
The questionnaire was administered to each of the women participants after informed consent was requested and signed voluntarily. The version of the questionnaire used was the BID-II, which contains 21 items on a 4-point scale from 0 (no symptoms) to 3 (severe symptoms). It does not assess anxiety symptoms, but does assess affective, cognitive, somatic and vegetative symptoms, reflecting major depression. Scoring is achieved by summing the highest scores for the 21 items. The minimum score is 0 and the maximum score is 63. Higher scores indicate greater symptom severity. In non-clinical populations, scores above 20 indicate depression (8). For diagnostic levels of depression for the purposes of this study, scores of 0 to 10 indicated ups and downs considered normal, 11 to 16 indicated mild mood disturbance, 17 to 20 indicated intermittent depressive states, 21 to 30 moderate depression, 31 to 40 severe depression, and over 40 indicated extreme depression (9). Persistent scores of 17 points or more were indicators for professional help. Scores for each participant and the total were summed to classify them by level of depression. Percentages of depression levels were calculated.

## Results

A total of 121 pregnant women from 12 communities in the southern area of the state of Yucatan, who attended the community hospital for prenatal care, participated. The women came mainly from the municipalities of Ticul and Tekax, with 23.14% and 22.21%, respectively (Fig. 1, Table 1).

Key-municipality	No	%
Chapab-018	3	2.48
Chumayel-024	3	2.48
Dzán-025	9	7.44
Mama-046	3	2.48
Maní-047	9	7.44
Muna-053	9	7.44
Oxkutzcab-056	9	7.44
Sacalum-062	3	2.48
Santa Elena-066	9	7.44
Teabo-075	9	7.44
Tekax-079	27	22.31
Ticul-089	28	23.14
<b>TOTAL</b>	<b>121</b>	<b>100</b>

**Table 1** Number of participating pregnant women by municipality in Yucatan, Mexico



**Figure 1** Map of the state of Yucatan. Location of the community hospital and participating pregnant municipalities

Among the socio-demographic characteristics of the pregnant women, the age range was 16 to 42 years, with 85% in the 15 to 34 age groups; 90% were housewives, 41.32% had completed basic education and 58.68% were married (Table 2).

Feature	No	%
<b>Age</b>		
15-19	24	19.83
20-24	27	22.31
25-29	27	22.31
30-34	25	20.66
35-39	13	10.74
40 y +	5	4.13
<b>TOTAL</b>	<b>121</b>	<b>100</b>
<b>Occupation</b>		
Employee	8	6.61
Housewife	109	90.08
Student	4	3.31
<b>TOTAL</b>	<b>121</b>	<b>100</b>
<b>Schooling</b>		
Primary	24	19.83
Secondary	50	41.32
Prepa	37	30.58
Professional	10	8.26
<b>TOTAL</b>	<b>121</b>	<b>100</b>
<b>Marital Status</b>		
Married	71	58.68
Single	46	38.02
Free Union	4	3.31
<b>TOTAL</b>	<b>121</b>	<b>100</b>

**Table 2** Socio-demographic characteristics of pregnant women participants

Regarding the stage of gestation of the women at the time of the interview, the highest percentage corresponded to those in the third trimester of pregnancy with 81.82%; and there were no primigravidae (Table 3).

Weeks of pregnancy	No	%
First Trimester (1-13 weeks)	0	-
Second Trimester (14-27 weeks)	22	18.18
Third Trimester (28-40 weeks)	99	81.82
Total	121	100

Table 3 Stages of pregnancy of participating women

The average number of antenatal visits per pregnant woman was 3 in the second trimester and 4 in the third trimester; and on average they had had 2 children (Table 4).

Weeks of pregnancy	Number of enquiries	Average
1-13 (First Quarter)	0	0
14-27 (Second Quarter)	46	3.07
28-40 (Third Quarter)	320	4.85
Average number of children= 2		

Table 4 Number and average number of consultations by trimester of participating pregnant women. Ticul, Yuc.

In relation to the diagnosis of depression in women, 85.12% were found to have ups and downs considered normal; but 5.79% had moderate depression and 1.65% had severe depression (Fig.2).

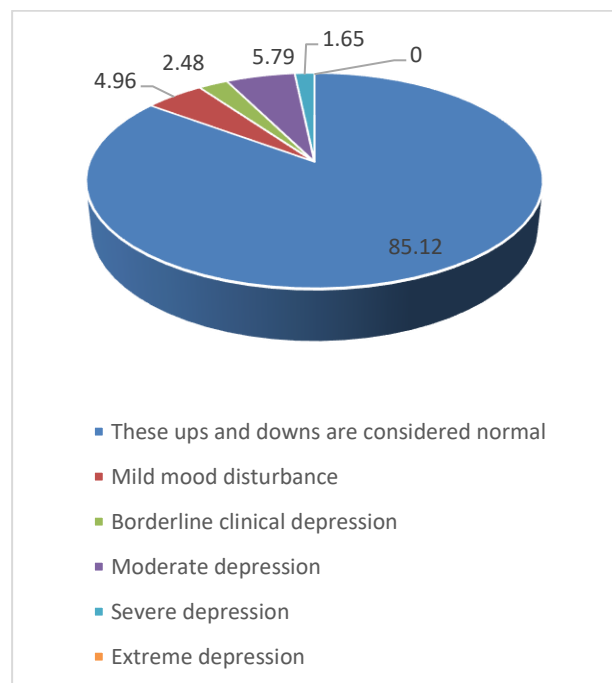


Figure 2 Percentages of depression levels in pregnant women in Ticul, Yuc. 2022

## Conclusions

The present study aims to contribute to the diagnosis of depression levels in rural pregnant women who attended prenatal consultations at a community hospital in Yucatan. The results showed that depression is present in pregnancy, even in pregnant women under 18 years of age. Considering that there has been an increase in early pregnancies, the risk of depression in the population increases, and as such, the risk of more serious complications as a consequence, such as suicide, which is linked to depression (10). The state of Yucatan ranks number one in suicides among all the states of the Mexican Republic, so it will be very important to direct the actions of timely diagnosis for suicide prevention. It is also important to carry out more studies in pregnant women to identify this mental disorder in time for its treatment. Although in this study most of the women were found to be within normal parameters, there were 15% in states of depression; and almost 8% were found in moderate to severe states, which put the women at risk of suffering incapacity to perform in daily life as socially adapted persons for their family, work and coexistence. Routine screening for depression in pregnancy will be of great preventive importance, as has been suggested in recent studies (11).

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