

Depressive symptoms in caregivers and association with affective and behavioral problems in children and adolescents

Síntomas depresivos en cuidadores y su relación con problemas afectivos y comportamentales en niños, niñas y adolescentes

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Received: January 29, 2021; Approved: April 25, 2022

What do we know about the subject matter of this study?

Mental health in children and adolescents is determined by multiple psychosocial factors that interact with each other. Alterations in some of them increase the risk for psychopathology.

What does this study contribute to what is already known?

Affective and behavioral problems in the pediatric population are associated with depressive symptoms in their primary caregivers, especially if these symptoms have an acute presentation and impact multiple areas of functioning.

Abstract

Objective: To evaluate the association between depressive symptoms in the caregiver and the presence of affective and behavioral problems in children and adolescents. **Subjects and Method:** Descriptive correlational cross-sectional research. Sample: 1100 children and adolescents with their respective parents or caregivers from public schools in Caldas, Colombia. Instruments used: Child Behavior Checklist (CBCL) and Patient Health Questionnaire (PHQ-9). **Results:** The mean age was 12.1 years. According to the CBCL, up to 20% of the children and adolescents showed alteration in one of the syndromes for affective or behavioral difficulties. 34% of mothers and 14% of fathers showed for at least two weeks sadness, discouragement, depression, and loss of interest. When applying the PHQ-9, 32.4% of the parents/caregivers were classified with depression. Parents/caregivers with such disorders tend to perceive greater difficulty in coping with their daily lives compared with parents/caregivers of children and adolescents who are not at risk ($p < 0.003$). **Conclusions:** The presence of depressive symptoms in the parents/caregivers is related to an increase in internalizing and externalizing symptoms in children and adolescents.

Keywords:

Parent-Child Relationship;
Child Behavior Disorders;
Depression;
Patient Health Questionnaire

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Edited by:
Ana Zepeda Ortega

Introduction

Worldwide, there is an estimated prevalence of 4.7% of major depressive disorder¹, and of this, more than 80% have more than one episode². In Colombia, the prevalence is 4.3% of the whole population, and Colombian women present 5.4%³. A higher prevalence has been found in mothers compared with other women⁴, which implies that a high number of children and adolescents are exposed to several episodes of maternal depression⁵.

Multiple difficulties in normal family functioning, such as parenting problems, marital conflict, and stressful life events, are factors associated with the interaction between maternal depression and alterations in child adjustment during early childhood⁵. Risk factors associated with the occurrence of depressive episodes in mothers during parenting have been described, such as domestic violence, a poor support network, a low educational level, and the absence of an affectionate partner⁶. Some studies report that maternal depression and social disadvantage affect childhood and adolescent mental health independently⁷, while other studies suggest that the effect of maternal depression is amplified when it coexists with contextual risks⁸, reflecting the social consequences of depression on child and adolescent development⁹.

Studies show how depressed women have little energy to take care of themselves and to attend and care for their children and evidence a lack of maternal self-efficacy with increased negative thoughts towards the child's behavior, which compromises the ability to interpret and respond adequately to the needs of their children⁵. Depression is a disorder that significantly affects social and emotional functioning, making it more difficult to be a sensitive and available parent¹⁰.

Children of parents with psychopathology are not only at greater risk for mental illness but are less likely to receive needed treatment compared with children from unaffected families. As the severity of their mother's mental illness increases, the amount of care, support, and access to services for children and adolescents decreases¹¹.

Maternal depression is a risk factor for adverse childhood and adolescent outcomes, including emotional and behavioral disturbances, where cumulative exposure is a critical factor¹². Maternal stress is associated with the development of internalizing problems (anxiety/depressive symptoms, somatic complaints, or isolation) and externalizing problems (social problems, thought disorder, and inattention), both through biological transitions (genetic or *in utero*) and environmental factors⁵, which has even determined a risk of adolescent depression when maternal affective symptoms are present in early childhood¹³. It has been

found that young children of depressed mothers react more negatively to stress and present a delay in the acquisition of effective self-regulation strategies. Thus, school-aged children and adolescents whose mothers are depressed have more school problems, are less socially competent, have lower levels of self-esteem, and have higher levels of behavioral problems¹⁴.

