Prevalence of mental disorders and associated factors in pregnant women

Prevalência de transtornos mentais e fatores associados em gestantes

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Descritores
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Abstract

Objective: To identify the prevalence of mental disorders and associated factors in pregnant women.
Methods: Cross-sectional study with 394 pregnant women, randomly and proportionally selected. Data were collected during home visits, using a semi-structured questionnaire. Bivariate logistic regression was used for the analysis.
Results: A total of 51 pregnant women (12.94%) were diagnosed with mental disorder and this number was significantly higher among those between 19 and 30 years of age, unmarried, white skin colored, who were in the second trimester of pregnancy, had a chronic disease associated and had been hospitalized during the current pregnancy. Nine of them were taking psychotropic drugs, and antidepressants were the most commonly used drug.
Conclusion: The prevalence of self-reported mental disorders was 12.94% and the associated variables were: age, marital status, skin color, pregnancy trimester, hospitalization during pregnancy and chronic disease.

Resumo

Objetivo: Identificar a prevalência de transtornos mentais e fatores associados em gestantes.
Métodos: Estudo transversal realizado com 394 gestantes, selecionadas de forma aleatória e proporcional. Os dados foram coletados nos domicílios, com aplicação de questionário semiestruturado. Para a análise foi utilizada a regressão logística bivariada.
Resultados: Referiram diagnóstico de transtorno mental 51 gestantes (12,94%) e isto foi significativamente maior entre aquelas com idade entre 19 e 30 anos, sem companheiro, de cor branca, que estavam no segundo trimestre de gestação, tinha alguma doença crônica associada e foi internada na gestação atual. Nove delas faziam uso de psicofármacos, sendo os antidepressivos os mais utilizados.
Conclusão: A prevalência de transtornos mentais auto-referido foi de 12,94% e as variáveis associadas foram: idade, situação conjugal, cor, trimestre de gestação, internação durante a gestação e doença crônica.

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Introduction

The mental health of pregnant women has not been the focus of much research, which may be related to the popular belief that pregnancy is usually a period of well-being for women. Greater emphasis is given to mental disorders that take place in the immediate postpartum period, which receive more attention from health professionals since they generate more psychiatric hospitalizations.[1]

Epidemiological data currently point to the prevalence of mental disorders in up to 20% of women, with the most common being mood disorders and anxiety.[2] Thus, around 10 to 15% of women suffer a depressive episode during pregnancy or in the first year following birth. The perinatal period is the moment of greater risk of manifestation of mental disorders in women – with those who present a previous history of mental disorder having a greater risk of manifestations in this period.[3]

Mental disorders during pregnancy may be related to obstetric complications, inadequate prenatal care, pre-eclampsia,[4] depression and/or postpartum anxiety,[5] and they can negatively influence infant growth and development[6], besides contributing to a higher rate of development of mental disorders, such as depression in the born children.[7] Some factors associated with the mental disorder include not studying, not having a partner, having two or more children, being hospitalized while pregnant and using drugs.[1,2]

In the light of the aforementioned, the objective of this study was to identify the prevalence of mental disorders and the factors associated with the disease in pregnant women.

Methods

Quantitative, exploratory and descriptive research, conducted in the city of Maringá, Paraná, Brazil, from January to July 2012.

The study population was composed of 2.504 pregnant women who were registered in the 25 basic health units in the city. Sample size was calculated considering the prevalence of not having mental disorder in 50%, in order to ensure the maximum sample variability to a confidence level of 95% and an estimation error of 5%.

The quantity of pregnant women to be approached in each Basic Heath Unit (BHU) was defined upon the proportional stratification. Participants were randomly selected, by electronic raffle, using the list of registered pregnant women in each Basic Heath Unit.

The only inclusion criterion used was having less than 42 weeks of gestational age. In case of non-compliance with this criterion, or refusal to participate, a single replacement was made with the next name on the list, resulting in a sample of 394 pregnant women who were effectively studied.

The medical records of the selected pregnant women were verified to obtain their telephone number and to identify whether they met the inclusion criterion adopted. Data were collected in the homes of the pregnant women, after previous telephone contact, by means of semi-structured interviews.

The instrument used for data collection was a semi-structured questionnaire comprising 20 questions that address topics related to sociodemographic characteristics, health conditions, use of drugs and psychotropic drugs and prenatal care. The data related to the diagnosis of mental disorder and the use of medications were confirmed through the medical records at the respective basic health units. In other words, this information was only considered for the study when it was on the medical records, regardless of the fact that the diagnosis being established by physicians in that service or in another one.

The dependent variables was the record of mental disorder during pregnancy. Independent variables were: age, years of education, marital status, occupation, family income, skin color, pregnancy trimester, number of children, planned pregnancy, previous abortion, history of violence, drug use, chronic disease, previous mental disorder, hospitalization during pregnancy, participation in groups for pregnant women, and guidance of a healthcare professional on mental disorder and the use of drug during pregnancy.

