



Articles

Is Maternal Exposure to Childhood Trauma Associated With Maternal-Fetal Attachment?

Rafaelle Stark Stigger^a, Clarissa de Souza Ribeiro Martins^a, Mariana Bonati de Matos^a,
Jéssica Puchalski Trettim^a, Gabriela Kurz da Cunha^a, Carolina Coelho Scholl^a,
Mariana Pereira Ramos^a, Janaína Vieira dos Santos Motta^a, Gabriele Ghisleni^a,
Ricardo Tavares Pinheiro^{*a}, Luciana de Avila Quevedo^a

[a] Health and Behavior Post-Graduate Program, Catholic University of Pelotas, Pelotas, Brazil.

Abstract

Adults with childhood maltreatment history can face a difficult experience in transitioning to parenthood. Women with a history of emotional neglect in childhood tend to experience problematic attachment. The study's aim was to evaluate the relationship between childhood trauma and maternal-fetal attachment in pregnant women in a population-based study in Southern Brazil. This is a longitudinal study with pregnant women who were interviewed in two moments: before 24-weeks of pregnancy and 60 days after the first interview. We used the Childhood Trauma Questionnaire and the Maternal-Fetal Attachment Scale. The mean of maternal-fetal attachment in the general sample was 99.8 (\pm 10.8). The mean of emotional neglect was 8.9 (\pm 4.7); physical neglect 6.7 (\pm 2.8); sexual abuse 5.9 (\pm 3.0); physical abuse 6.8 (\pm 3.1) and emotional abuse 8.0 (\pm 4.1). After adjusted analysis, we found that pregnant women who suffered emotional neglect had 0.4 points less on the average on the maternal-fetal attachment, $\beta = -0.4$, CI 95% [-0.6, -0.2], and pregnant women who suffered emotional abuse had 0.2 points less on the average on the maternal-fetal attachment, $\beta = -0.2$, CI 95% [-0.5, -0.0]. Only emotional neglect and emotional abuse were associated with maternal-fetal attachment. This study showed that a history of childhood trauma can have a negative impact during the prenatal period, and can impair maternal-fetal attachment. The data found can assist health professionals in identifying factors that can protect and contribute to pregnant women who were victims of childhood trauma to face the transition to parenthood in the best possible way.

Keywords: childhood trauma, maternal-fetal attachment, pregnancy, bonding

Interpersona, 2020, Vol. 14(2), 200–210, <https://doi.org/10.5964/ijpr.v14i2.3983>

Received: 2020-07-06. Accepted: 2020-11-10. Published (VoR): 2020-12-22.

*Corresponding author at: Health and Behavior Post-Graduate Program, Catholic University of Pelotas, Rua Gonçalves Chaves, 373, Centro–Pelotas, Rio Grande do Sul 96015-560, Brazil. E-mail: ricardop@terra.com.br



This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International License, CC BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

A woman's pregnancy can be lived according to her current and past life experiences (Camacho, Vargens, Progiante, & Spindola, 2010). Women in the gestational period begin to develop a maternal identity, and this development is influenced by their own expectations and anxieties, which are related to the performance of their new role of being a mother (Leerkes & Crockenberg, 2002). The pregnancy is considered a moment of fragility due to biological, psychological, and social changes, and can reactivate past conflicts (Bortoletti et al., 2007), especially when there is some kind of trauma throughout life, such as in childhood.

Childhood trauma is characterized by the child's exposure to situations of neglect and/or physical, emotional, or sexual abuse, impairing their physical and psychological integrity (McDonald, 2007). Traumatic experiences during childhood can lead to negative consequences for children, such as the development of depression and anxiety disorders. Exposure to early life stress is associated with neurobiological changes in children and adults (Heim & Nemeroff, 2001) and is recognized as one of the major risk factors for psychiatric disorders (Duarte, Tscherbakowski, & Correa, 2012). Depression is the most prevalent mental disorder during pregnancy (Bennett et al., 2004) and can impair the mother's psychosocial functioning, the mother-baby relationship, and the child's psychosocial development (Molina & Kiely, 2011). In addition, gestational depression is considered a risk factor for postpartum depression (Sidebottom, Hellerstedt, Harrison, & Hennrikus, 2014). Untreated depression during pregnancy tends to decrease the frequency of prenatal visits, and this has been associated with neonatal mortality (Carvalho et al., 2007). In the sense, the identification of risk factors, signs and depressive symptoms and immediate treatment should be part of prenatal care (Pereira, Lovisi, Lima, & Legay, 2010). The tracking of emotional changes and the identification of risk factors for the development of depression during pregnancy becomes an important prevention strategy in mental health, as the early diagnosis of depression and its treatment during pregnancy could prevent complications arising from disease (Menezes et al., 2012).

