ESTUDOS DE PSICOLOGIA
Psychological Studies

RESEARCH REPORT
RELATO DE PESQUISA

Health Psychology
Psicologia da Saúde

Editor
André Luiz Monezi de Andrade

Conflict of interest
The authors declare that there are no conflict of interest.

Received
June 7, 2022

Final version
October 26, 2022

Approved
February 3, 2023

Prevalence and Psychosocial Risk Factors associated with mental disorders during pregnancy

Prevalência e Fatores de Risco Psicossociais associados a transtornos mentais durante a gestação

Carolina Viecili Azambuja[1], Anelise Meurer Renner[1], Adriane Bonatti[2], Adriane Xavier Arteche[1]

[1] Pontifícia Universidade Católica do Rio Grande do Sul, Escola de Ciências da Saúde e da Vida, Programa de Pós-Graduação em Psicologia. Porto Alegre, RS, Brasil. Correspondence to: C. V. AZAMBUJA. E-mail: <carolina-viazambuja@hotmail.com>.
[2] Universidade Regional Integrada do Alto Uruguai e das Missões, Ciências Humanas, Curso de Psicologia. Frederico Westphalen, RS, Brasil.

Article elaborated from the thesis of C. V. AZAMBUJA, entitled "*Fatores de risco e proteção no desenvolvimento de transtornos mentais na gestação e pós-parto: estudo longitudinal com mulheres do interior do estado do Rio Grande do Sul*". Pontifícia Universidade Católica do Rio Grande do Sul, 2021.

How to cite this article: Azambuja, C. V., Renner, A. M., Bonatti, A., & Arteche, A. X. (2023). Prevalence and Psychosocial Risk Factors associated with mental disorders during pregnancy. *Estudos de Psicologia* (Campinas), *40*, e220061. https://doi.org/10.1590/1982-0275202340e220061

Abstract

Objective
Studies evidence a high prevalence of mental disorders in pregnant women, which interfere in women's health, interpersonal relationships, baby care and, consequently, in child development. The research sought to identify risk and protective psychosocial factors of mental disorders during pregnancy.

Method
A total of 153 third trimester pregnant women participated in a quasi-experimental, quantitative and cross-sectional study. The instruments used were questionnaires and interviews. Frequency, descriptive and regression analysis were performed.

Results
The most significant risk factors for mental disorders during pregnancy were lack of confidence, childhood trauma, stressful life events, and previous depression. Protective factors included good marital relationship. The most prevalent mental disorders were depression and anxiety.

Conclusion
Preventive actions and interventions that cover the psychosocial factors involved in the development of mental disorders in pregnant women are important.

Keywords: Epidemiology; Mental health; Pregnancy; Risk factors.

Resumo

Objetivo

Estudos mostram alta prevalência de transtornos mentais em gestantes, os quais interferem na saúde da mulher, nas relações interpessoais, nos cuidados com o bebê e, consequentemente, no desenvolvimento infantil. A pesquisa buscou identificar os fatores de risco e proteção psicossociais no desenvolvimento de transtornos mentais na gestação.

Método

Participaram do estudo 153 mulheres no terceiro trimestre de gestação, sendo uma pesquisa quase-experimental, quantitativa e transversal. Os instrumentos utilizados foram questionários e entrevistas, e análises de frequência, descritivas e de regressão foram realizadas.

Resultados

Os fatores de risco mais significativos para transtornos mentais na gestação foram falta de confiança, trauma na infância, eventos de vida produtores de estresse e depressão anterior. Entre os fatores de proteção, tem-se o bom ajustamento conjugal. Os transtornos mentais mais prevalentes foram depressão e ansiedade.

Conclusão

Cita-se a importância das ações preventivas e de intervenções que abarquem os fatores psicossociais envolvidos no desenvolvimento de transtornos mentais em gestantes.

Palavras-chave: *Epidemiologia; Saúde mental; Gravidez; Fatores de risco.*

The period between finding out pregnancy and the puerperium is the phase with the highest prevalence of mental disorders in women (Botega, 2006). Older prevalence studies in Brazil indicate rates close to 40% (Almeida et al., 2012; R. A. Silva et al., 2010) – higher than the rates found in other countries, such as 33.6% in Paraguay (Ishida et al., 2010), 25.3% in the United States (Vesga-López, 2008) and 14.1% in Sweden (Andersson et al., 2003). In Brazilian samples, symptoms of anxiety and depression are the most frequent in pregnant women (Dos Santos Ribeiro et al., 2021; Teixeira et al., 2019). The impact on public health is highlighted, since the symptoms are important risk factors for postpartum depression (Nakić Radoš et al., 2018), negatively impacting the course of pregnancy and the baby's development. Considering such prevalence and the impact on mother and baby, it is essential to identify risks and protective factors of mental disorders in women during pregnancy.

Risk factors for gestational depression include biological, obstetric, social and psychological causes. Studies indicate the association with marital status (Arrais et al., 2018), gestational anxiety (Dell'Osbel, 2019) and marital dissatisfaction (Frizzo et al., 2019). A systematic review analyzed 41 articles published from 2010 to 2016, which identified risk factors for the development of anxiety and depression during pregnancy. Among them: socioeconomic factors, history of mental health and obstetric complications, weak social support network, educational level; maternal age, stressful events during pregnancy, substance use, violence, coping and cognitive aspects (Kliemann et al., 2017). Cognitive variables such as dysfunctional beliefs related to motherhood are investigated (Sockol et al., 2014) and involve the role idealization, maternal responsibility, judgment of others and maternal concerns as significant predictors of depression and anxiety (C. Silva et al., 2022).

The identification of protective factors interferes with the development of public policies and programs to enhance and preserve these aspects. A Brazilian longitudinal study found that family support, having a partner, satisfactory marital relationship, desired and planned pregnancy, not having financial problems, being multiparous with vaginal delivery were the most frequent protective factors (Arrais et al., 2018). Social support by health teams also emerges as a protective factor, reducing the likelihood of depression by up to 23% (Hartmann et al., 2017).