Maternal depressive symptoms moderate the effect of psychosocial interventions in children and adolescents with internalizing symptoms, so it is necessary to approach them based on the early detection of depressive symptoms in caregivers of children and adolescents with affective and/or behavioral symptoms, in order to achieve a comprehensive treatment that involves the regulation of empathy and emotion in the caregiver as a mechanism of secure attachment in the child or adolescent¹⁵. Deficiencies in emotional regulation have a bidirectional relationship with the increase of internalizing symptoms in children, such alterations are perceived by mothers or fathers with or without the presence of depressive symptoms¹⁶.

Brief preventive interventions that have an impact on maternal depressive symptoms can have long-term effects on the mental health of children and adolescents¹⁷. Interventions based on a psychosocial approach, in families with a mother with diagnosis of mental illness, associated with adverse conditions, improve the internalizing and externalizing symptoms of their children, and have a positive impact on the experience and school performance, which results tend to be maintained over time¹⁸. The objective of this study is to evaluate the relationship between depressive symptoms in caregivers and the presence of affective and behavioral problems in children and adolescents.

Subjects and Method

Observational analytical association study carried out between 2018 and 2019, in public educational institutions in Manizales, Caldas, Colombia. Children and adolescents aged between 4 and 18 years were included, as well as their caregivers, requesting their informed consent, previously explaining the objective of the study. Sociodemographic data were collected as well as the personal history of mental problems in caregivers based on the questions of the National Mental Health Survey of Colombia (ENSM)³. The caregivers included in the study answered the CBCL 4-18, used to detect affective and behavioral symptoms in children and adolescents, and the PHQ-9, to determine affective disorders in caregivers. Children and adolescents previously diagnosed with any degree of cognitive disability and neurological disorders were excluded, as well as caregivers who did not respond to all the instruments applied.

Instruments

Patient Health Questionnaire (PHQ-9): The Patient Health Questionnaire-9 is a self-applicable screening tool developed to detect symptoms of depression in primary care, which is widely available, easy to apply, and easy to interpret. It consists of nine items where it assesses each of the diagnostic criteria for a major depressive episode (MDE). Scores range from 0 to 27, with a score of ≥ 10 for detecting cases of current MDE.

More than 100 studies have studied the PHQ-9 for use in primary care and beyond¹⁹. Also, it assesses the difficulty generated by the symptoms in the person's life through a closed question with 4 response options: "not at all difficult", "somewhat difficult", "very difficult", and "extremely difficult". The validation of the Spanish version was carried out in Chile in primary care centers, showing adequate internal consistency (Cronbach's $\alpha = 0.835$), sensitivity (88%), and specificity (92%) compared with the Hamilton-D scale. Likewise, it presents adequate concurrent and predictive validity with respect to the ICD-10 criteria for depression. The total symptom score on the PHQ-9 predicts the persistence of depressive symptoms²⁰.

Child Behavior Checklist 4-18 (CBCL 4-18): This questionnaire is answered by the primary caregiver and assesses internalizing and externalizing problems, skills, or competencies of children and adolescents linked to the school and social environment and their problematic behaviors. These components are scored in eight domains: Isolation, Somatic Complaints, Anxiety/Depression, Social Problems, Thought Disorder/Disturbances, Attention Problems, Delinquent Behavior, and Aggressive Behavior, which are known as narrow-band symptoms²¹.

The core concerning internalizing symptoms combines the scales of isolation, somatic complaints, and anxiety/depression, and externalizing symptoms core combines the scales of aggressive behavior and delinquent behavior. The internalizing, externalizing, and total symptoms are recognized as broadband symptoms²¹. The questionnaire is validated in similar contexts, showing high reliability and high internal consistency²², which was reaffirmed in the sample studied.

Statistical analysis

The SPSS software version 26 was used for data analysis. The qualitative variables were analyzed through percentage frequency tables, medians, and interquartile ranges. To evaluate the assumption of normality of the variables, the Kolmogorov-Smirnov test was applied, which showed non-normal distribution. For this reason, a nonparametric analysis was performed,

where the medians were compared using the Mann-Whitney U and Kruskal-Wallis tests to compare 2 and 3 medians, as appropriate. Correlation analysis was performed using Spearman's correlation coefficient²³.