Pregnancy can have a considerable impact on the family environment and the parent's past experiences are decisive in the relationship between parents and child that will be formed (Eizirik & Bassols, 2013). Adults with maltreatment history may face a unique experience in transitioning to parenthood, reflecting on their desire to be a father and their ability to develop this role (Roberts, 2014) and a greater understanding of these experiences may aid professionals in supporting this vulnerable population.

Maternal-fetal attachment is an important predictor of maternal behavior and of the quality of the relationship that will be established between mother and child during the postnatal period (Alvarenga, Teixeira, & Peixoto, 2015). This concept was defined by Cranley (1981) as the intensity with which the woman manifests, through her behaviors, conducts of affiliation and integration in relation to the child inside the uterus. Maternal-fetal attachment can be assessed through the woman's expectations, feelings, and thoughts about her expected child.

In the gestational period, a study showed that the greater the number of indicators of psychiatric disorders in pregnant women, the lower the maternal-fetal attachment (Ruschel et al., 2013). Other studies about maternal-fetal attachment have shown that the higher the attachment, the greater the mother's perception of the child's interactive capacities and that there is a relationship between prenatal and postnatal child behavior (Alvarenga et al., 2015). After birth, many children demonstrated that what they experienced in the womb had some impact on their development, showing signs of having been influenced by prenatal experiences (Piontelli, 1995). This influence can demonstrate the importance of good mother-child bonding in the prenatal period. Maternal-fetal attachment may also be related to the care of pregnant women in relation to the fetus, a study showed that women who use alcohol have less attachment to the fetus when compared to women who do not use this substance (Claudino, Cesário, & de Menezes, 2017).

Christie et al. (2017), in a recent study on childhood trauma and maternity showed that women who experienced childhood trauma have greater difficulty coping with the body changes caused by pregnancy, attributing them to reduced well-being. That same study revealed, women with a history of emotional neglect during childhood may have a negative view of their child, experiencing a difficult attachment (Christie et al., 2017).

Considering that previous conflicts can be reactivated during pregnancy because it is a period of greater vulnerability for women and that this can affect the process of maternal-fetal attachment, this study aimed to evaluate the relationship between childhood trauma and maternal-fetal attachment of pregnant women in southern Brazil.

Method

This was a longitudinal study with pregnant women of a city in southern Brazil. This study is part of a larger study that evaluated psychotherapy in pregnant women as a prevention measure for postpartum depression and neonatal outcomes. The sampling was conducted in multiple stages, in accordance with the 2010 IBGE (Brazilian Institute of Geography and Statistics) census of 244 sectors of the city (50% of the total). The sectors were randomly selected. Between April 2016 and August 2018, we invited women who were up to 24-weeks pregnant to participate in the study. These pregnant women answered a questionnaire during a household interview to provide sociodemographic, behavioral, and mental health information.

The pregnant women were evaluated in two moments. The first interview occurred when the women were identified as up to 24-weeks pregnant, in their homes, and a follow-up interview happened in a University Hospital 60 days after the first interview. Both evaluations were carried out in Portuguese by undergraduate health students who were trained to conduct the interviews and to administer the instruments.

For the present study, all pregnant women who received psychotherapy, offered by the larger study, to treat gestational depression or prevent postpartum depression were excluded from the sample to avoid any effects of treatment on maternal-fetal attachment. Pregnant women with gestational depression and those at risk of developing postpartum depression who did not attend any psychotherapy session offered by the larger study remained in the present study.

Thus, a total of 974 pregnant women were evaluated, of whom 327 received psychotherapy and were excluded from the study. Therefore, our sample consisted of 647 women.

The Mini International Neuropsychiatric Interview (MINI) - Plus version was used to assess maternal depression. This interview displays high validity and reliability (sensitivity of 86% and specificity of 84%) and is intended for use in clinical and research practice. It aims to provide a diagnostic compatible with the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) and the 10th edition of the International Classification of Diseases (ICD-10; [Amorim, 2000](#)). We used Module A to evaluate major depressive episodes, generating a dichotomous (yes/no) result for the current depressive episode.