Problems related to mental health during pregnancy are recurrently neglected. The study of this population is based on the impacts of maternal mental health, for the pregnant woman, on interaction and, consequently, on child development. Through the identification of risk and protective factors for the development of mental disorders during pregnancy, it is possible to develop public policies based on evidence that aim to prevent and mitigate the impacts of mental disorders. Seeking to minimize such gaps, the present study aimed to assess mental health and the identification of possible risk and protective factors of mental disorders during pregnancy.

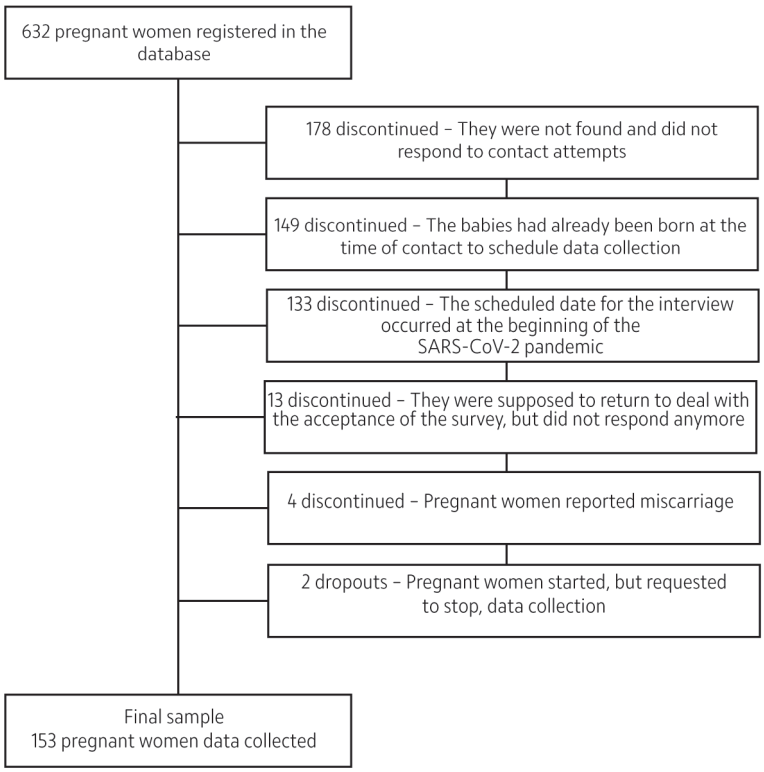
Method

This is a quasi-experimental, quantitative cross-sectional study.

Participants

The study included 153 women with pregnancy in the third trimester (≥ 27 weeks), living in a municipality in the interior of the state of Rio Grande do Sul, Brazil. Exclusion criteria included having active symptoms of hallucination(s) and/or delirium(s), assessed using the Structured Clinical Interview for Disorders of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) – Clinical Version. Figure 1 illustrates the participants' flowchart.

Figure 1
Sample flowchart



Instruments

Socio-demographic data sheet: Prepared for the survey and composed of 65 questions.

Stress-Producing Life Events (SPLE) (C. S. Lopes & Faerstein, 2001): eight questions with dichotomous answers. It measures the number of stressful events (health, personal, financial, violence and total score) in the last 12 months. Continuous scores are used in the correction.

Structured Clinical Interview for DSM-5 Disorders – Clinical Version (SCID-5-CV) (First et al., 2016; Osório et al., 2019): Evaluates diagnoses most commonly seen in clinical contexts based on the DSM-5 criteria (American Psychiatric Association, 2014). Dichotomous scores are used in the correction, indicating whether or not that Disorder/Episode is present.

Edinburgh Postpartum Depression Scale (EPDS) (Cox et al., 1987): It includes 10 self-assessment items referring to depressive symptoms observed during the puerperium (Malloy-Diniz et al., 2010), adapted for Brazil (M. F. S. Santos et al., 1999) and with a cutoff point ≥ 11 for Postpartum Depression (PPD).

Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 2003; Grassi-Oliveira et al., 2006): The Questionnaire assesses emotional, physical and sexual violence, emotional and physical neglect in 28 items related to childhood and adolescence. Continuous and binary scores are used in the correction.

Social Support Scale (Sherbourne & Stewartt, 1991): The Scale, along 19 items, assesses how much the person counts on the support of others to face stressful situations. The study with the Brazilian population (Griep et al., 2005) presented three dimensions: 1) affective support and positive social interaction; 2) emotional support and information and, 3) material support. Continuous scores are used in the correction.

Revised Dyadic Adjustment Scale in Portuguese (R-DAS) (Busby et al., 1995; Spanier, 1976): The scale includes 14 items with three subfactors (consensus, satisfaction and cohesion) assessing dyadic adjustment. Cutoff point ≥ 48 indicates no fit problem (Astrada et al., 2018; Crane et al., 2000).

Worry Domains Questionnaire (Tallis, Davey, et al., 1994; Tallis, Eysenck, et al., 1992): It includes 25 items evaluating five domains of concern: relationships, lack of trust, lack of future perspectives, work and financial issues. The valuation is by the total. People with a likelihood of generalized anxiety disorder (GAD) have a mean global score of 40 (Leahy, 2007).

Escala de Crenças Disfuncionais Face a Maternidade (ECM, Dysfunctional Beliefs Towards Motherhood Scale) (Costa et al., 2018; Sockol et al., 2014): The scale assesses dysfunctional beliefs regarding motherhood through 12 items divided into three factors: 1) judgment of others; 2) maternal responsibility; and 3) idealization of the maternal role. Higher scores indicate more dysfunctional beliefs.