Results

The sample consisted of 1232 children and adolescents of a low socioeconomic level. Of these, 132 were excluded because it was not possible to obtain complete data in the CBCL, which showed similar characteristics to those studied regarding age, sex, and socioeconomic level. However, some questionnaires were included without information on origin, sex of children and adolescents, or sex of primary caregivers (Table 1). Therefore, the data analyzed corresponded to a total of 1100 participants. The mean age was 12.1 years (SD: 3.12), ranging from 4 to 18 years.

Table 2 shows the questions used to ask parents about their history of mental illness. Of the affirmative answers, the most frequent were: "Has the biological mother ever been sad, discouraged or depressed, or lost interest or pleasure in things for 2 weeks or more?" with 32% and "Has the biological father ever been sad, discouraged or depressed, or lost interest or pleasure in things for 2 weeks or more?", with 14.5%.

When applying the PHQ-9, a questionnaire aimed at detecting the presence and severity of depression in parents, it was found that 67.6% were classified as not depressed, followed by 18.9% with mild depression, 7.3% with moderate depression, and 3.2% with very severe depression and the lowest percentage corresponded to parents with severe depression with 3%.

Regarding the question "How difficult have these problems made it for you to do your job, take care of household chores, or get along with other people?", related to the degree of dysfunctionality generated by depression, 66.5% responded "not difficult at all", followed by 22.2% "somewhat difficult", 5.7% "very difficult", and 1.7% "extremely difficult". 3.9% of the caregivers did not answer this question.

The evaluation of children and adolescents with the CBCL 4-18 showed that 80% were within the percentiles of normal. Of the narrow band syndromes evaluated, the most altered was aggressive behavior with 9.4%, followed by isolation with 9.3%, and thought disorder with 9%. Of the broadband syndromes, the one that presented the greatest alteration was internalization with 11.1% (Table 3).

Table 4 shows the correlation analysis between each of the syndromes evaluated in children and adolescents through the CBCL 4-18 and the questions on the parents' mental illness history. The results show that the

median percentiles are higher in children and adolescents when the answer to the question of mental illness in parents is affirmative, although in some questions, such as “*Did the mother drink alcohol during pregnancy?*” and “*Did the mother use marijuana, cocaine, basucoⁱ, amphetamines, or heroin during pregnancy?*”, no association was found with any of the syndromes, except for the latter in relation to the delinquent behavior, with a value $p=0.046$.

Similarly, a positive relationship was found between the scores obtained in each of the syndromes evaluated by the CBCL 4-18 and the total score of the PHQ-9 in the caregivers, however, this relationship is considered weak (ρ between 0.25-0.5). In addition, there are significant differences between the scores of these syndromes with respect to the degree of difficulty

generated by PHQ-9 depressive symptoms in performing activities of daily living.

In general, the median of the CBCL 4-18 scores is higher in the groups with a higher degree of difficulty, which means that the more difficult the tasks of daily living are due to depressive symptoms in caregivers, the more the mental health of children and adolescents is affected (Table 4).

Discussion

In this study, it was found that 84% of the caregivers were women, which agrees with most of the research, which indicates that most of the caregivers of children and adolescents are middle-aged women^{24,25}. Gaviria and Rondon found that depression and anxiety are twice as frequent in women in Latin America²⁶,

ⁱCocaine paste: Crude extract of the coca leaf.

Table 1. Sociodemographic data of the participants

Sex of children and adolescents, n (%)	Masculino	493 (44.8)	Femenino	593 (53.9)	No answer	14 (1.3)
Sex caregivers or main caregivers, n (%)	Masculino	90 (8.2)	Femenino	924 (84.0)	No answer	86 (7.8)
Area of origin, n (%)	Rural	152 (13.8)	Urban	906 (82.4)	No answer	42 (3.8)