The risk of developing postpartum depression was attributed to pregnant women who met three or more of the following criteria: unplanned current pregnancy; presence of mood disorders in the family (father, mother, and/or brothers); schooling of less than 9 years of study; presence of depressive and/or anxiety symptoms; presence of stressful events during the last year; presence of chronic illness; absence of partner; absence of mother's support; past history of a major depressive episode.

The perception of childhood trauma was assessed with the Childhood Trauma Questionnaire (CTQ), which is a self-administered scale that investigates five traumatic components: physical abuse, emotional abuse,

sexual abuse, physical neglect, and emotional neglect. This instrument was translated and validated for Brazil by Grassi-Oliveira, Stein, and Pezzi (2006). Physical abuse involves the intentional use of physical force that results in acute or chronic illness, bodily injury, physical pain, functional impairment, distress, or death. Emotional abuse happens when the child is the victim of verbal aggression by a relative or guardian that results in anguish, mental pain, fear, or distress. The sexual abuse arises from physical violence or attempted violence related to the child's genitals or sexual organs or behaviors that submit the child to have a sexual role that is inconsistent with their stage of development. Lastly, physical neglect is characterized by the failure of a caregiver or other responsible person in meeting the physical needs of the child, while emotional neglect happens when caregivers are unable to keep the child from being exposed to many stressful events, as well as not providing emotional support to them and not encouraging their emotional, intellectual and social development (Gorenstein, Wang, & Hungerbühler, 2015). The CTQ consists of 28 items, on a 5-point Likert scale. For each domain, trauma scores range from 5 (*absence of trauma*) to 25 (*maximum score for trauma*). The total score of the scale ranges from 25 (*absence of any trauma*) to 125 (*maximum score for the presence of all trauma*; Grassi-Oliveira, Stein, & Pezzi, 2006).

To evaluate maternal-fetal attachment, we used the Maternal-Fetal Attachment Scale (MFAS), validated for the Brazilian context by Feijó (1999). The MFAS was the first tool developed by Cranley (1981) to measure maternal-fetal attachment in pregnant women. It is a 5-point Likert scale composed of 24 self-rated items. Each one consists of the following responses: 1 (*definitely no*), 2 (*no*), 3 (*uncertain*), 4 (*yes*), and 5 (*definitely yes*), and item number 22 has a reverse-score. The total score ranges from 24 to 120. The higher the score, the greater the attachment (Feijó, 1999).

Alcohol dependence and abuse were identified through the Brazilian version of the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), which is an instrument used to identify problems related to substance use through eight questions. In the present study, the variable was dichotomized as yes/no, with the cut-off point of ≥ 4 points for the yes category (Henrique, De Micheli, Lacerda, Lacerda, & Formigoni, 2004).

The Brazilian Association of Research Companies (Associação Brasileira de Empresas de Pesquisa [ABEP]) criteria were used to determine economic class. This classification is based on the accumulation of material goods and the education level of the head of the household. It classifies individuals into five classes (A, B, C, D, and E), in which class A is the highest level and class E is the lowest (ABEP, 2012). In this study, classes A and B and classes D and E were combined. A general questionnaire was also administered which contained questions related to the pregnant woman's age, schooling, marital status, occupation, and other information on pregnancy (first pregnancy; pregnancy planning; prenatal care).

In the first interview, the following instruments were used: MINI - Plus, CTQ, ASSIST, and ABEP. In this interview, the risk of developing postpartum depression and the general questionnaire was also assessed. The MFAS was applied in the second interview because women were already at a more advanced stage of pregnancy.

Student's *t*-test, ANOVA, and Spearman correlation were used to compare means. Linear regression was used to control for confounders. The variables that presented a *p*-value $\leq .20$ in the raw analysis were taken for adjusted analysis, except depressive disorder because it can be a mediator between CTQ domains and maternal-fetal attachment.

This study was approved by the Ethics Committee of the University, protocol number 47807915.4.0000.5339. Participants were informed about the research aims and agreed to participate by providing their free and informed consent for the anonymous publication of results. Pregnant women identified as presenting alcohol abuse or dependence were referred to the Center for Psychosocial Care - Alcohol and Drugs. Pregnant women identified with depression were referred for psychotherapy in the larger study or to the most appropriate place in the city.