Procedures

The initial data survey took place via the *Secretaria Municipal de Saúde* (SMS, Municipal Health Department). Pregnant women being monitored at primary care sites, public health services, were contacted in person or by telephone. If interested, they were scheduled for a meeting for signing the Free and Informed Consent/Assent Form and data collection. Finally, folders were delivered in private offices and the snowball method was used. In total, 37 neighborhoods and 32 health units and clinics were included.

The collection took place between November 2018 and March 2020 and was carried out in the health units or at home, in a visit, lasting approximately two hours. The instruments were applied in the order described in the instruments item. The project was approved by the municipality's SMS, Research Ethics Committee of Pontifícia Universidade Católica do Rio Grande do Sul (CAEE: 02709018.0.0000.5336) and complied with Resolution nº. 510/16 of the National Health Council (Conselho Nacional de Saúde, 2016). A total of 47 participants in this study were identified with suicidal ideation and/or planning or experiencing severe emotional symptoms; their family was contacted and they were referred to the health unit in charge.

Data Analysis

Data were recorded in the IBM®SPSS® Statistics program (version 20.0). Descriptive and frequency analyses were carried out. Subsequently, the data were imported into R (version 3.6.3). After two elimination criteria: 1) variables of low event counts and 2) predictors and outcomes with more than 50% missing data; five binary outcomes remained: EPDS and four SCID groups (Mood, Anxiety, Substance use and Other Current Mental Disorders) and one continuous outcome (EPDS).

The variables described were used as an outcome for the logistic models. The story variables were used as predictors. All classes with an absolute score of less than five were re-coded into an "Other" category. After imputation, continuous variables, both predictors and outcomes, were standardized as z-scores. Linear regression models were used for continuous outcomes and logistic regression models for binary outcomes. Afterwards, the Lasso (Least absolute shrinkage and selection operator) was used, selecting the most relevant predictors.

Results

Table 1 presents the participants' sociodemographic characteristics. Regarding pregnancy data, most of the sample included multiparous women (61.4%, *n* = 94), with no history of miscarriages (77.1%, *n* = 118) with expected normal delivery (69.9%, *n* = 107), unplanned pregnancy (68.6%, *n* = 105), but almost all reported wanting pregnancy (93.5%, *n* = 143). Regarding emotional/physical/psychological occurrences, 32% reported at least one, 26.1%, the presence of stressful or traumatic events, 34% emotional or physical complications, 11.1% threatened abortion; 10.5% smoking, 3.9% use of alcohol and 0.7% use of illicit substances.

Table 2 presents the sample characterization results. In the screening assessment for GAD, 22.7% (*n* = 34) are at risk.

Table 1
Sociodemographic characteristics of the participants

1 of 2

Predictors	Statistics			
	%	*n*	*M*	*SD*
Age			27.8	6.3
Marital status				
With partner	92.8	141		
Length of relationship in months			78.8	60.2
Self-declared race				
White	63.4	97		
Brown	23.5	36		
Black	12.3	20		
Schooling				
Incomplete Elementary School	14.4	2		
Complete primary education	22.9	35		
High school	48.4	74		
Technical education	5.2	8		
University	9.2	14		
Religion				
Yes	88.1	119		
Paid Labor Activity				
Yes	52.3	80		
Personal Income in BRL			1586.3	868.8

Table 1
Sociodemographic characteristics of the participants

2 of 2

Predictors	Statistics			
	%	*n*	*M*	*SD*
Responsibility for the total family budget				
Irrelevant	42.1	64		
Little	10.5	16		
Average	30.9	47		
Great	16.4	25		
Self-declared socioeconomic level				
Very poor	0,0	0		
Poor	25.5	39		
Neither rich nor poor	69.3	106		
Not so rich	5.2	8		
Very rich	0,0	0		
Benefit from some government program				
Yes	12.4	19		
No	87.6	134		
Health System (%/***n***)				
Public	89.5	137		
Private	10.5	16		
Frequency of access to health services				
Never	10.6	16		
Few times	16.6	25		
Often	67.5	102		
Always	5.3	8		

Table 2
Other sample characterization variables

1 of 2

Predictors	Statistics			
	%	*n*	*M*	*SD*
Stressful Life Events				
Financial	64.2	97		
Health	25.0	38		
Violence	5.9	9		
Dyadic Adjustment Scale				
Total score			52.5	9.3
Good fit	75.4	104		
Social Support Scale				
Close friends/family			5.5	4.2
Affective support and positive social interaction			38.8	7.2
Emotional support and information			25.5	5.1
Material support			17.0	3.6
Maternity Belief Scale				
Total score			28.5	12.1
Maternal responsibility			13.9	6.0
Idealization of the maternal role			7.4	4.7
Judgment of others			7.1	5.0
Domains of Concern Questionnaire				
Total Score			27.6	18.0
Financial			7.0	4.3
Absence of Future Perspectives			6.0	4.4
Job			5.6	4.1
Lack of confidence			5.0	4.0
Relationships			3.9	3.7

Table 2
Other sample characterization variables

Predictors	Statistics			
	%	*n*	*M*	*SD*
Childhood Trauma Questionnaire				
Total score			51.2	12.9
Emotional Abuse	51.3	77		
Emotional Neglect	50.7	76		
Physical Neglect	38.7	58		
Physical Abuse	30.2	45		
Sexual Abuse	23.9	36		

As for mental disorders during pregnancy, 25.9% (*n* = 42) of the women assessed had PPD symptoms (*M* = 16.10, *SD* = 5.00). Women without PPD had a mean of 4.35 points (*SD* = 2.90) and the difference between the groups with and without depression was significant [$F = 319.42$ (1.149), $p \leq 0.001$, $n^2 = 0.683$]. In the current SCID-5-CV manifestations, 18.5% (*n* = 28) had a major depressive episode, and 0.7% (*n* = 1) had a manic episode; 9.9% (*n* = 15) persistent depressive disorder; 10.3% (*n* = 9) bipolar type one; 1.4% (*n* = 2) non-active psychotic symptoms; 32.7% (*n* = 49) had a past episode of depressive mood and 5.3% (*n* = 8) manic.

