Depression during pregnancy: prevalence and risk factors among women attending a public health clinic in Rio de Janeiro, Brazil

Depressão durante a gravidez: prevalência e fatores de risco em mulheres atendidas em uma unidade básica de saúde na cidade do Rio de Janeiro, Brasil

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Abstract

Depression is the most prevalent psychiatric disorder during pregnancy and is associated with psychosocial and clinical obstetric factors. Despite being an important public health issue, there are few studies about this issue in Brazil. A cross-sectional study was carried out, involving 331 pregnant women attending a public primary health service over a one-year period in Rio de Janeiro city, Brazil. Participants were interviewed about their socio-demographic status, obstetric/medical conditions, life events and violence during pregnancy. Depression was assessed using the Composite International Development Interview. The prevalence of depression during pregnancy was 14.2% (95%CI: 10.7-18.5) and associated factors included: previous history of depression and any psychiatric treatment, unplanned pregnancy, serious physical illness and casual jobs. These data emphasize the need for screening for depression and its risk factors during pregnancy in settings where care is available. Psychosocial interventions and social policies need to be devised for this population.

Depression; Pregnancy; Prenatal Care; Health Centers

Introduction

Most studies of maternal depression have focused on post-natal depression. However depression is the most prevalent psychiatric disorder during pregnancy [1] and it is of public health importance for three reasons. First, the burden of depression during pregnancy is high: according to a recent systematic review of cohort studies, the prevalence of antenatal depression was 14% (95% confidence interval – 95%CI 13.5-14.5), compared to a 10.5% (95%CI: 10.1-10.9) pooled prevalence of postnatal depression [2]. Most studies (15/19) were carried out in high income countries [3] and the remaining four in low and middle income countries. The pooled prevalence of antenatal and postnatal depression was 28.4% (95%CI: 25.9-30.8) and 23.1% (95%CI: 20.9-25.4) respectively, for lower income countries, compared to 13% (95%CI: 10.5-13.5) and 9.6% (95%CI: 9.1-10.0) for high income countries. Thus, prevalence rates of depression during pregnancy were significantly higher in low-income countries. The main risk factors associated with these differences are past history of psychiatric disorders, poor antenatal care, poor nutrition, stressful life events, economic deprivation and gender based violence, which are more prevalent in developing countries [4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29].

Second, several cohort studies have shown that depression and anxiety during pregnancy

were the strongest risk factors for post-natal depression [30,31]. A series of cohort studies from developing countries have confirmed this finding [5,8,22,32,33,34]; and a systematic review of relevant studies found that 41.5% of postnatal depression cases had arisen during the antenatal period, suggesting that interventions for depression may need to begin before childbirth [31].

Third, although much of the research on maternal mental health and child outcomes has focused on the impact of post-natal depression on child development, a growing body of literature suggests that untreated depression is associated with a variety of adverse prenatal outcomes including low birth weight, preterm birth, and poor growth in the first year of life [35,36]. These studies show that infants of depressed mothers are between two and three times more likely to be of low birth weight.

The literature on depression during pregnancy among Brazilian women is scarce, with only a few published studies. These studies, except for an outlier [13] (i.e. a study that reported an antenatal depression prevalence of 37.9%) reported prevalence rates ranging from 13% to 20.8% [4,7,12,14,26,29,37]. The validity of these findings still needs to be established as the majority of these studies focused on pregnant adolescents [4,26,29,37] and women receiving prenatal care in obstetric out-patient clinics in hospital settings [7,12,14,26,29]. These samples are likely to be biased because women with high-risk pregnancies are more likely to seek prenatal care in hospitals. Furthermore, one of these studies used a small sample [13] and several used depression screenings rather than diagnostic instruments [4,12,14,37].

In order to help advance the available knowledge on depression during pregnancy in Brazil, this study selected pregnant women seen in a primary care outpatient clinic affiliated with the Unified National Health System (SUS), and used a defined sampling frame as well as a standardized assessments of depression. The main goal of the study was to estimate the prevalence and risk factors for major depression among women receiving prenatal care in a public health clinic in Rio de Janeiro, Brazil.