Results

Table 1 shows the sample's distribution. The mean of maternal-fetal attachment in the general sample was 99.8 (\pm 10.8). The mean of emotional neglect was 8.9 (\pm 4.7); physical neglect 6.7 (\pm 2.8); sexual abuse 5.9 (\pm 3.0); physical abuse 6.8 (\pm 3.1) and emotional abuse 8.0 (\pm 4.1). In the bivariate analysis, we verified that maternal-fetal attachment means were lower in mothers who belonged to economic class A/B ($p = .014$), who did not live with a partner ($p = .001$), and who did not undergo prenatal care ($p = .004$). Maternal fetal attachment showed a weak positive correlation with the emotional neglect ($r = .14$) and emotional abuse domains ($r = .11$).

Table 1

Sample Characteristics Related to Maternal-Fetal Attachment in Pregnant Women of Southern Brazil

Characteristic	Descriptive statistics					
	Sample characteristic		Maternal-fetal attachment		Relation	
	N (%)	M (SD)	M (SD)	r	p	
Age					.600	
Up to 23 years	217 (33.5)		100.5 (10.8)			
Between 24-29 years	198 (30.6)		99.2 (11.0)			
30 years or older	232 (35.9)		99.6 (10.7)			
Schooling					.541	
0 to 3 years of study	19 (2.9)		102.7 (10.0)			
4 to 7 years of study	131 (20.2)		99.8 (11.1)			
8 to 10 years of study	131 (20.2)		98.9 (11.3)			
11 years of study or more	366 (56.6)		100.2 (10.5)			
Economic class					.014	
A/B	173 (26.9)		98.3 (10.8)			
C	358 (55.7)		101.1 (10.5)			
D/E	112 (17.4)		98.4 (11.4)			
Lives with a partner					.001	
No	108 (16.7)		96.0 (11.5)			
Yes	538 (83.3)		100.5 (10.5)			
Currently working					.535	
No	265 (41.2)		99.5 (11.1)			
Yes	378 (58.8)		100.1 (10.6)			
First pregnancy					.525	
No	269 (41.6)		100.2 (10.7)			
Yes	378 (58.4)		99.6 (10.9)			

Characteristic	Descriptive statistics			
	Sample characteristic		Maternal-fetal attachment	Relation
	N (%)	M (SD)	M (SD)	r p
Planned pregnancy				.429
No	263 (40.6)		99.4 (10.9)	
Yes	323 (49.9)		99.9 (10.8)	
More or less	61 (9.4)		101.7 (10.5)	
Prenatal care				.004
No	5 (1)		94.9 (12.6)	
Yes	517 (99)		100.2 (10.6)	
Alcohol dependence/abuse				.087
No	593 (92.1)		100.1 (10.8)	
Yes	51 (7.9)		97.3 (10.8)	
Depressive disorder				.069
No	584 (91.3)		100.1 (10.5)	
Yes	56 (8.8)		96.7 (14.0)	
Emotional neglect		8.9 (4.7)		-.14 .001
Physical neglect		6.7 (2.8)		-.06 .160
Sexual abuse		5.9 (3.0)		.014 .742
Physical abuse		6.8 (3.1)		-.02 .623
Emotional abuse		8.0 (4.1)		-.11 .013

Note. Maternal-fetal attachment in total sample ($N = 647$): $M = 99.8$, $SD = 10.8$.

Table 2 shows the adjusted analyses for confounding factors of emotional neglect, physical neglect and emotional abuse. Linear regressions were performed with only a single predictor at a time to avoid multicollinearity. The domains of emotional neglect and emotional abuse remained associated with maternal-fetal attachment. We found that pregnant women who suffered emotional neglect had 0.4 points less on the average on the maternal-fetal attachment, $\beta = -0.4$, CI 95% [-0.6, -0.2], and pregnant women who suffered emotional abuse had 0.2 points less on the average on the maternal-fetal attachment, $\beta = -0.2$, CI 95% [-0.5, -0.0].