Table 2. History of mental illness in fathers and mothers

Questions ^a	Yes	No	No answer/Don't know
	n (%)	n (%)	n (%)
1. Has the birth mother ever been sad, down or depressed for two weeks or more, or lost interest or pleasure in things?	352 (32.0)	714 (64.9)	34 (3.1)
2. Has the biological mother ever tried to commit suicide?	111 (10.1)	956 (86.9)	33 (3.0)
3. Has the birth mother ever had a drinking or drug problem?	76 (6.9)	997 (90.6)	27 (2.5)
4. Did the mother drink alcohol during the pregnancy?	34 (3.1)	1.025 (93.2)	41 (3.7)
5. Did the child's mother use marijuana, cocaine, basuco ^b , amphetamines, or heroin during pregnancy?	24 (2.2)	1.022 (92.9)	54 (4.9)
6. Has the biological mother required hospitalization for a mental, emotional, drug or alcohol problem?	63 (5.7)	1.005 (91.4)	32 (2.9)
7. Did the birth mother ever have more problems during childhood than other children her age because she was very impulsive or active?	127 (11.5)	934 (84.9)	39 (3.5)
8. Has the biological father been sad, discouraged, or depressed for two weeks or more, or has he lost interest or pleasure in things?	159 (14.5)	807 (73.4)	134 (12.2)
9. Has the biological father ever tried to commit suicide?	51 (4.6)	900 (81.8)	149 (13.5)
10. Has the biological father ever had a drinking or drug problem?	157 (14.3)	819 (74.5)	124 (11.3)
11. Has the biological father ever had another serious emotional problem or mental illness?	58 (5.3)	900 (81.8)	142 (12.9)
12. Has the biological father ever been incarcerated, arrested, or convicted of a crime?	72 (6.5)	894 (81.3)	134 (12.2)

^aQuestions taken from the National Mental Health Survey of Colombia (NMSC), 2015³. ^bCocaine paste: Crude extract of the coca leaf.

which confers greater difficulty in relating normally with children, since the disease disturbs the perception of psychosocial development, resulting in inadequate educational guidelines and a coercive type of parent-child interaction, which facilitates the appearance of emotional and behavioral problems²⁷. This is validated in our investigation, with an important percentage of current depressive symptoms (according to PHQ-9) and in the history of mental illness in persons dedicated to the care of children or adolescents (Table 2), where it was even reported that 10.1% of biological mothers have presented suicide attempts, compared with 4.6% in fathers, which also keeps a proportion of 2.19 that is higher than that registered in Colombia and other countries^{1,8,28}.

On the other hand, it is important to point out that this study was conducted in schools with students of low socioeconomic status, which constitutes a social determinant of health so an intersectional approach should be considered in the analysis of the results²⁹. In this regard, Hills mentions that social inequality influences and enhances mental health risks³⁰. Some studies have found an association between lower socioeconomic status and higher rates of psychiatric disorders, especially depression^{31,32}. In addition, other research has reported that children living in poverty are at higher risk of mental health problems, even after considering maternal depression^{32,33}. Therefore, the results obtained in this study could also be influenced by these variables.

The findings of this research are consistent with the results of the study by Flynn E, Chung E, and Ozer E²⁶, where the symptomatic domains of the CBCL 4-18

showed association with the PHQ-9, especially with the degree of dysfunction in daily life caused by these depressive symptoms for caregivers. Other studies in similar populations, using the PHQ-9 for caregivers, have shown impacts on the cognitive functioning of children and adolescents, in association with depressive symptoms in primary caregivers³⁴.

This study showed that 32% of mothers and 14.5% of fathers had had depressive symptoms and up to 20% risk symptoms for affective-behavioral difficulties in children and adolescents, which is similar to that reported by a Mexican study³⁵, at least in relation to fathers, but lower than that found in sons and daughters (38.7% and 44.4%, respectively).

Similarly, this association between the socioemotional difficulties of children and adolescents and the affective symptoms in primary caregivers has been related to a propensity for violent behavior when raising children³⁶, which could be perceived as a parenting difficulty.

In our study, depressive symptoms in caregivers were related to externalizing symptoms, where internalizing symptoms showed the greatest alteration (11.1%). However, this differs from what has been reported in other studies, where externalizing symptoms show the greatest alterations¹³. O'Connor et al found that the presence of psychopathology in mothers is related to the appearance of internalizing and externalizing symptoms in children and adolescents, especially when these symptoms are chronic and severe³⁷.