Subjects and method

Setting

Brazil is ranked 125th (out of 191 countries) in terms of global health indicators [38]. The majority of Brazilians are under the care of the public health system (SUS). Hospitals affiliated with SUS were responsible for 77.8% of all deliveries in the state of Rio de Janeiro. Most pregnant women who receive care provided by SUS in Rio have low incomes and limited education [39,40]. Most (80%) were between 20 and 35 years, and 16% were less than 18 years old [41]. This study was carried out at the Posto de Atendimento Médico Helio Pellegrino (PAM), a public primary care service in Rio. This service was established in 1967, and only cares for patients under the public health system (SUS), offering a wide variety of health services, including obstetrics. The obstetric service cares for approximately 20 women in the third trimester every week.

Sample

The population consisted of pregnant women, in the third trimester, who attended the PAM antenatal clinic over a one-year period (February 2007-January 2008). Inviting every fourth consecutively admitted pregnant woman to participate in the study generated a systematic sample. An *a priori* power analysis suggested that a sample of 339 would be sufficient to detect a prevalence of major depression of 14% with a 95%CI and a plus/minus 3% sampling error. Of the 340 women invited to participate, 9 refused (participation rate of 97.4%).

Data collection

Data was collected by means of face-to-face interviews in a private room carried out by five trained interviewers. The interviewers were final-year medical students with previous research experience. The following assessments were used.

- The *Composite International Diagnostic Interview* (CIDI; version 2.1) was used to detect depressive disorders. CIDI is a standardised, structured diagnostic interview delivered by trained lay interviewers. The CIDI generates uses a computerised algorithm to generate diagnoses based on the 10th revision of the International Classification of Diseases (ICD-10) [42], and the 3rd edition of the Diagnostic and Statistical Manual Revised (DSM-III-R) [43]. The CIDI was translated from English to Portuguese by Brazilian psychiatrists at the Department of Psychiatry of the Federal University of São Paulo (UNIFESP) [44]. The principal investigator (G.M.L.) was trained in the use of the CIDI at UNIFESP. We ascertained whether subjects met ICD-10 criteria for past-year and lifetime major depressive disorder. The estimates of major depressive disorder prevalence reported below are thus based on the CIDI.
- Demographic characteristics: we obtained standard demographic data including age, marital status, ethnicity, place of birth, number

of years of education and employment. A Brazilian classification of socioeconomic status [45] was used, which takes into account the head of the household's education and the number of domestic appliances in the household (e,g., refrigerators, TV sets). This system classifies individuals in five different categories (A to E). This variable was reduced to three categories: upper (A: upper class and B: upper middle class), lower middle (C) and lower class (D and E).

- Psychiatric history and substance use: we obtained a brief past psychiatric history (self-reported depression and any lifetime psychiatric treatment), and information about the current use of the following psychoactive substances: tobacco, alcohol and other psychoactive substances.
- Obstetric variables: we inquired about parity, previous poor pregnancy outcomes (history of miscarriages, spontaneous abortions, induced abortions, obstetric complications such as hypertension and bleeding during pregnancy, preterm birth/low birth weight), and whether the current pregnancy was planned.
- Complications during current pregnancy: the following pregnancy-associated conditions were taken from the medical record – hypertension, pre-eclampsia, bleeding, premature rupture of membranes, placenta praevia; similarly we extracted information about the presence of several diseases – diabetes, lung diseases, neurological diseases, sexually transmitted diseases, including HIV-infection, urinary tract infection and iron-deficiency anaemia. Information from the medical record was obtained by practitioners in the course of prenatal visits.
- Life-events and exposure to violence: nine stressful life-events during the previous year were inquired about – marital conflict; loss of intimate relationship (e.g., divorce); loss of employment; loss of a confidant; serious physical illness; financial difficulties; serious legal problems; history of accidents, catastrophes; being kidnapped; death of a close relative; sexual abuse; being robbed; and assault [46,47]. Violence was assessed using part of the Abuse Assessment Screening (AAS) that is aimed to detect violence against pregnant women [48,49]. A locally adapted version of the questionnaire, with semantic and content validity, has been used in Brazil [50]. It includes the following items: (1) "*Have you ever been emotionally or physically abused by your partner or someone important to you*?" (emotional or physical abuse)?; (2) "*During the last year, have you been hit, slapped, kicked or otherwise physically hurt by someone?*" (physical violence during last year); (3) "*Since you have been pregnant, have you been hit, slapped, kicked or otherwise physically hurt by someone?*" (physical violence during pregnancy); (4) "*During the last year, has anyone forced you to participate in sexual activities?*" (sexual abuse during last year); (5) "*Are you afraid of your partner or anyone*?". The AAS scoring is based on dichotomous answers (yes/no) to the above questions.