Table 2

Adjusted Analysis by Linear Regression in the Domains of Childhood Trauma

Childhood trauma	β	CI 95%	p
Emotional neglect ^a (Yes)	-0.4	[-0.6, -0.2]	< .001
Physical neglect ^a (Yes)	-0.3	[-0.7, 0.0]	.054
Emotional abuse ^a (Yes)	-0.2	[-0.5, -0.0]	.044

^aAdjusted for economic class; lives with a partner; prenatal care; alcohol dependence/abuse.

After adjusting for possible confounding variables, maternal-fetal attachment remained associated with economic class, living with a partner and prenatal care. We verified that mothers who lived with partners and who had prenatal care presented higher averages of maternal-fetal attachment in all domains (data not shown in any table).

Discussion

The present study aimed to analyze the relationship between childhood trauma and maternal-fetal attachment in pregnant women. The results showed that pregnant women who suffered emotional neglect and emotional abuse in childhood had lower maternal-fetal attachment. Similarly, but in the postpartum period, a recent study found that emotional neglect was positively associated with mother-child bonding difficulties. The authors suggested that growing up in a neglected environment, which is characterized by a sense of invisibility and an impaired sense of subjectivity, may manifest in an incorrect and inadequate sense of self, and may lead to a low sense of maternal self-sufficiency (Talmon et al., 2019). The transitioning to parenthood brings out many feelings and activates past experiences. When there is a history of childhood maltreatment, this experience can be negatively impacted, as we saw in a recent meta-analysis that demonstrated that women with a history of emotional neglect in childhood may have a negative view of the child, experiencing attachment as difficult (Christie et al., 2017). Also in the postpartum period, Lang et al. (2010) found that women who suffered emotional abuse in childhood presented more dysfunctional interactions with their child 12 months after childbirth. Likewise, another study reported that emotional abuse presented an additional negative effect on maternal emotional availability at 12 months (Fuchs, Möhler, Resch, & Kaess, 2015).

Li, Long, Cao, and Cao (2017) suggested that attachment deregulation could be an explanation for the relationship between childhood neglect and perinatal depression, as the transition to parenting activates the attachment system and it may influence development of depression in the gestational period when it is insecure. In the present study we found no relationship between maternal-fetal attachment and depression. This may be because we excluded from our study all women who had depression during pregnancy and received psychotherapy (offered by the larger study) and those who were at risk of developing postpartum depression and received psychotherapy (offered by the larger study).

This study found no association between maternal-fetal attachment and physical neglect, physical abuse, and sexual abuse domains. Some studies have shown association between a history of childhood maltreatment and the mother-baby relationship, but none directed their goals toward maternal-fetal attachment. Milan, Lewis, Ethier, Kershaw, and Ickovics (2004), found that experiences of physical abuse during childhood influence the mother-baby relationship (Milan et al., 2004). Another study showed that childhood sexual abuse is related to a negative view of oneself in the parental role and the greater use of physical punishment toward children (Banyard, 1997). On the other hand, Sexton, Davis, Menke, and Muzik (2017) evaluated the relationship between a history of childhood maltreatment and parenthood in postpartum women and showed that no association between any type of childhood maltreatment and maternal behavior was found. For the authors, both resilience and mental disorders, such as depression, have a greater influence on maternal behavior (Sexton et al., 2017).

We found that women living with a partner presented higher maternal-fetal attachment. Yarcheski, Mahon, Yarcheski, Hanks, and Cannella (2009), in their meta-analysis, included studies examining social support as a predictor of maternal-fetal attachment and found that social support was the most powerful psychosocial predictor of maternal-fetal attachment. Social support received during the gestational period and marital relationship is a factor that may be correlated with maternal-fetal attachment (Doan & Zimmerman, 2003). Social support is also associated with greater capacity for postnatal maternal care and the presence of secure attachment in the child's first year of life (Huth-Bocks, Levendosky, Bogat, & von Eye, 2004).

Our data also demonstrated that women who were performing prenatal care had higher means of maternal-fetal attachment. Similarly, [Ruschel et al. \(2013\)](#) indicated that the pregnant women demand for exams in the prenatal period places them in the condition of those who have attitudes of care for themselves and the fetus. The maternal-fetal attachment is related to behaviors that express care and commitment to the fetus ([Alvarenga, Dazzani, Alfaya, Lordelo, & Piccinini, 2012](#)). Another study also showed that maternal-fetal attachment had a positive relationship with health practices during pregnancy ([Lindgren, 2001](#)).