Likewise, when asking about previous depressive symptoms in caregivers, no statistically significant relationships were found; however, when comparing

Table 3. CBCL individual scales median scores

Síndromes/dominios	Median (IQR*)	Percentiles		
		Normal n (%)	At risk n (%)	High scores n (%)
Withdrawn	57 (50-64)	898 (81.6)	100 (9.1)	102 (9.3)
Somatic complaints	53 (50-59)	1.018 (92.5)	65 (5.9)	17 (1.6)
Anxious/depressed	55 (50-62)	946 (86)	72 (6.5)	82 (7.5)
Internalizing problems	55 (48-64)	903 (82.1)	75 (6.8)	122 (11.1)
Social problems	52 (50-63)	960 (87.3)	88 (8)	52 (4.7)
Thought Problems	57 (50-64)	876 (79.6)	125 (11.4)	99 (9.0)
Attention Problems	54 (50-61)	923 (83.9)	95 (8.6)	82 (7.5)
Externalizing problems	55 (43-62)	919 (83.6)	86 (7.8)	95 (8.6)
Delinquent Behavior	54 (50-63)	940 (85.4)	91 (8.3)	69 (6.3)
Aggressive behavior	54.5 (50-63)	929 (84.4)	68 (6.2)	103 (9.4)
Total Competence	50 (0-60)	954 (86.7)	64 (5.8)	82 (7.5)

*IQR: interquartile range.

Table 4. Relationship between the syndromes evaluated by CBCL 4-18 and the questions about the history of mental illness in parents

Syndromes	Questions NMSC		Previous depressive episode in mother		Suicide attempt in the mother		Substance use in mother		Alcohol during pregnancy		Other PAS during pregnancy		Hospitalization in mother for mental problems		
	Yes M	No M	p*	Yes M	No M	p*	Yes M	No M	p*	Yes M	No M	p	Yes M	No M	P
Withdrawn	61	54	< 0.001	63	54	< 0.001	61	57	< 0.001	57.5	57	0.689	60.5	57	0.259
Somatic complaints	56	51.5	< 0.001	59	53	< 0.001	53	53	0.484	50	53	0.108	50	53	0.212
Anxious/depressed	60	52	< 0.001	64	54	< 0.001	58	55	0.001	55.5	55	0.875	55	55	0.83
Internalizing problems	61	53	< 0.001	64	55	< 0.001	60	55	< 0.001	56.5	55	0.649	58	55	0.474
Social problems	56	52	< 0.001	59	52	< 0.001	57.5	52	0.038	52	52	0.377	52	52	0.769
Thought Problems	63	51	< 0.001	64	56	< 0.001	64	57	< 0.001	57	57	0.612	60	57	0.387
Attention Problems	59	51	< 0.001	61	54	< 0.001	60	54	< 0.001	57	54	0.084	57	54	0.24
Externalizing problems	60	53	< 0.001	60	55	< 0.001	59	55	0.001	54.5	55	0.602	59.5	57	0.208
Delinquent Behavior	58	53	< 0.001	58	54	< 0.001	58	54	0.001	54	54	0.899	60	54	0.046
Aggressive behavior	59	53	< 0.001	60	53.5	< 0.001	57	54	0.002	55.5	55	0.799	58	54	0.308
Total Competence	57	48	< 0.001	59	50	< 0.001	53.5	51	0.196	52	50	0.454	56.5	53	0.199

Syndromes	Questions NMSC		Problemas de la madre biológica en la niñez		Episodio depresivo previo en padre		Intento de suicidio en padre		Consumo de sustancias en padre		Enfermedad mental en padre		Problemas legales en padre		
	Yes M	No M	p*	Yes M	No M	P	Yes M	No M	p*	Yes M	No M	P	Yes M	No M	P
Withdrawn	64	54	< 0.001	61	54	< 0.001	65	54	< 0.001	61	54	0.003	64	54	< 0.001
Somatic complaints	53	53	0.145	58	53	0.001	59	53	0.006	58	53	0.002	53	53	0.063
Anxious/depressed	62	54	< 0.001	60	53	< 0.001	64	54	< 0.001	60	53	< 0.001	61	54	< 0.001
Internalizing problems	63	55	< 0.001	61	54	< 0.001	67	55	< 0.001	61	54	< 0.001	62	55	0.001
Social problems	59	52	< 0.001	56	52	0.001	59	52	0.003	59	52	< 0.001	52	52	0.817
Thought Problems	64	56	< 0.001	64	56	< 0.001	67	56	< 0.001	63	56	< 0.001	57	57	0.055
Attention Problems	61	54	< 0.001	59	51	< 0.001	63	54	< 0.001	59	53	< 0.001	60	54	< 0.001
Externalizing problems	61	55	< 0.001	60	53	< 0.001	62	55	< 0.001	61	53	< 0.001	59	55	0.004
Delinquent Behavior	60	53	< 0.001	58	53	< 0.001	60	54	0.002	58	53	< 0.001	58	54	0.016
Aggressive behavior	60	53	< 0.001	58	53	< 0.001	62	53	< 0.001	60	53	< 0.001	58	53	0.001
Total Competence	56	49	< 0.001	57	48	< 0.001	60	49	< 0.001	58	48	< 0.001	58	49	0.002