Data analyses

Mean prevalence rates and their respective 95%CI were estimated including subgroups. Univariate associations of major depressive disorder and each of the following variables were estimated using logistic regression: sociodemographic and psychiatric variables, obstetric factors, obstetric complications during current pregnancy, medical history, stressful life events, and exposure to violence. A step-wise logistic model was used to build a multivariate model of risk factors for current antenatal major depressive disorder. Variables with p values > 0.10 were removed from the model at each step until we arrived at the final model. Odds ratios (OR) and 95%CI were used to estimate the strength of associations. The SPSS software (SPSS Inc., Chicago, USA) was used to complete these analyses.

Ethical considerations

We obtained approval from the local institutional ethics committee (PAM). The study aims and procedures were explained to potential participants and written informed consent was obtained. Participants found to have a psychiatric disorder were referred for treatment.

Results

The 12-month prevalence of ICD-10 major depression was 14.2% (95%CI: 10.7-18.5), and the lifetime prevalence was 19.6% (95%CI: 15.6-24.4).

Sociodemographic variables and major depression

The age of participants ranged from 10 to 42 years (mean = 24.4; standard deviation – SD = 6.1, data not shown). As shown in Table 1, most (64.4%) were married; 59.2% had a low level of educational attainment; 55% were non-white; 62.2% were born in Rio de Janeiro city; 46.8% were unemployed; and 33.5%, 58.3% and 8.2% were classified as having a low, low middle or high socioeconomic status, respectively. Casual work, defined as occasional employment, was associated significantly with major depressive disorder, as compared to housewives and students

(OR = 3.1; 95%CI: 1.1-9.1). None of the remaining demographic variables shown in Table 1 were associated with an increased prevalence of major depressive disorder.

Association between depression and psychiatric history

As shown in Table 2, 23% of the entire sample reported a previous history of depression, while only 3.3% reported any previous psychiatric treatment. As expected, current major depression was associated with a previous history of depression and of any prior psychiatric treatment. A sizable proportion (10.9%) was current smokers, 6.3% were current alcohol users, and few (1.8%) were current illicit drug users.

Obstetric variables and medical history

The current pregnancy was unplanned for 62.2% of participating women. As shown in Table 2, 40% were primipara, and 31.2% were in their second pregnancy. Around 11% had a previous obstetric complication, 12.4% and 16.3% reported spontaneous and induced abortions respectively. Preterm birth was reported by 10% of participants. The most frequent medical problems during the current pregnancy were hypertension (6.9%) and bleeding (3.6%). Overall, participants had a low to average prevalence of obstetric complications.

Participants' medical histories revealed a high prevalence of lung disorders (11.8%), STDs (4.5%) and hypertension (3.6%). Past urinary tract infections and gynecological disorders were associated with increase odds of current major depressive disorder.

Table 1

Demographic characteristics and their association with depression in 331 pregnant women attending a public health clinic in Rio de Janeiro, Brazil, with 95% confidence intervals (95%CI).