Some limitations should be mentioned. The questionnaires used are validated and utilized worldwide, but they are self-report scales and represent self-perceptions, which can cause response bias. In the same direction, as in other studies involving childhood trauma, the instrument used assesses trauma retrospectively, and this may involve a memory bias.

As a strong point, this is a population-based study, allowing the generalization and comparability of results, since it was performed in a representative sample of the population. Thus, this study demonstrates the consequences that childhood trauma can have throughout life, including pregnancy, and on the relationship that the mother has with the child she is expecting and its serious consequences, future studies involving this theme should be carried out, including its implications during the gestational period.

This study showed that a history of childhood trauma can have a negative impact during the prenatal period, and can impair maternal-fetal attachment. Pregnancy brings different feelings to the woman, as a reminder of relationships with parents and events in her childhood. Thus, women who have suffered emotional abuse or neglect may experience greater suffering during pregnancy and difficulties with attachment to their baby. Identifying this profile of women can promote discussions and increase this information for pregnant women themselves, through groups, psychotherapy or even addressing the topic in prenatal care. The data found can assist health professionals in identifying factors that can protect and contribute to pregnant women who were victims of childhood trauma to face the transition to parenthood in the best possible way. Working with issues involving resilience is also relevant in the sense that acquiring new skills and perceptions can assist in this process. It is important that these professionals create new ways to deal with and understand the circumstances in which these women are inserted. The development of social policies and programs that address parents and children at risk of neglect is necessary, since a child developing in a safe environment results in the formation of a safe and well-defined self, characterized by a sense of worthiness.

Funding

This work was supported by CNPq/Brazil, Bill & Melinda Gates Foundation (Process 401726/2015-0 APP/Call 47/2014) and Ministry of Health/INCT-DCEN (National Institute of Science and Technology).

Competing Interests

The authors have declared that no competing interests exist.

Acknowledgments

The authors would like to thank the Bill & Melinda Gates Foundation, also the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes)* and *Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)*. Special thanks to the pregnant women who participated in our study.

Compliance with Ethical Standards

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual adult participants included in the study; the consent of underage participants was used.

References

- Associação Brasileira de Empresas de Pesquisa. (2012). *Critério de classificação econômica Brasil*. São Paulo, Brazil: Author.
- Alvarenga, P., Dazzani, M. V. M., Alfaya, C. A. S., Lordelo, E. R., & Piccinini, C. A. (2012). Relações entre a saúde mental da gestante e o apego materno-fetal [Relations between pregnant womens mental health and maternal-fetal attachment]. *Estudos de Psicologia (Natal)*, 17(3), 477-484. <https://doi.org/10.1590/S1413-294X2012000300017>
- Alvarenga, P., Teixeira, J. N., & Peixoto, A. C. (2015). Apego Materno-Fetal e a Percepção Materna acerca da Capacidade Interativa do Bebê no Primeiro Mês [Maternal-fetal attachment and maternal perception about infant interactive skills in the first month.]. *PSICO*, 46(3), 340-350. <https://doi.org/10.15448/1980-8623.2015.3.18657>
- Amorim, P. (2000). Mini International Neuropsychiatric Interview (MINI): validação de entrevista breve para diagnóstico de transtornos mentais [Mini International Neuropsychiatric Interview (MINI): Validation of a short structured diagnostic psychiatric interview]. *The British Journal of Psychiatry*, 22(3), 106-115. <https://doi.org/10.1590/S1516-44462000000300003>
- Banyard, V. L. (1997). The impact of childhood sexual abuse and family functioning on four dimensions of women's later parenting. *Child Abuse & Neglect*, 21(11), 1095-1107. [https://doi.org/10.1016/S0145-2134\(97\)00068-9](https://doi.org/10.1016/S0145-2134(97)00068-9)
- Bennett, H. A., Einarson, A., Taddio, A., Koren, G., & Einarson, T. R. (2004). Prevalence of depression during pregnancy: Systematic review. *Obstetrics and Gynecology*, 103(4), 698-709. <https://doi.org/10.1097/01.AOG.0000116689.75396.5f>
- Bortoletti, F. F., Moron, A. F., Bortoletti, J. F., Nakamura, M. U., Santana, R. M., & Mattar, R. (2007). *Psicologia na prática obstétrica: abordagem interdisciplinária*. Barueri, Brazil: Manole.
- Camacho, K. G., Vargens, O., Progiante, J. M., & Spindola, T. (2010). Living repercussions and transformations of a pregnancy: Pregnant's perspective. *Ciencia y Enfermería*, 16, 115-125.
- Carvalho, P. I., Pereira, P. M. H., Frias, P. G., Vidal, A. S., & Figueiroa, J. N. (2007). Risk factors for neonatal mortality in hospital cohort of live births. *Epidemiologia e Serviços de Saúde : Revista do Sistema Unico de Saúde do Brasil*, 16(3), 185-194.
- Christie, H., Talmon, A., Schäfer, S. K., de Haan, A., Vang, M. L., Haag, K., . . . Brown, E. (2017). The transition to parenthood following a history of childhood maltreatment: A review of the literature on prospective and new parents' experiences. *European Journal of Psychotraumatology*, 8(sup7), Article 1492834. <https://doi.org/10.1080/20008198.2018.1492834>
- Claudino, K. A., Cesário, V. A. C., & de Menezes, V. A. (2017). Maternal-fetal relationship attachment among pregnant adolescents and mothers: A preliminary study. *Adolescence & Health*, 14(2), 66-75.