Data were compiled into the software Microsoft Excel 2010, with subsequent migration to the

Statistical Package for the Social Sciences (SPSS 19.0). For data analysis, a univariate analysis was performed through Pearson's chi-square test, and bivariate logistic regression. Odds ratio (OR) was used as an association measurement, with a confidence interval of 95%, and a significance level established at p-value<0.05 for the tests performed.

The development of this study complied with national and international ethical guidelines for research involving human subjects.

Results

Of the 394 pregnant women who were interviewed, 51 (12.94%) reported having a mental disorder during pregnancy and all cases were confirmed on the medical records. The mean age of the participants was 27.07 years. Table 1 shows that the sociodemographic variables associated with mental disorders were: age, marital status and skin color.

Regarding obstetric and health characteristics, more than half were in the second trimester of pregnancy (55.84%), had up to 2 children (47.46%), did not plan the current pregnancy (59.90%), never had an abortion (84.01%), nor used drugs (81.74%). The majority did not have a history of violence throughout their lives up to the moment of research (98.73%), did not suffer from a previous mental disorder (98.99%), did not have a chronic disease (91.12%) and still had not been hospitalized during the current pregnancy (78.17%). Furthermore, more

Table 1. Pregnant women assisted in the Basic Health Care network according to sociodemographic characteristics and mental disorders during pregnancy

Characteristics	Mental disorders			p-value
	No	Yes	Total	
	n(%)	n(%)	n(%)	
Age				0.00**
Up to 18	40(10.15)	01(0.25)	41(10.40)	
From 19 to 30	205(52.03)	36(9.14)	241(61.17)	
From 31 to 39	94(23.87)	14(3.55)	108(27.42)	
40 or over	04(1.01)	00(0.00)	04(1.01)	
Years of education				0.52
Up to 4 years	08(2.02)	00(0.00)	08(2.02)	
From 5 to 8	99(25.13)	21(5.33)	120(30.46)	
From 9 to 11	194(49.24)	26(6.60)	220(55.84)	
12 or over	42(10.67)	04(1.01)	46(11.68)	
Marital status				0.01**
Single	63(15.99)	21(5.33)	84(21.32)	
Common-law marriage	79(20.05)	02(0.51)	81(20.56)	
Married	195(49.49)	28(7.11)	223(56.60)	
Divorced	04(1.01)	00(0.00)	04(1.01)	
Widowed	02(0.51)	00(0.00)	02(0.51)	
Occupation				0.63
Employed	197(50.00)	24(6.10)	221(56.10)	
Unemployed	146(37.05)	27(6.85)	173(43.90)	
Family income				0.89
No income	02(0.51)	00(0.00)	02(0.51)	
Up to 1 MW*	22(5.58)	10(2.54)	32(8.12)	
From 2 to 3 MW*	220(55.84)	27(6.85)	247(62.69)	
From 4 to 5 MW*	87(22.08)	12(3.04)	99(25.12)	
Over 5 MW*	12(3.05)	02(0.51)	17(3.56)	
Skin color				0.02**
Yellow	20(5.08)	02(0.51)	22(5.59)	
White	183(46.45)	22(5.58)	205(52.03)	
Black	14(3.55)	09(2.28)	23(5.83)	
Brown	126(31.98)	18(4.57)	144(36.55)	

*MW: Minimum wage; **p-value significant for Pearson's chi-square test

Table 2. Pregnant women assisted in the Basic Health Care network according to obstetric and health characteristics and mental disorders during pregnancy

Characteristics	Mental disorders			p-value
	No n(%)	Yes n(%)	Total n(%)	
Pregnancy trimester				0.00*
First	55(13.96)	16(4.06)	71(18.02)	
Second	196(49.75)	24(6.09)	220(55.84)	
Third	92(23.35)	11(2.79)	103(26.14)	
Number of children				0.11
None	142(36.04)	24(6.09)	166(42.13)	
Up to 2	164(41.62)	23(5.84)	187(47.46)	
From 3 to 4	31(7.87)	02(0.51)	33(8.38)	
Over 4	06(1.52)	02(0.51)	08(2.03)	
Planned pregnancy				0.15
Yes	146(37.05)	12(3.05)	158(40.10)	
No	197(50.00)	39(9.90)	238(59.90)	
Previous abortion				0.83
Yes	53(13.45)	10(2.54)	63(15.99)	
No	290(73.60)	41(10.41)	331(84.01)	
Victim of violence				0.09
Yes	03(0.76)	02(0.51)	05(1.27)	
No	340(86.29)	49(12.44)	389(98.73)	
Previous mental disorder				
Yes	00(0.00)	04(1.01)	04(1.01)	0.90
No	343(87.06)	47(11.93)	390(98.99)	
Drug use				0.86
Yes	60(15.22)	12(3.04)	72(18.26)	
No	283(71.84)	39(9.90)	342(81.74)	
Chronic disease				0.04*
Yes	27(6.85)	04(1.01)	31(7.86)	
No	316(80.21)	47(11.93)	363(92.14)	
Hospitalization during pregnancy				0.02*
Yes	71(18.02)	15(4.83)	86(21.83)	
No	272(69.03)	36(13.45)	307(78.17)	
Attending pregnant women groups				
Yes	129(32.74)	33(8.38)	162(41.12)	
No	214(54.31)	18(4.57)	232(58.88)	
Orientation made by professional from the Basic Heath Unit (BHU) about MD/Psychotropics				
Yes	137(34.77)	20(5.08)	157(39.85)	
No	206(52.28)	31(7.87)	237(60.15)	