Regarding anxiety disorders, 32% (*n* = 49) met diagnostic criteria for at least one disorder, with 21.5% (*n* = 32) generalized anxiety, 18.7% (*n* = 28) panic, 5.4 % (*n* = 8) current agoraphobia and 4.7% (*n* = 7) social anxiety; 8.7% (*n* = 13) for symptoms of adult attention deficit and hyperactivity disorder; 4.8% (*n* = 7) for current post-traumatic stress disorder and 12.5% (*n* = 12) for a past disorder and; 2.0% (*n* = 3) for obsessive-compulsive disorder.

With regard to the use of substances, "other drugs" (anti-allergy, contraceptives, among others) was reported with the highest prevalence, 24% (*n* = 36), followed by alcohol, 10.6% (*n* = 16) sedatives, hypnotics and/or or anxiolytics 7.9% (*n* = 12); opioids and nicotine 7.3% (*n* = 11) each; cannabis, other hallucinogens and stimulants 2% (*n* = 3) each. As for substance abuse, 6% (*n* = 9) reported alcohol, 2.7% (*n* = 4) nicotine, 2% (*n* = 3) sedatives, hypnotics and/or anxiolytics, with the same rate for opioids and 1.3% (*n* = 2) for "other drugs". For substance use disorder, 6% (*n* = 9) met diagnostic criteria for alcohol and 2.1% (*n* = 3) for nicotine (*n* = 32). Other more frequent possible diagnoses were separation anxiety disorders (21.5%, *n* = 32) and specific phobias (18.8%, *n* = 28). Other possible disorders at screening included: intermittent explosiveness (16.9%, *n* = 25), insomnia (14.2%, *n* = 21), premenstrual dysphoric disorder (11.6%, *n* = 17).

As for the risk and protective factors for depression, Tables 3 and 4 show the coefficients of the logistic regression models. Protective factors include absence of emotional neglect in childhood (reduces 27%); and marital adjustment (reduces 21%). Risk factors: previous history of PPD (increases 76%); concerns about lack of confidence (increases 38%); and being multiparous (increases continuous EPDS score).

Only one protective factor stood out in terms of mood disorders: good marital adjustment (reduces 64%); risk factors: concerns about lack of confidence (increases 60%), moderate emotional abuse in childhood (increases 34%) and history of depression (increases 32%). In anxiety disorders, protective factors included: absence of stressful or traumatic events during pregnancy (reduces

21%); and below-average scores for concerns about future perspectives (reduces 8 percent). Risk factors: concerns about lack of confidence (increases 42%); history of emotional abuse (increases 20%) and relationship concerns (increases 13 percent).

Regarding substance use, the protective factors include: not smoking (reduces 50%); and absence of physical abuse in childhood (reduces 15%). On the other hand, risk factors include history of severe physical abuse (increases 55%) and depression in the family (increases 13%). For other mental disorders, the main risk factors include stress-producing financial issues (increases by 13%) and childhood trauma scores (increases by 10%).

Table 3

Coefficients of logistic regression models Structured Clinical Interview for DSM-5 Disorders – Clinical Version

Predictors	Mood Disorders		Anxiety Disorders		Substance Abuse and Dependence		Other Current Trans.	
	Coef.	*OR*	Coef.	*OR*	Coef.	*OR*	Coef.	*OR*
(Intercepto)	0.011	-	-0.218	-	0.802	-	0.036	-
Traumatic stressor event								
No	-	-	-0.235	0.790	-	-	-	-
Yes	-	-	0.009	1.009	-	-	-	-
Desired pregnancy								
No	-	-	-	-	0.010	1.010	-	-
Yes	-	-	-	-	0.000	1.000	-	-
Symptom history								
Depression	0.275	1.316	-	-	-	-	-	-
Postpartum Depression	-	-	-	-	-	-	-	-
Familial illness								
Depression	-	-	-	-	0.117	1.124	-	-
Other	-	-	-	-	-	-	0.086	1.090
Non-smoking	-	-	-	-	-0.687	0.503	-	-
Stress-Producing Life Events								
Financial	-	-	-	-	-	-	0.120	1.127
Total Score	-	-	-	-	0.069	1.072	0.051	1.052
Domain of Concern								
Total Score	-	-	0.004	1.004	-	-	-	-
Absence of Future Perspectives	-	-	-0.084	0.920	-	-	-	-
Lack of Confidence	0.472	1.604	0.348	1.416	-	-	0.074	1.077
Finance	-	-	-	-	-	-	0.037	1.037
Relationships	-	-	0.120	1.127	-	-	-	-
Childhood Trauma Questionnaire								
Emotional Abuse: Moderate	0.291	1.338	-	-	-	-	-	-
Physical Abuse: Low	-	-	-	-	0.012	1.012	-	-
Physical Abuse: Without	-	-	-	-	-0.166	0.847	-	-
Physical Abuse: Severe	-	-	-	-	0.436	1.546	-	-
Emotional Neglect: None	-	-	-	-	-	-	-	-
Total Score	-	-	-	-	-	-	0.100	1.105
Emotional Abuse Score	-	-	0.185	1.203	-	-	-	-
Marital Adjustment								
Total Score								
Good fit	-1.005	0.366	-	-	-	-	-	-
Bad fit	0.000	1.000	-	-	-	-	-	-

Note: Coef.: Coefficient; OR.: Odds Ratio.