Factor	Overall sample		Depressed mothers		OR (95%CI)	p value
	n	%	n	%		
Age group (years)						
Adolescents (10-19)	80	24.2	11	13.8	1.0 (0.5-2.0)	0.89
Adults (≥ 20)	251	75.8	36	14.3	1	
Marital status						
Single	114	34.4	20	17.5	1.4 (0.8-2.6)	0.28
Married	213	64.4	27	12.7	1	
Level of education (years)						
≤ 8	196	59.2	27	13.8	0.9 (0.5-1.7)	0.79
> 8	135	40.8	20	14.8	1	
Race						
White	149	45.0	21	14.1	1.0 (0.5-1.8)	0.96
Non-white	182	55.0	26	14.3	1	
Place of birth						
Rio de Janeiro city	206	62.2	34	16.5	1.7 (0.9-3.4)	0.12
Outside Rio de Janeiro city	125	37.8	13	10.4	1	
Employment						
Unemployed	155	46.8	21	13.5	0.7 (0.2-2.1)	0.52
Casual	35	10.6	11	31.4	3.1 (1.1-9.1)	0.03
Other *	86	26.0	8	9.3	1.1 (0.4-2.7)	0.88
Regular	55	16.6	7	12.7	1	
Social-economic class **						
D e E (lower)	111	33.5	18	16.2	0.8 (0.4-1.5)	0.43
C (lower middle)	193	58.3	25	13.0	0.9 (0.3-2.9)	0.85
A e B (upper middle and upper)	27	8.2	4	14.8	1	

OR: odds ratio.

* Housewife (n = 39) and students (n = 16);

** According to the Associação Brasileira de Empresas de Pesquisa [45].

Table 2

Clinical psychiatric and obstetric variables and medical history associated with depression in 331 women attending a public health clinic in Rio de Janeiro, Brazil, with 95% confidence intervals (95%CI).

Factor	Overall sample		Depressed mothers		OR (95%CI)	p value
	n	%	n	%		
Clinical psychiatric variables						
Previous history of depression	76	23.0	29	38.2	8.1 (4.2-15.8)	< 0.001
Previous psychiatric treatment	11	3.3	8	72.7	19.2 (4.9-75.5)	< 0.001
Current smoking	36	10.9	2	5.6	0.3 (0.1-1.4)	0.11
Current use of alcohol	21	6.3	6	28.6	2.6 (1.0-7.1)	0.05
Current use of drugs	6	1.8	1	16.7	1.2 (0.1-10.6)	0.86
Obstetric variables						
Primipara	129	39.0	19	14.7	1.1 (0.6-2.0)	0.82
History of induced abortion	41	12.4	6	14.6	1.0 (0.4-2.6)	0.93
History of spontaneous abortion	54	16.3	6	11.1	0.7 (0.3-1.8)	0.47
Previous obstetric complications	36	10.9	6	16.7	1.2(0.5-3.2)	0.65
Previous history of low birth weight	19	5.7	5	26.3	2.3 (0.8-6.7)	0.11
Previous history of preterm birth	33	10.0	6	18.2	1.4 (0.53-3.6)	0.49
Unplanned current pregnancy	206	62.2	35	17.0	0.5 (0.3-1.0)	0.06
Obstetric complications during current pregnancy						
Hypertension of pregnancy	23	6.9	5	21.7	1.7 (0.6-4.9)	0.28
Pre-eclampsia	3	0.9	1	33.3	3.1 (0.3-34.5)	0.34
Premature rupture of membranes	3	0.9	1	33.3	3.1 (0.3-34.5)	0.34
Bleeding during pregnancy	12	3.6	3	25.0	2.1 (0.5-7.9)	0.27
Hospitalization during pregnancy	7	2.1	2	28.6	2.5 (0.5-13.2)	0.27
Previous placenta praevia	1	0.3	0	0	0.8 (0.8-0.9)	0.68
Placenta acreta	1	0,3	0	0	0.8 (0.8-0.9)	0.68
STD	4	1.2	0	0	0.8 (0.8-0.9)	0.41
Medical history						
Diabetes	2	0.6	0	0	1.0 (0.9-1.0)	0.56
Hypertension	12	3.6	2	16.7	1.2 (0.3-5.7)	0.80
Cardiovascular diseases	2	0.6	1	50.0	6.2 (0.4-100.0)	0.14
Hepatitis	21	6.3	6	28.6	2.6 (0.9-7.1)	0.05
Acute urinary tract infection	11	3.3	5	45.5	5.5 (1.6-18.9)	0.003
Lung diseases	39	11.8	8	20.5	1.7 (0.7-3.9)	0.22
Neurological diseases	3	0.9	0	0	0.9 (0.2-1.0)	0.47
STD	15	4.5	2	13.3	0.9 (0.2-4.2)	0.92
Gynaecological diseases	10	3.0	4	40.0	4.3 (1.2-15.9)	0.02

OR: odds ratio; STD: sexually transmitted diseases.