- Cranley, M. S. (1981). Development of a tool for the measurement of maternal attachment during pregnancy. *Nursing Research, 30*(5), 281-284. <https://doi.org/10.1097/00006199-198109000-00008>
- Doan, H. M., & Zimerman, A. (2003). Conceptualizing prenatal attachment: Toward a multidimensional view. *Journal of Prenatal & Perinatal Psychology & Health, 18*, 109-129.
- Duarte, D. G. G., Tscherbakowski, T., & Correa, H. (2012). Association between childhood trauma, psychiatric disorders and suicide. *Revista Médica de Minas Gerais, 22*(7), 13-27.
- Eizirik, C. L., & Bassols, A. M. S. (2013). *O ciclo da vida humana: Uma perspectiva psicodinâmica*. Porto Alegre, Brazil: Artmed.
- Feijó, M. C. C. (1999). Validação brasileira da Maternal-Fetal Attachment Scale. *Arquivos Brasileiros de Psicologia, 51*(4), 52-62.
- Fuchs, A., Möhler, E., Resch, F., & Kaess, M. (2015). Impact of a maternal history of childhood abuse on the development of mother–infant interaction during the first year of life. *Child Abuse & Neglect, 48*, 179-189. <https://doi.org/10.1016/j.chiabu.2015.05.023>
- Gorenstein, C., Wang, Y.-P., & Hungerbühler, I. (2015). *Instrumentos de avaliação em saúde mental*. Porto Alegre, Brazil: Artmed.
- Grassi-Oliveira, R., Stein, L. M., & Pezzi, J. C. (2006). Tradução e validação de conteúdo da versão em português do Childhood Trauma Questionnaire [Translation and content validation of the Childhood Trauma Questionnaire into Portuguese language]. *Revista de Saude Publica, 40*(2), 249-255. <https://doi.org/10.1590/S0034-89102006000200010>
- Heim, C., & Nemeroff, C. (2001). The role of childhood trauma in the neurobiology of mood and anxiety disorders: Preclinical and clinical studies. *Biological Psychiatry, 49*(12), 1023-1039. [https://doi.org/10.1016/S0006-3223\(01\)01157-X](https://doi.org/10.1016/S0006-3223(01)01157-X)
- Henrique, I. F. S., De Micheli, D., Lacerda, R. B. d., Lacerda, L. A. d., & Formigoni, M. L. O. S. (2004). Validação da versão brasileira do teste de triagem do envolvimento com álcool, cigarro e outras substâncias (ASSIST) [Validation of the Brazilian version of Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)]. *Revista da Associação Médica Brasileira, 50*(2), 199-206. <https://doi.org/10.1590/S0104-42302004000200039>
- Huth-Bocks, A. C., Levendosky, A. A., Bogat, G. A., & von Eye, A. (2004). The impact of maternal characteristics and contextual variables on infant-mother attachment. *Child Development, 75*(2), 480-496. <https://doi.org/10.1111/j.1467-8624.2004.00688.x>
- Lang, A. J., Gartstein, M. A., Rodgers, C. S., & Lebeck, M. M. (2010). The impact of maternal childhood abuse on parenting and infant temperament. *Journal of Child and Adolescent Psychiatric Nursing, 23*(2), 100-110. <https://doi.org/10.1111/j.1744-6171.2010.00229.x>
- Leerkes, E. M., & Crockenberg, S. C. (2002). The development of maternal self-efficacy and its impact on maternal behavior. *Infancy, 3*(2), 227-247. https://doi.org/10.1207/S15327078IN0302_7
- Li, Y., Long, Z., Cao, D., & Cao, F. (2017). Maternal history of child maltreatment and maternal depression risk in the perinatal period: A longitudinal study. *Child Abuse & Neglect, 63*, 192-201. <https://doi.org/10.1016/j.chiabu.2016.12.001>