Table 4
Coefficients of Edinburgh Postpartum Depression Scale Logistic Regression Models

Predictors	Outcomes		
	EPDS (continuous score)	EPDS / PPD	
	Coef.	Coef.	*OR*
(Intercepto)	0.226	-0.781	-
Sociodemographic			
Multiparous	0.069	-	-
Primiparous	0.000	-	-
Symptom history			
Depression	-	-	-
Baby blues	-	0.568	1.764
Worry Domains			
Total Score	-	-	-
Absence of Future Perspectives	-	-	-
Lack of Confidence	0.411	0.870	2.386
Finance	-	-	-
Relationships	-	-	-
Childhood Trauma Questionnaire			
Emotional Abuse: Moderate	-	-	-
Physical Abuse: Low	-	-	-
Physical Abuse: None	-	-	-
Physical Abuse: Severe	-	-	-
Emotional Neglect: None	-	-0.315	0.730
Total Score	-	-	-
Emotional Abuse Score	-	-	-
Marital Adjustment			
Total Score	-0.011	-	-
Good fit	-0.347	-0.227	0.797
Bad fit	0.000	0.000	1.000
Social Support Scale			
Material	-	-0.001	0.999

Note: Coef.: Coefficient; EPDS: Edinburgh Postpartum Depression Scale; OR: Odds Ratio; PPD: Postpartum Depression; SPLE: Stress-Producing Life Events.

Discussion

The main objective of the study was to identify possible risks and protective factors of mental disorders during pregnancy. As for the sociodemographic results, another national study, carried out in the Midwest region, also found data similar to our sample; on the other hand, most participants had low education (Rezende et al., 2020). A study carried out in the northeast region of Brazil on the quality of life of pregnant women found that lower income would be linked to gestational dissatisfaction, which is consequently linked to gestational risk (Abreu et al, 2019). Such findings show population variability, and it is possible to find a more similar characterization according to regional proximity in the country (Monteiro Neto, 2014).

Among women's relationships, the majority had good levels of dyadic adjustment; social support contributes to a more positive experience of motherhood (Piccinini et al., 2002), with the family domain being an important factor in assessing the quality of life during pregnancy (Abreu et. al, 2019). In this connection, conflictual relationships (Leite et al., 2020) and low levels of social support (M. L. C. Santos et al., 2022) appear as risk factors for depression.

The results indicated that even without a diagnosis, the prevalence of anxiety disorders was 32%, above depression disorders and in line with another national study (Schiavo et al., 2018). As for

substance use, there was an association between cigarette use and substance use disorders. Not smoking cigarettes was noted as a protective factor. Unwanted pregnancy, depression in the family, stressful life events and physical abuse appeared as risk factors. In a Brazilian sample, among some social triggers for alcoholism, physical abuse was one of them (J. C. Lopes et al., 2020). Although studies indicate, in line with our study, that most pregnancies are unplanned (68.6% in this study and 66.7% in a sample from the Northeast), it is observed that most women (93.5% and 76.9 %, respectively) began to desire pregnancy after realizing they were pregnant (Abreu et al., 2019).

Some predictors for each model varied; however, some stood out for their frequency, such as lack of confidence assessed by the Worry Domain Questionnaire is a risk factor for five of the six outcomes. In another study, women reported more concern about lack of confidence than men. Women had a more negative guidance for the problem and greater thoughts suppression (Robichaud et al., 2003). Studies that specifically consider worrying styles as predictive variables of mental disorders still seem to be scarce. Thus, this study adds to the literature the assessment of cognitive factors.

History of depression in the family and some form of violence, as well as stressful life events appear as risk factors in different studies, including in ours. The total score assessed by the EVPE was also identified as a risk factor in two models. A Brazilian survey found an association between the occurrence of EVPE and Common Mental Disorders (CMD), depression and anxiety. With the exception of "death of a close relative", all other life events were significantly associated with the presence of CMD, with "severe financial problems" having greater strength (C. S. Lopes et al., 2003).

It was found that some predictors appear more frequently in certain outcomes. As is the case of those predictors that are associated with anxiety disorders: presence of stressful and traumatic events during pregnancy and emotional abuse. One study identified their relationship with anxiety and depressive symptoms (Margis et al., 2003).

Stressful events during pregnancy also emerge as a risk factor for anxiety and depression (Kliemann et al., 2017). There are studies that emphasize the clinical overlap between stress, anxiety and depression (Martins et al., 2019); different findings in this sample, indicated a relationship only with anxiety diagnoses. Despite the fact that emotional abuse is recurrently associated with depression (Christ et al., 2019), it can also be associated with anxiety (Ragazzo, 2017).

As for the depression outcome, the risk predictors were a history of previous illness (Ferreira et al., 2018; Ramos et al., 2018), lack of trust and poor marital adjustment. Protective predictors were absence of emotional neglect and receiving material social support. In the CTQ factors, emotional neglect refers to the impossibility of effectively noticing, meeting or responding to the emotional needs of their children (I. M. L. Silva, 2019). Therefore, not having experiences of emotional neglect throughout the child development and perceiving social material support during pregnancy seem to be important variables for mental health.

For other current mental disorders, history of illness in the family, stress-producing life events, concerns about lack of confidence and financial problems, and childhood trauma were identified as risk factors and were also reported in the national (Arrais et al., 2018; Waikamp & Serralta, 2018) and international (Devi et al., 2019) literature. These findings are in line with the results of our study, with emotional and physical abuse associated with anxiety, mood, substances and, mainly, depression. Once again, the events that occurred in childhood appear as factors linked to mental health – emphasizing the importance of investing in programs that aim to encompass psychosocial and family factors from the beginning of the constitution of the first relationships (marital relationship, pregnancy, caregiver-baby interaction, child development, among others).

The SCID-5-CV instrument, referring to the GAD, showed results similar to those of the Worry Domains Questionnaire, with prevalence of 21.5% and 22.7%. The same occurred in relation to EPDS and SCID-5-CV for current depressive episode, 25.9% and 18.5% concomitantly. Therefore, these instruments parallel to the SCID-5-CV may be suitable for measuring symptoms, being self-report instruments and easy to apply.