NMSC: Questions taken from the National Mental Health Survey of Colombia, M: Median, *U de Mann Whitney.

Table 5. Relationship between CBCL 4/18 syndromes and results obtained through the PHQ9 in caregivers

Syndromes	Total score PHQ 9	How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?				p
	rho	Not difficult at all (M)	Somewhat difficult (M)	Very difficult (M)	Extremely difficult (M)	
Withdrawn	0.351	54	61	63	68	< 0.001
Somatic complaints	0.292	52	53	53	59	< 0.001
Anxious/depressed	0.406	52	60	61	65	< 0.001
Internalizing problems	0.438	54	61	62	68	< 0.001
Social problems	0.259	52	59	59	63	< 0.001
Thought Problems	0.308	56	57	64	73	< 0.001
Attention Problems	0.344	51	57	60	67	< 0.001
Externalizing problems	0.362	52	59	62	69	< 0.001
Delinquent Behavior	0.336	53	58	61	67	< 0.001
Aggressive behavior	0.369	53	58	60	68	< 0.001
Total Competence	0.331	48	56	57	70	< 0.001

rho: Spearman's correlation coefficient, M: Median.

symptoms in children and adolescents with acute depressive symptoms according to the PHQ-9, a positive relationship was found with the CBCL 4-18, especially in the degree of difficulty in daily life that these symptoms generate. This agrees with what Nilsen et al. determined, who observed that greater management of the caregiver's symptoms was related to less depression in children and adolescents throughout their growth¹³.

Among the limitations of this study is that we did not ask about affective symptoms in caregivers other than the interviewee. Also, it is worth mentioning that insufficient information was collected to analyze the relationship of these results with the social determinants of mental health.

Finally, it should be noted that additional prospective, longitudinal studies are needed to evaluate in depth the aspects related to the social determinants of mental health. This would advance knowledge about possible interventions required to better treat the depressive symptoms of primary caregivers, including an intersectional approach to social determinants, to generate a positive change in the living conditions and mental health of the families of children and adolescents.

Conclusions

Affective and behavioral problems are becoming increasingly prevalent. These generate a great indi-

vidual and social impact and are caused by multiple social factors, among these, those corresponding to the family environment. This study showed that the presence of depressive symptoms in caregivers is related to an increase in affective problems, such as anxious, depressive, or somatic symptoms, as well as behavioral problems, such as aggressiveness, inattention, and behaviors contrary to coexistence in children and adolescents.

More attention should be paid to the presence of family and social context factors that may interfere with mental health in childhood or adolescence, including mental health alterations in caregivers, problems in family relationships, situations of abuse or harassment and, if necessary, appropriate measures should be taken to resolve them or reduce their impact^{38,39}.

Ethical Responsibilities

Human Beings and animals protection: Disclosure the authors state that the procedures were followed according to the Declaration of Helsinki and the World Medical Association regarding human experimentation developed for the medical community.

Data confidentiality: The authors state that they have followed the protocols of their Center and Local regulations on the publication of patient data.

Rights to privacy and informed consent: The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document is in the possession of the correspondence author.

Conflicts of Interest

Authors declare no conflict of interest regarding the present study.

Financial Disclosure

Authors state that no economic support has been associated with the present study.