*p-value significant for Pearson's chi-square test

than half of them did not attend groups for pregnant women (58.88%), and had not been questioned or guided regarding mental disorders and the use of drugs during pregnancy(60,15%). In table 2, obstetric and health characteristics associated with mental disorders were: pregnancy trimester, chronic disease and hospitalization during the pregnancy.

In the bivariate logistic regression analysis, the variables significantly associated with the presence of mental disorder were: age, marital status, skin color, pregnancy trimester, chronic disease and hospitalization to treat any clinical complication during the current pregnancy.

Risk analysis showed an odds ratio of 2.7 (IC 95%:1.47-4.90) for the age variable, which means that pregnant women aged from 19 to 30 years were 2.7 times more likely of having mental disorders when compared to women aged up to 18. Those who had a partner had 33% less chances of having mental disorders than those without a partner. The black skin color was considered a protective factor, since it reduced in 69% the chance of having mental disorders.

Concerning clinical and obstetric conditions, pregnant women who were in the third trimester of pregnancy had 41% less chances of having mental

disorders when compared to those who were in the first or second trimester.

Women with a chronic disease had 3.1 (IC:1.15-8.63) more chances of having mental disorders than those without a disease, and those who were hospitalized during the current pregnancy had 2.41 (IC:1.12-5.18) more chances of having mental disorders than those who were not hospitalized.

Depression was the mental disorder most commonly reported by women (Table 3). Only nine (17.68%), of the 51 women with mental disorders, reported the use of psychotropic drugs, with an emphasis on antidepressants, which were used by five women, followed by three who reported concurrent use of anticonvulsants and anxiolytics, and one who reported the use of a mood stabilizer.

Regarding the psychotropic drugs used, these were prescribed by general physicians from the BHU, who changed the drug therapy once they identified the pregnancy. Of the five pregnant women who used antidepressants, two reported the concurrent use of Paraxotine (20 mg per day) and Fluoxetine (20 mg per day), however after the pregnancy diagnosis only Fluoxetine was kept and Paraxotine was suspended in both cases. The other three women reported the use of Amitriptyline (25 mg per day), which was switched to Fluoxetine in one case, whereas the other two had their medication suspended during pregnancy. The anticonvulsant used was Carbamazepine (200 mg per day) together with Clonazepam (0.5 mg per day), being used by three women; and one woman used Lithium Carbonate (300mg per day), as a mood stabilizer. In these four cases, the medication was suspended and all women who made use of medications were referred to psychiatric evaluation and high-risk prenatal follow-up at a reference service.

Table 3. Mental disorders reported by pregnant women assisted at Basic Health Units

Mental disorders	n(%)
None	343(87.05)
Depression	34(8.62)
Anxiety	02(0.51)
Panic syndrome	02(0.51)
Adjustment disorder to stress	02(0.51)
Bipolar disorder	01(0.25)
Depression and anxiety	04(1.02)
Depression and panic syndrome	02(0.51)
Could not specify the mental disorder	04(1.02)
Total	394(100.00)

n=394

Discussion

The limitations of this study are related to its cross-sectional design, which does not allow the establishment of a cause and effect relationship, and to the possibility of measurement bias, since the use of interviews as a data collection instrument is subject to the memory and confusion of participants. In addition, the interviews were conducted at different gestational periods, which may have produced underestimated data in relation to some variables.

Even with the progress of public policies to assist people who suffer from mental disorders, the importance of this study must be highlighted, as its results can favor care during the gestational period by making healthcare professionals aware and qualified, specially nurses, to prepare educational proposals and interventions to be developed with pregnant women in primary care.

The lack of a specific manual to guide the actions of health professionals on this issue points to the need for indicatives that can be used to support care, as well as to increase awareness and qualify professionals, aiming to provide a more suitable and effective approach of this problem during the gestational period.