Conclusion

This study contributed to the survey of risk and protective factors of mental disorders. Among the limitations we include: 1) marital status of the participants: most of them were in a relationship - being single is considered a risk factor; 2) survey in only one municipality makes the description restricted or liable of local influence. The sociodemographic data were not reported in the model with the same frequency as the data associated with the history, emotional and cognitive symptoms, and psychosocial and family variables. Sociodemographic issues seem to change according to the region studied, which may explain the variability. National studies covering different regions of the country are suggested. On the other hand, factors such as unplanned pregnancies persist even with diversity. The importance of validating instruments that assess cognitive issues is enhanced.

Despite the fact that some risk and protective factors have commonly appeared in some outcomes, others were specific to each outcome. Results like these show us the particularity and complexity of the development of mental disorders in pregnant women. It is of particular importance to the area of mental health, the factors that can be subjected to intervention, such as social support, marital relationship, history of traumatic events, beliefs regarding motherhood, among others. Identifying them contributes to the planning of preventive actions and interventions that help reduce the impacts of mental disorders on pregnant women and possible repercussions on their relationship with their baby and child development.

References

Abreu, K., Brandão, A., & Torres, M. (2019). Qualidade de vida de gestantes acompanhadas na atenção primária à saúde. *Saúde em Redes, 5*(1), 59-73. http://dx.doi.org/10.18310/2446-4813.2019v5n1p59-73

Almeida, M. S., Nunes M. A., Camey, S., Pinheiro, A. P., & Schmidt, M. I. (2012). Transtornos mentais em uma amostra de gestantes da rede de atenção básica de saúde no Sul do Brasil. *Cadernos de Saúde Pública, 28*(2), 385-393. https://doi.org/10.1590/S0102-311X2012000200017

American Psychiatric Association. (2014). *DSM-5*: *Manual diagnóstico e estatístico de transtornos mentais*. Artmed.

Andersson, L., Sundström-Poromaa, I., Bixo, M., Wulff, M., Bondestam, K., & Åström, M. (2003). Point prevalence of psychiatric disorders during the second trimester of pregnancy: a population-based study. *General Obstetrics And Gynecology Obstetrics, 189*(1), 148-754. https://doi.org/10.1067/mob.2003.336

Arrais, A. R., Araujo, T. C. C. F., & Schiavo, R. A. (2018). Fatores de Risco e Proteção Associados à Depressão pós-parto no pré-natal psicológico. *Psicologia Ciência e Profissão, 38*(4), 711-729. https://doi.org/10.1590/1982-3703003342016

Astrada, L. A. S. Z., Frizzo, G. B., & Levandowski, D. C. (2018). Depressão materna e ajustamento conjugal de mães jovens e sua relação com a sintomatologia psicofuncional do bebê. *Pensando Famílias, 22*(2), 3-19.

Bernstein, D. P, Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Stokes, J., Handelsman, L., Medrano, M., Desmond, D., & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse Negl, 27*, 169-190. https://doi.org/10.1016/s0145-2134(02)00541-0

Botega, N. J. (2006) *Prática psiquiátrica no hospital geral: interconsulta e emergência*. Artmed.

Busby, D. M., Crane, D. R., Larson, J. H., & Christensen, C. (1995). A revision of the Dyadic Adjustment Scale for use with distressed and nondistressed couples: Construct hierarchy and multidimensional scales. *Journal of Marital and Family Therapy, 21*(3), 289-308. https://doi.org/10.1111/j.1752-0606.1995.tb00163

Christ, C., De Waal, M. M., Dekker, J. J., van Kuijk, I., Van Schaik, D. J., Kikkert, M. J., Goudriaan, A. E., Beekman, A. T. F., & Messman-Moore, T. L. (2019). Linking childhood emotional abuse and depressive symptoms: The role of emotion dysregulation and interpersonal problems. *Plos One, 14*(2), e0211882. https://doi.org/10.1371/journal.pone.0211882

Conselho Nacional de Saúde (Brasil). (2016). Resolução nº 510, de 7 de abril de 2016. *Diário Oficial da União*, Brasília. http://www.in.gov.br/materia//asset_publisher/Kujrw0TZC2Mb/content/id/22917581.

Costa, A. C. A., Rodrigues, S., Canavarro, M., C., & Fonseca, A. (2018). Adaptação da Escala de Crenças Disfuncionais face à Maternidade para a população portuguesa: Estudos psicométricos. *Análise Psicológica, 2*, 247-260. https://doi.org/10.14417/ap.1376

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry: Journal of Mental Science, 150*, 782-786. https://doi.org/10.1192/bjp.150.6.782

Crane, D. R., Middleton, K. C., & Bean, R. A. (2000). Establishing criterion scores for the Kansas Marital Satisfaction Scale and the Revised Dyadic Adjustment Scale. *American Journal of Family Therapy, 28*(1), 53-60. https://doi.org/10.1080/019261800261815

Dell'Osbel, R. S., Gregoletto, M. L. O., & Cremonese, C. (2019). Sintomas depressivos em gestantes da atenção básica: prevalência e fatores associados. *ABCS Health Sciences, 44*(3). https://orcid.org/0000-0003-4643-0973

Devi, F., Shahwan, S., Teh, W. L., Sambasivam, R., Zhang, Y. J., Lau, Y. W., Ong, S. H., Fung, D., Gupta, B., Chong, S. A., & Subramaniam, M. (2019). The prevalence of childhood trauma in psychiatric outpatients. *Annals of General Psychiatry, 18*, 15. https://doi.org/10.1186/s12991-019-0239-1

Dos Santos Ribeiro, L. M., Mota, F. R. G., Luz, M. G. D. O. M., Matioli, M. R., & Sousa Ibiapina, A. R. (2021). Prevalência de sofrimento mental no ciclo gravídico-puerperal: survey online de abordagem nacional. *Revista Multidisciplinar em Saúde, 2*(4), 107-107. https://doi.org/10.51161/rems/2866

Ferreira, C., Silva, V., Guerra, C., Silva, A. I., & Rosário, R. (2018). Depressão pós-parto: detecção precoce e fatores associados. *Acta Obstétrica e Ginecológica Portuguesa, 12*(4), 262-267.