Acknowledgments

To Carolina Castrillón, César Arias and Martha Salazar, from the Manizales Secretary of Education, for helping to heal the people identified as being at risk.

References

- Ferrari AJ, Somerville AJ, Baxter AJ, et al. Global variation in the prevalence and incidence of major depressive disorder: a systematic review of the epidemiological literature. *Psychol Med*. 2013;43(3):471-81.
- Burcusa SL, Iacono WG. Risk for recurrence in depression. *Clin Psychol Rev*. 2007;27(8):959-85.
- Ministerio de Salud y Protección Social, Encuesta Nacional de Salud Mental (ENSM) 2015, Bogotá 2016.
- Goodman SH, Tully E. Depression in women who are mothers. In: Keyes CLM, Goodman SH, editors. *Women and Depression*. Cambridge: Cambridge University Press. 2012;241-80.
- Goodman SH, Rouse MH, Connell AM, et al. Maternal depression and child psychopathology: a meta-analytic review. *Clin Child Fam Psychol Rev*. 2011;14(1):1-27.
- de Castro F, Place JMS, Billings DL, et al. Risk profiles associated with postnatal depressive symptoms among women in a public sector hospital in Mexico: the role of sociodemographic and psychosocial factors. *Arch Womens Ment Health*. 2015;18(3):463-71.
- Jensen SKG, Dumontheil I, Barker ED. Developmental inter-relations between early maternal depression, contextual risks, and interpersonal stress, and their effect on later child cognitive functioning. *Depress Anxiety* 2014;31(7):599-607.
- Kurstjens S, Wolke D. Effects of maternal depression on cognitive development of children over the first 7 years of life. *J Child Psychol Psychiatry* 2001;42(5):623-36.
- Turney K. Pathways of disadvantage: Explaining the relationship between maternal depression and children's problem behaviors. *Soc Sci Res*. 2012;41(6):1546-64.
- Patel V, Saxena S, Lund C, et al. The Lancet Commission on global mental health and sustainable development. *Lancet* 2018;392(10157):1553-98.
- Suveg C, Shaffer A, Morelen D, et al. Links between maternal and child psychopathology symptoms: mediation through child emotion regulation and moderation through maternal behavior. *Child Psychiatry Hum Dev*. 2011;42(5):507-20.
- Connell AM, Goodman SH. The association between psychopathology in fathers versus mothers and children's internalizing and externalizing behavior problems: A meta-analysis. *Psychol Bull* 2002;128(5):746-73.
- Nilsen W, Gustavson K, Røysamb E, et al. Pathways from maternal distress and child problem behavior to adolescent depressive symptoms: a prospective examination from early childhood to adolescence. *J Dev Behav Pediatr*. 2013;34(5):303-13.
- Charrois J, Côté SM, Japel C, et al. Child-care quality moderates the association between maternal depression and children's behavioural outcome. *J Child Psychol Psychiatry* 2017;58(11):1210-8.
- Cassidy J, Brett BE, Gross JT, et al. Circle of Security-Parenting: A randomized controlled trial in Head Start. *Dev Psychopathol*. 2017;29(2):651-73.
- Loevaas MES, Sund AM, Patras J, et al. Emotion regulation and its relation to symptoms of anxiety and depression in children aged 8-12 years: does parental gender play a differentiating role? *BMC Psychol*. 2018;6(1):42.
- Reuben JD, Shaw DS, Brennan LM, et al. A family-based intervention for improving children's emotional problems through effects on maternal depressive symptoms. *J Consult Clin Psychol*.
- Shinn M, Samuels J, Fischer SN, et al. Longitudinal impact of a Family Critical Time Intervention on children in high-risk families experiencing homelessness: A randomized trial. *Am J Community Psychol*. 2015;56(3-4):205.16.
- Kroenke K, Spitzer RL, Williams JBW, et al. The Patient Health Questionnaire Somatic, Anxiety, and Depressive Symptom Scales: a systematic review. *Gen Hosp Psychiatry*. 2010;32(4):345-59.
- Richardson LP, McCauley E, McCarty CA, et al. Predictors of persistence after a positive depression screen among adolescents. *Pediatrics* 2012;130(6):X33-X33.
- Achenbach TM. *Manual for the Child Behavior Checklist/4-18 and 1991 profile*. Burlington, VT: University of Vermont. Department of Psychiatry 1991.
- Ortiz-Morán M, Livia-Segovia J. Análisis psicométrico de la lista de chequeo de problemas de conducta para niños de 6 a 11 años. *Avances en Medición* 2008;6:55-66.
- Díaz A. Diseño estadístico de experimentos. Editorial Universidad de Antioquia (2a,ed) 2009.
- Flores RL, Tena Guerrero O. Maternalismo y discursos feministas latinoamericanos sobre el trabajo de cuidados: un tejido en tensión. *Íconos-Rev Cienc Soc*. 2014;18(50):27.
- Gaviria SL, Rondon MB. Some considerations on women's mental health in Latin America and the Caribbean. *Int Rev Psychiatry* 2010;22(4):363-9.
- Flynn E, Chung E, Ozer E, et al. Maternal depressive symptoms and child behavior among Mexican women and their children. *Int J Environ Res Public Health*. 2017;14(12):1566.
- Mardomingo MJ, Sánchez-Mascaraque, Parra E, et al. Trastornos psiquiátricos de los padres y psicopatología en los hijos. *Revista de Psiquiatría Infanto-Juvenil* 2005;4.
- Ministerio de Salud y Protección Social. Boletín de salud mental Conducta suicida Subdirección de Enfermedades No Transmisibles, Bogotá, 2018. Disponible en: <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/PP/ENT/boletin-conducta-suicida.pdf>
- Organización Panamericana de la Salud. Sociedades justas: equidad en la salud