Considering that during pregnancy, women are usually motivated and concerned with the fetus health, they may be willing to reconsider their attitudes and assume new health behaviors. Thus, prenatal care is the right moment to trace and approach mental disorders,[8] as well as the use of psychotropic drugs by women of childbearing age. Nurses can perform this tracing by means of specific instruments, provide mental health counselling and, if necessary, refer the patient to a psychiatrist for treatment.[9]

The prevalence of mental disorders found (12.94%) does not differ much from an interna-

tional study performed with pregnant women, which had a prevalence of 17.4%,[10] however, it is far lower than that found in a study conducted in Rio Grande do Sul, which detected a prevalence of 41.7%.[1] It is noteworthy that scientific advances in obstetrics have led professionals to acquire fundamental abilities to care for women during pregnancy and the postpartum,[11] however the investigation of psychic aspects in this life stage of women is still rare. This aspect can partially explain the lower prevalence of pregnant women with mental disorder found in the present study.

In the present study, the marital status of women without a partner was associated with a higher prevalence of mental disorders, similarly to results obtained in an international study.[10] Not having a partner is a risk factor for mental disorders, especially depression, due the lack of social support from a partner.[6] The social support received before and after pregnancy, mainly that offered by a spouse, seems to be determinant for the woman's mental well-being, since the absence of a partner has been associated with the manifestation of depressive symptoms during pregnancy.[12,13] Thus, single or divorced women are among those who present more depressive symptoms in this period.[12,13] However, the existence of problems in the marital relationship also seems to be associated with the prevalence of mental disorders during pregnancy.[12]

The fact that skin color and the trimester of pregnancy present an association with mental disorder may be a result of the sample homogeneity, since just nine pregnant women with mental disorders were black and just eleven were in the third trimester of pregnancy. It is noteworthy that no reference to this association was found in the literature.

Considering the association between chronic diseases and mental disorder during pregnancy, it is known that people who suffer from mental disorders usually have higher rates of morbidity and clinical complications, and it is not different during pregnancy, which is associated with postpartum depression, postpartum psychosis, child mortality, deficit in the baby's development, among other problems.[14]

The use of street drugs showed no significant association with mental disorders, however, the quantity of drug users can be considered high, when taking into consideration the fact that these women were pregnant. This aspect is relevant, since in addition to being related to a higher predisposition to the development of mental disorders,[2] the use of street drugs can also bring physical consequences both to the pregnant women (premature labor, placental abruption, neurological alterations, among others) and to their babies (cognitive and motor deficits).[15] In this context, it is important to highlight the relevance of nurses in preparing the team to embrace the specific needs of these women, since pregnant drug users can skip prenatal care and present a higher incidence of clinical and obstetric complications.[16]

Depression was the most commonly reported mental disorder, which is in compliance with national and international studies[6,10,17] and relevant to public health. The emotional burden caused by depression on pregnant women can compromise their mental and physical health, constitute a risk factor for postpartum depression, and compromise the development of the fetus.[18,19] In addition, the literature reveals that the presence of this disorder during pregnancy increases the risk of complications such as pre-eclampsia[14] and premature birth.[2]

In terms of psychotropic drug use, antidepressant was the most used category, which is in accordance with other studies conducted with pregnant women.[2,10] Selective inhibitors of serotonin reuptake as fluoxetine and paroxetine have been related to miscarriage,[20] congenital malformation,[21] among other problems. However, there are controversies about the impact and the risk-benefit of using these drugs during pregnancy.[22]

As for other psychotropics, Lithium Carbonate and Carbamazepine are contraindicated during pregnancy, because of their teratogenicity, and because they are associated with maternal and neonatal complications.[23] The use of Lithium Carbonate (D risk), for instance, is frequent-

ly associated with congenital malformation, particularly cardiovascular - especially the Ebstein anomaly -, and its use is prohibited in the first trimester. It can be used in the second and third trimester when other treatment options have been exhausted.[23]

When pregnancy is associated with the presence of mental disorders, it is a pregnancy of extreme risk due not only to the disorder itself, but also to the condition of social and emotional risk of these women. For that reason, it becomes important to implement specialized services to guide the population. Primary care, as the entrance to the health care system must be able to early detect cases in which pregnant women need to be followed by a mental healthcare professional, through comprehensive and qualified prenatal care.

Conclusion

The prevalence of mental disorders during pregnancy was 12.94%, and depression was the most common pathology. The factors associated were age, marital status, skin color, pregnancy trimester, hospitalization during pregnancy and chronic disease.

Collaborations

Kassada DS, Waidaman MAP (*In Memoriam*), Miasso AI and Marcon SS contributed with the conception and development of the research, data interpretation, writing of the article, relevant critical review of its intellectual content and final approval of the version to be published.

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