First, M. B., Williams, J. B., Karg, R. S., & Spitzer, R. L. (2016). *User's guide for the SCID-5-CV Structured Clinical Interview for DSM-5® disorders: Clinical version*. American Psychiatric Publishing, Inc.

Frizzo, G. B., Schmidt, B., Vargas, V., & Piccinini, C. (2019). Coparentalidade no contexto de Depressão Pós-Parto: um estudo qualitativo. *Psico-USF, 24*(1), 85-96. https://doi.org/10.1590/1413-82712019240107.

Grassi-Oliveira, R., Stein, L. M., & Pezzi, J. C. (2006). Tradução e validação de conteúdo da versão em português do Childhood Trauma Questionnaire. *Revista de Saúde Publica, 40*(2), 249-255. https://doi.org/10.1590/s0034-89102006000200010

Griep, R. H., Chor, D., Faerstein, E., Werneck, G. L., & Lopes, C. L. (2005). Validade de constructo de escala de apoio social do Medical Outcomes Study adaptada para o português no Estudo Pró-Saúde. *Cadernos de Saúde Pública, 21*(3), 703-714. https://doi.org/10.1590/S0102-311X2005000300004

Hartmann, J. M., Mendoza-Sassi, R. A., & Cesar, J. A. (2017). Depressão entre puérperas: prevalência e fatores associados. *Cadernos de Saúde Pública, 33*(9),1-10. https://doi.org/10.1590/0102-311X00094016

Ishida, K., Stupp, P., Serbanescu, F., & Tullo, E. (2010). Perinatal risk for common mental disorders and suicidal ideation among women in Paraguay. *International Journal of Gynaecology and Obstetrics, 110*(3), 235-240. https://doi.org/10.1016/j.ijgo.2010.03.027

Kliemann, A., Böing, E., & Crepaldi, M. A. (2017). Fatores de risco para ansiedade e depressão na gestação: revisão sistemática de artigos empíricos. *Mudanças-Psicologia da Saúde, 25*(2), 69-76. https://doi.org/10.15603/2176-1019/mud.v25n2p69-76

Leahy, R. L. (2007). *Como lidar com as preocupações*: *setes passos para impedir que elas paralisem você*. Artmed.

Leite, A. C., Silva, M. P. B., Barbosa, F. N., Prado, A. M., Brasil, L. S., Avelino, J. T, Pinto, M. S. R., Barbosa, A. M. S., Nascimento, K. W. S., Fé, T. R. M, Sousa, B. B., Mendes, A. M., Sousa, S. V. F., Prudêncio, L. D., Gomes, M. C., & Andrade, T. M. (2020). Evidências científicas sobre os fatores de risco para desenvolver depressão no pós-parto. *Research, Society and Development, 9*(10), e7419109053-e7419109053. https://doi.org/10.33448/rsd-v9i10.9053

Lopes, C. S., & Faerstein, E. (2001). Confiabilidade do relato de eventos de vida estressantes em um questionário autopreenchido: estudo pró-saúde. *Revista Brasileira de Psiquiatria, 23*(3), 126-133. https://doi.org/10.1590/S1516-44462001000300004.

Lopes, C. S., Faerstein, E., & Chor D. (2003). Eventos de vida produtores de estresse e transtornos mentais comuns: resultados do Estudo Pró-Saúde. *Cadernos de Saúde Pública, 19*(6), 1713-1720. https://doi.org/10.1590/S0102-311X2003000600015

Lopes, J. C., Silva, E. M., Olinda, A. G., Fonseca, W., & Ferreira, R. A. (2020). Alcoolismo feminino: perfil das publicações científicas brasileira sobre a temática. *ID Online Revista de Psicologia, 14*(50), 260-271. https://doi.org/10.14295/idonline.v14i50.2422

Malloy-Diniz, L. F., Schlottfeldt, C. G. M. F., Figueira, P., Neves, F. S., & Corrêa, H. (2010). Escala de Depressão Pós-Parto de Edimburg: análise fatorial e desenvolvimento de uma versão de seis itens. Brazilian *Journal of Psychiatry, 32*(3), 316-318. https://doi.org/10.1590/S1516-44462010000300018

Margis, R., Picon, P., Cosner, A. F., & Silveira, R. O. (2003). Relação entre estressores, estresse e ansiedade. *Revista de Psiquiatria do Rio Grande do Sul, 25*(1), 65-74. https://doi.org/10.1590/S0101-81082003000400008

Martins, B. G., Silva, W. R., Maroco, J., & Campos, J. A. D. B. (2019). Escala de Depressão, Ansiedade e Estresse: propriedades psicométricas e prevalência das afetividades. *Jornal Brasileiro de Psiquiatria, 68*(1), 32-41. https://doi.org/10.1590/0047-2085000000284

Monteiro Neto, A. (2014). Desigualdades regionais no Brasil: características e tendências recentes. *Boletim Regional Urbano e Ambiental, 9*, 67-81.