Stressful life events and history of violence

Stressful life events commonly reported during the previous year were death of a family member or a friend (37.2%), financial difficulties (36.3%), conflict in close friendships (29.2%) and marital conflict (28.4%). Several past-year life events (marital conflict, loss of intimate relationships, loss of confidant, serious physical illness, and financial difficulties) were significantly associated with current major depressive disorder. Only one of the five items assessing exposure to violence (emotional or physical abuse) significantly increased the odds of current major depressive disorder (OR = 3.4; 95%CI: 1.8-6.6; $p < 0.001$) (see Table 3).

Multivariate model of risk factors for current major depressive disorder

As explained in the methods section we built a multivariate model of risk factors for current major depressive disorder (Table 4). In the final model the following variables were associated

Table 3

Stressful life events and violence associated with depression in 331 women attending a public health clinic in Rio de Janeiro, Brazil, with 95% confidence intervals (95%CI).

Factor	Overall sample		Depressed mothers		OR (95%CI)	p value
	n	%	n	%		
Stressful life events during previous year						
Marital conflict	94	28.4	22	23.4	2.6 (1.4-4.9)	0.003
Loss of intimate relationship	65	19.6	18	27.7	3.1 (1.6-6.0)	0.001
Loss of employment	75	22.7	15	20.0	1.8 (0.9-3.4)	0.10
Loss of a confidant	98	29.6	26	26.5	3.6 (1.9-6.9)	< 0.001
Serious physical illness	17	5.1	9	52.9	8.2 (3.0-22.5)	< 0.001
Financial difficulties	120	36.3	25	20.8	2.3 (1.2-4.2)	0.009
Serious legal problem	26	7.9	7	26.9	2.4 (1.0-6.2)	0.06
History of accidents/ catastrophes	17	5.1	4	23.5	1.9 (0.6-6.2)	0.25
Being kidnapped	2	0.6	0	0	0.9 (0.9-1.0)	0.56
Death of a family member or close friend	123	37.2	22	17.9	1.6 (0.9-3.0)	0.13
Sexual abuse	3	0.9	0	0	0.9 (0.9-1.0)	0.47
Being robbed	8	2.4	3	37.5	3.8 (0.9-16.5)	0.06
Assault	9	2.7	3	33.3	3.2 (0.8-13.1)	0.09
Exposure to violence						
Emotionally or physically abused	141	42.6	32	22.7	3.4 (1.8-6.6)	< 0.001
Physical violence during last year	31	9.3	6	19.4	1.5 (0.6-3.9)	0.38
Physical violence during pregnancy	17	5.1	4	23.5	1.9 (0.6-6.2)	0.25
Sexual abuse during last year	7	2.1	2	28.6	2.5 (0.5-13.2)	0.27
Are you afraid of your partner or anyone?	18	5.4	4	22.2	1.8 (0.6-5.7)	0.31

OR: odds ratio.

($p \leq 0.05$) with increased odds of a current major depressive disorder episode: having a casual job, history of depression or of any psychiatric treatment and having experienced a serious physical illness in the previous year. Other variables (unplanned pregnancy, loss of a confidant, and financial difficulties) were marginally associated ($p < 0.10$) with increased odds of a current major depressive disorder episode [51].

Discussion

Prevalence of depression during pregnancy and risk factors

The prevalence of antenatal depression (major depressive disorder) in this sample was 14.2%. The following risk factors were associated with increased odds of antenatal depression: (1) having a casual job (i.e., occasional employment doing low-paying work); (2) history of a previous self-reported depression or of any prior psychiatric treatment; (3) an unplanned pregnancy; and (4) several recent (past-year) stressful life events (loss of a confidant, serious physical illness and financial difficulties).

The prevalence of major depression during pregnancy (14.2%) was not remarkably different from most previous reports based on studies conducted in Brazil [4,7,13,14,26,29,37]. In these studies the antenatal major depressive disorder prevalence ranged from 13% to 20.8%. A study conducted in a hospital-based clinic [7], and another among adolescents [4], reported prevalence rates higher than our estimates (19.1% and 20.8%, respectively). A single Brazilian study reported an antenatal depression prevalence that was remarkably higher than our estimates (37.8%) [13], but the sample was small (n = 33), and depression was ascertained using a screening questionnaire, the *Edinburgh Postnatal Depression*, in lieu of a diagnostic interview.