- y vida digna, Informe de la Comisión de la Organización Panamericana de la Salud sobre Equidad y Desigualdades en Salud en las Américas, Washington, DC: Organización Panamericana de la Salud 2019. Disponible en: iris.paho.org/handle/10665.2/51615,
30. Hill C, Bilge B. Intersectorialidad, Madrid: Ediciones Morata SL 2016.
 31. Hasin DS, Goodwin RD, Stinson FS, et al. Epidemiology of major depressive disorder: results from the National Epidemiologic Survey on Alcoholism and Related Conditions. *Arch Gen Psychiatry* 2005;62:1097-106.
 32. Feder A, Alonso A, Tang M, et al. Children of low-income depressed mothers: psychiatric disorders and social adjustment. *Depress Anxiety* 2009;26(6):513-20. doi: 10.1002/da.20522, PMID: 19016460; PMCID: PMC2904062.
 33. Xue Y, Leventhal T, Brooks-Gunn J, et al. Neighborhood residence and mental health problems of 5- to 11-year-olds. *Arch Gen Psychiatry* 2005;62:554-63.
 34. Agudelo-Hernández AF, De la Portilla Maya S, Delgado-Reyes AC, et al. Correlación entre trastornos afectivos en padres y el funcionamiento cognitivo de niños y adolescentes en Caldas-Colombia. TS [Internet] 2020 [citado 6ene,2022];16(1):1-9. Disponible en: <https://revistas.libertadores.edu.co/index.php/TesisPsicologica/article/view/https%3A%2F%2Fdoi.org%2F10.37511%2Ftesis.v16n1a7>,
 35. Villaseñor C, Calderón Hernández J, Gaytán E, et al. Salud mental materna: factor de riesgo del bienestar socioemocional en niños mexicanos. *Rev Panam Salud Publica* 2017;41:1.
 36. Kouros CD, Garber J. Dynamic associations between maternal depressive symptoms and adolescents' depressive and externalizing symptoms. *J Abnorm Child Psychol*. 2010;38(8):1069-81.
 37. O'Connor EE, Langer DA, Tompson MC. Maternal depression and youth internalizing and externalizing symptomatology: Severity and chronicity of past maternal depression and current maternal depressive symptoms. *J Abnorm Child Psychol*. 2017;45(3):557-68.
 38. Phelan K, Khoury J, Atherton H, et al. Maternal depression, child behavior, and injury. *Inj Prev*. 2007;13(6):403-8.
 39. Lawton A, Moghraby OS. Depression in children and young people: identification and management in primary, community and secondary care (NICE guideline CG28). *Arch Dis Child Educ Pract Ed*. 2016;101(4):206-9.