Nakić Radoš, S., Tadinac, M., & Herman, R. (2018). Anxiety During Pregnancy and Postpartum: Course, Predictors and Comorbidity with Postpartum Depression. *Acta Clinica Croatica, 57*(1), 39-51. https://doi.org/10.20471/acc.2017.56.04.05

Osório, F. L., Loureiro, S. R., Hallak, J., Machado-de-Sousa, J. P., Ushirohira, J. M., Baes, C., Apolinario, T. D., Donadon, M. F., Bolsoni, L. M., Guimarães, T., Fracon, V. S., Silva-Rodrigues, A., Pizeta, F. A., Souza, R. M., Sanches, R. F., Dos Santos, R. G., Martin-Santos, R., & Crippa, J. (2019). Clinical validity and intrarater and test-retest reliability of the Structured Clinical Interview for DSM-5 - Clinician Version (SCID-5-CV). *Psychiatry and Clinical Neurosciences, 73*(12), 754-760. https://doi.org/10.1111/pcn.12931

Piccinini, C. A., Rapoport, A., Levandowski, D. C., & Voigt, P. R. (2002). Apoio social percebido por mães adolescentes e adultas: da gestação ao terceiro mês de vida do bebê. *Psico* (Porto Alegre), *33*(1), 9-35.

Ragazzo, A. C. S. M. (2017). *Estudo da Eficácia do Treinamento Cognitivo Processual em Grupo (TCP-G) na prevenção de transtornos de ansiedade e depressão em adolescentes de uma escola pública municipal de Salvador* [Tese de doutorado não-publicada]. Universidade Federal da Bahia.

Ramos, A., Martins, A. C., Pessoa, D., Machado, M. C., & Noronha, F. M. (2018). Fatores associados à depressão pós-parto: revisão integrativa. *Enciclopédia Biosfera, 15*(27). https://doi.org/10.18677/EnciBio_2018A100

Rezende, C. L., Grubits, H. B., Cespedes, M. S., & Souza, J. C. R. P. (2020). Perfil sociodemográfico das gestantes no município de Dourados - Mato Grosso do Sul. *Arquivos Médicos dos Hospitais e da Faculdade de Ciências Médicas da Santa Casa de São Paulo, 65*(1), 1-5. https://doi.org/10.26432/1809-3019.2020.65.027

Robichaud, M., Dugas, M. J., & Conway, M. (2003). Gender differences in worry and associated cognitive-behavioral variables. *Journal of Anxiety Disorders, 17*(5), 501-516. https://doi.org/10.1016/s0887-6185(02)00237-2

Santos, M. F. S., Martins, F. C., & Pasqual, L. (1999). Post-natal depression self-rating scales: Brazilian study. *Revista Psiquiatria Clínica, 26*(2), 32-40.

Santos, M. L. C., Reis, J. F., Silva, R. D. P., Santos, D. F., & Leite, F. M. C. (2022). Sintomas de depressão pós-parto e sua associação com as características socieconômicas e de apoio social. *Escola Anna Nery, 26*, e20210265. https://doi.org/10.1590/2177-9465-EAN-2021-0265

Schiavo, R. A., Rodrigues, O. M. P. R., & Perosa, G. B. (2018). Variáveis associadas à ansiedade gestacional em primigestas e multigestas. *Temas em Psicologia, 26*(4), 2091-2104. https://dx.doi.org/10.9788/TP2018.4-14Pt

Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science & Medicine, 32*(6), 705-714. https://doi.org/10.1016/0277-9536(91)90150-b

Silva, C., Machada, M., Afonso, C., & Antão, C. (2022). Preocupações maternas de mães com bebés até aos 9 meses. *Brazilian Journal of Health Review, 2*(5), 4373-4383. http://hdl.handle.net/10198/25264

Silva, I. M. L. (2019). *Impacto psicossocial da negligência física e emocional*: *diferenças entre a negligência física e a negligência emocional* [Dissertação de mestrado não-publicada]. Instituto Universitário, Ciências Psicológicas, Sociais e da Vida.

Silva, R. A., Ores, L. C., Mondin, T. C., Rizzo, R. N., Moraes, I. G. S, Jansen, K., & Pinheiro, R. T. (2010). Transtornos mentais comuns e auto-estima na gestação: prevalência e fatores associados. *Cadernos de Saúde Pública, 26*(9), 1832-1838.

Sockol, L. E., Epperson, C. N., & Barber, J. P. (2014). The relationship between maternal attitudes and symptoms of depression and anxiety among pregnant and postpartum first-time mothers. *Archives of Women's Mental Health, 17*(3), 199-212. https://doi.org/10.1007/s00737-014-0424-9

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and Family, 38*(1), 15-28. https://doi.org/10.2307/350547

Tallis, F., Davey, G. C. L., & Bond, A. (1994). The Worry Domains Questionnaire. In G. C. L. Davey & F. Tallis (Eds.), *Worrying*: *Perspectives on theory, assessment and treatment* (pp. 285-297). John Wiley & Sons.

Tallis, F., Eysenck, M., & Mathews, A. (1992). A questionnaire for the measurement of nonpathological worry. *Personalityand Individual Differences, 13*(2), 161-168. https://doi.org/10.1016/0191-8869(92)90038-Q

Teixeira, C. S., Barbosa, T. L., Marangoni, V. S. L., & Neves, A. L. M. (2019). Aspectos da gestação e puerpério de mulheres com transtornos mentais. *Revista de Enfermagem UFPE ,13*, 1-12.

Vesga-López, O., Blanco, C., Keyes, K., Olfson, M., Grant, B. F., & Hasin, D. S. (2008). Psychiatric disorders in pregnant and postpartum women in the United States. *Archives of General Psychiatry, 65*(7), 805-815. https://doi.org/10.1001/archpsyc.65.7.805

Waikamp, V., & Serralta, F. B. (2018). Repercussões do trauma na infância na psicopatologia da vida adulta. *Ciencias Psicológicas, 12*(1), 137-144. https://dx.doi.org/10.22235/cp.v12i1.1603

Contributors

C. V. AZAMBUJA and A. X. ARTECHE contributed to the conception and design, data analysis and interpretation, revision and approval of the final version of the article. A. M. RENNER and A. BONATTI contributed to the review and approval of the final version of the article.