- Lindgren, K. (2001). Relationships among maternal-fetal attachment, prenatal depression, and health practices in pregnancy. *Research in Nursing & Health, 24*(3), 203-217. <https://doi.org/10.1002/nur.1023>
- McDonald, K. C. (2007). Child abuse: Approach and management. *American Family Physician, 75*(2), 221-228.
- Menezes, L. O., Pinheiro, R. T., Quevedo, L. A., Oliveira, S. S., Silva, R. A., Pinheiro, K. A. T., . . . Jansen, K. (2012). The impact of low birth weight related to gestational depression on Federal funding of public health: a study in Pelotas, Rio Grande do Sul State, Brazil. *Cadernos de Saude Publica, 28*(10), 1939-1948. <https://doi.org/10.1590/S0102-311X2012001000012>
- Milan, S., Lewis, J., Ethier, K., Kershaw, T., & Ickovics, J. R. (2004). The impact of physical maltreatment history on the adolescent mother-infant relationship: Mediating and moderating effects during the transition to early parenthood. *Journal of Abnormal Child Psychology, 32*(3), 249-261. <https://doi.org/10.1023/B:JACP.0000026139.01671.fd>
- Molina, K. M., & Kiely, M. (2011). Understanding depressive symptoms among high-risk, pregnant, African-American women. *Women's Health Issues, 21*(4), 293-303. <https://doi.org/10.1016/j.whi.2011.01.008>
- Pereira, P. K., Lovisi, G. M., Lima, L. A., & Legay, L. F. (2010). Obstetric complications, stressful life events, violence and depression during pregnancy in adolescents at primary care setting. *Revista de Psiquiatria Clínica, 37*(5), 216-222. <https://doi.org/10.1590/S0101-60832010000500006>
- Piontelli, A. (1995). *De feto a criança: um estudo observacional e psicanalítico*. Rio de Janeiro, Brazil: Imago.
- Roberts, R. E. (2014). The child maltreatment survivor's description of the process of becoming a parent: A grounded theory study. *Qualitative Report, 19*(24), 1-27.
- Ruschel, P., Ávila, C., Fassini, G., Azevedo, L., Bilhão, N., Paiani, R., . . . Zielinsky, P. (2013). O apego materno-fetal e a ansiedade da gestante. *Revista da Sociedade Brasileira de Psicologia Hospitalar, 16*(2), 166-177.
- Sexton, M. B., Davis, M. T., Menke, R. R. G. A., & Muzik, M. (2017). Mother-child interactions at six months postpartum are not predicted by maternal histories of abuse and neglect or matreatment type. *Journal of Psychological Trauma, 9*(5), 622-626. <https://doi.org/10.1037/tra0000272>
- Sidebottom, A. C., Hellerstedt, W. L., Harrison, P. A., & Hennrikus, D. (2014). An examination of prenatal and postpartum depressive symptoms among women served by urban community health centers. *Archives of Women's Mental Health, 17*(1), 27-40. <https://doi.org/10.1007/s00737-013-0378-3>
- Talmon, A., Horovitz, M., Shabat, N., Haramati, O. S., & Ginzburg, K. (2019). "Neglected moms" - The implications of emotional neglect in childhood for the transition to motherhood. *Child Abuse & Neglect, 88*, 445-454. <https://doi.org/10.1016/j.chiabu.2018.12.021>
- Yarcheski, A., Mahon, N. E., Yarcheski, T. J., Hanks, M. M., & Cannella, B. L. (2009). A meta-analytic study of predictors of maternal-fetal attachment. *International Journal of Nursing Studies, 46*(5), 708-715. <https://doi.org/10.1016/j.ijnurstu.2008.10.013>