The prevalence of antenatal major depressive disorder reported here is lower than those reported in most samples from developing countries [10,11,22] (pooled prevalence of 23.1% – 95%CI: 20.9 - 25.4 – for lower income countries), and was sim-

Table 4

The multivariate model of risk factor for depression in 331 pregnant women attending a public health clinic in Rio de Janeiro, Brazil.

Factor	OR	95%CI	p value
Employment			
Unemployed	0.7	0.2-2.1	0.52
Casual	3.1	1.1-9.1	0.03
Other *	1.1	0.4-2.7	0.88
Regular	1		
Clinical psychiatric variables			
Previous history of depression	4.9	2.1-11.2	< 0.001
Any previous psychiatric treatment	5.8	1.1-31.7	0.04
Obstetric variables			
Unplanned current pregnancy	2.0	1.0-3.9	0.06
Stressful life events during previous year			
Loss of a confidant	2.2	0.9-5.2	0.07
Serious physical illness	4.0	1.0-15.9	0.05
Financial difficulties	2.2	0.9-5.0	0.07

OR: odds ratio; 95%CI: 95% confidence intervals.

* Housewife (n = 39) and students (n = 16).

ilar to estimates of antenatal major depressive disorder in most developed countries [10,16,18,19,21,30,52,53,54,55]. A few estimates of antenatal major depressive disorder prevalence are remarkably low (e.g. 5.6% in Japan [25], 6,4% in Hong Kong [56], 6.9% in Sweden [57], 7.7% in Finland [17], 9% in the United States [27]). The lower prevalence in these countries might have resulted from high quality antenatal care, better nutrition during pregnancy, and less stressful life events such as financial difficulties [58,59].

Some studies in developed countries show rates in excess of 20% [6,9,15,20,23,24,60,61,62]. These findings could be explained by the use of screening questionnaires rather than diagnostic interviews. We used the CIDI, a standardized, locally validated, structured diagnostic interview that provide a diagnosis of major depression.

The prevalence of antenatal depression in Brazil appears to be lower than in most developing countries. The reasons for this pattern are unknown, and are therefore open to speculation. All the Brazilian studies were carried out in the states of Rio de Janeiro and São Paulo, which are located in the Southeast of the country. Although Brazil is a developing country, economic wealth is unevenly distributed between different regions: the Southeast is the richest region of the country, particularly São Paulo and Rio de Janeiro states [63]. The availability of health care services, including mental health and antenatal services, is also unequal in Brazil, with a high concentration in these two states [64] (Departamento de Informática do SUS. http://www.datasus.gov.br).

Rio de Janeiro has one of the highest rates of violence in the world, much of it occurring in poor areas, where the vast majority of the women who participated in our study live [65]. The lifetime prevalence of emotional or physical abuse was high in our study, a finding consistent with many Brazilian and international studies [66,67,68]. The prevalence of physical violence during pregnancy was similar to that reported in prior Brazilian studies [29,69,70]. This violence is mainly committed by intimate partners, and is an important risk factor for depression in women [5,7,29,70,71,72,73,74]. Additionally, gender-based violence has adverse consequences for fetal and maternal survival [29,69,72,73].

Consistent with the extant literature, we found an association between antenatal major depression and a previous history of depression [5,6,7,14,18,19,27] as well as previous psychiatric treatment [10,23,24]. Since major depressive disorder is often a recurrent condition, it is not surprising that a prior depressive episode is a significant risk factor for depression during pregnancy. About 90% of the women that reported previous depressive episodes had not received any psychiatric care. This finding concurs with previous reports suggesting that in Brazil and other developing countries only a small proportion of individuals with psychiatric disorders receive treatment [75,76].

An association between an unplanned pregnancy and depression during pregnancy has been well-documented [5,8,19,27]. In Brazil, women of lower socio-economic status (low education and low income) report more unplanned pregnancies than those of higher socio-economic status. They are also more likely to receive inadequate antenatal care and are at increased risk (compared to more affluent women) of poor pregnancy outcomes, such as delivering low birthweight infants [77].

An association between stressful life events and antenatal depression has been previously reported [7,8,10,21]. The most frequent stressful life events were related to the loss of two types of social support: (1) loss of emotional support resulting from the death of a family member, the loss of a confidant, or marital conflict; and (2) loss of material support because of financial difficulties and loss of employment. Individuals living in poverty are at risk of depression [78] and their risk might be even higher in the absence of emotional support [79]. Having a casual job, another indicator of poverty, was also associated with antenatal depression. Brazil has one of the most unequal income distributions in the world, with the poorest 20% receiving only 2% of the overall national income. One third of the population lives in extreme poverty. There is high unemployment and nearly 50% of all jobs are in the informal sector [80]. Working outside the protection of employment legislation (i.e., having a casual job) is very common in many developing countries, and may have adverse mental health consequences [81,82]. An additional life event associated with antenatal depression was a self-reported serious disease in the preceding year. This finding is consistent with previous reports of an increased risk of depression among individuals with chronic diseases [83,84].

Study limitations

There are some limitations to the present study. The design is cross-sectional, and therefore we cannot infer that the associations reported here are causal. The sample was recruited from mothers attending a single, public primary health service, and we don't know to what extent it is representative of the Brazilian population. The economic indicators reported here suggest that our sample was similar to the population of pregnant women seeking care in the public antenatal clinics of the SUS. Since this system caters predominantly to low income Brazilians, the findings reported here should not be generalized to the overall Brazilian population.

Conclusions

As previously reported we found that depression is common during pregnancy, and that an unplanned pregnancy, financial difficulties, and having an unstable job, events frequently experienced by low-income Brazilian women, are associated with an increased prevalence of antenatal major depression. These risk factors are similar to those reported for other populations, including women who are not pregnant. However, pregnancy is a unique social and biological event in a woman's life which may pose specific vulnerabilities. Thus, the impact of these factors may be exacerbated during pregnancy, especially in developing countries, where women face great inequalities. The implications of our study for practice are to emphasize the need for screening for depression during pregnancy in settings where treatment is available. This is especially important when low income is associated with other risk factors for depression, e.g. gender-based violence. Policies aimed at reducing gender-based violence and supporting pregnant mothers who are facing financial difficulties (e.g., maternity benefits provided by the Brazilian system of social security) are likely to have a significant public health impact. Lastly, the creation of a mental health team in antenatal services to treat psychiatric disorders during and after pregnancy might prevent or ameliorate postnatal depression.

Resumo

A depressão é o transtorno mental de maior prevalência durante a gravidez e está associada a fatores psicossociais e clínicos/obstétricos. Apesar de ser uma importante questão de Saúde Pública, há poucos estudos sobre o tema no Brasil. Trata-se de um estudo seccional com 331 gestantes atendidas durante o período de um ano na cidade do Rio de Janeiro, Brasil. As participantes foram entrevistadas sobre características sóciodemográficas, condições médicas/obstétricas, eventos estressantes e violência durante a gravidez. A depressão foi avaliada através do Composite International Diagnostic Interview *(CIDI). A prevalência da depressão na gravidez foi 14,2% (IC95%: 10,7-18,5), sendo os fatores associados: história anterior de depressão e de tratamento psiquiátrico, gravidez não-planejada, problema físico grave e trabalho informal. Os resultados reforçam a necessidade de rastreamento da depressão e dos fatores de risco durante o cuidado pré-natal. Além disso, intervenções psicossociais e políticas sociais necessitam ser implementadas nesta população.*

Depressão; Gravidez; Cuidado Pré-Natal; Centros de Saúde

Contributors

P. K. Pereira wrote the first draft of the article, conducted the literature review and data analysis and interpretation the results. G. M. Lovisi designed the study, coordinated the fieldwork and conducted the data analysis and interpretation and drafting of the article. D. L. Pilowsky contributed to the drafting of the article and data analysis and interpretation. L. A. Lima assisted in interpreting the results and drafting the article. L. F. Legay assisted in interpreting the results and drafting the article.

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