

ORIGINAL ARTICLE

Association of maternal depression, family composition and poverty with maternal care and physical health of children in the first year of life

Isabela Resende Silva Scherrer^a, Claudia Regina Lindgren Alves^a



^aDepartamento de Pediatria da Faculdade de Medicina da Universidade Federal de Minas Gerais (UFMG). Av. Prof. Alfredo Balena, 190 - Santa Efigênia, Belo Horizonte - MG, 30130-100.

Corresponding author

resendessisabela@gmail.com

Manuscript received: August 2020

Manuscript accepted: November 2020

Version of record online: March 2021

Abstract

Introduction: The child's overall health depends on several factors, including the quality of the environment in which it lives and the care it receives. Child well-being early in life has an impact on its future and future generations' health.

Objective: Analyze the association of maternal depression, family composition, and socioeconomic conditions with the indicator of maternal care and physical health of children.

Methods: Retrospective cohort that analyzed data from 120 children during their first year of life. A Health and Maternal Care Indicator (ISCM) was created, aggregating information on growth, breastfeeding, vaccination, prophylaxis of iron deficiency anemia, illnesses, and accidents. The socioeconomic and health conditions were obtained through a structured interview. The Edinburgh Postnatal Depression Scale assessed maternal depression. Quasipoisson Regression examined the association between the ICSM and the predictors. The initial model considered $p < 0.25$ in the univariate analysis and $p < 0.05$ in the final model.

Results: The mothers were adults (83.3%), studied for an average of 10 years, and 36% had depressive symptoms. About 37% of the families were single-parent female, 59% were from Class C1-C2 of ABEP, and 12% received the "Bolsa Família" benefit. ISCM was 8% lower in children whose mothers were depressed ($p = 0.04$) or had no partner ($p = 0.03$), and was 14% higher in families receiving Bolsa Família ($p = 0.02$) in relation to their peers.

Conclusion: Maternal depression and female single-parent family arrangements negatively impacted child health and care, while the conditional cash transfer program represented a protective factor.

Keywords: maternal depression, maternal care, child health, socioeconomic factors, social support.

Suggested citation: Scherrer IRS, Alves CRL. Association of maternal depression, family composition and poverty with maternal care and physical health of children in the first year of life. *J Hum Growth Dev.* 2021; 31(1):18-27. DOI: 10.36311/jhgd.v31.10859

Authors summary

Why was this study done?

- The physical health of infants is dependent on several factors;
- Environmental risk factors can affect the mother's mental health and maternal care for the child;
- Few studies have analyzed the impact of environmental risk factors and maternal mental health on the physical health of infants;
- There is a need for indicators that reflect the diversity of aspects of the child's physical health and maternal care received by the child and that allow for an integral analysis of the impact of risk factors on the child's physical health.

What did the researchers do and find?

- A Health and Maternal Care Indicator (ISCM) was developed, aggregating information obtained longitudinally from childcare consultations in the first year of life;
- We applied Edinburgh Postnatal Depression Scale to screen for maternal depressive symptoms two to nine months after delivery;
- We collected socioeconomic and demographic data from families through a structured questionnaire;
- We analyzed the association of socioeconomic factors and maternal mental health with ISCM;
- We demonstrated that the ISCM was lower when the mother had depressive symptoms and the family arrangement was female single parent;
- Children whose families were beneficiaries of the Bolsa-Familia Program had higher ISCM than those who did not receive.

What do these findings mean?

- Maternal depression and female single-parent family arrangements negatively impacted child health and care;
- The Bolsa Família program represented a protective factor for the health and care of children.
- Routine screening for postpartum depression in primary care, strengthening the support network for postpartum women and public policies to combat poverty can help protect children's health and favor maternal care.

INTRODUCTION

The first year of a child's life is characterized by intense changes: rapid growth, the acquisition of numerous global development skills, and effective bonds^{1,2}. The child's well-being at the beginning of life impacts his or her future and future generations' health. The World Health Organization proposes responsive care (Nurturing Care) as one of the most important strategies to promote health, nutrition, safety, and learning opportunities in early childhood. However, caregiver poverty, insecurity, violence, and mental health can threaten comprehensive health and child well-being. Schooling, socioeconomic and cultural conditions, physical and mental health status, workload, and time availability also affect the quality of care offered by caregivers to their offspring².

In recent years, the economic, social, and health changes have led to improvements in the Brazilian population's health status and life expectancy. However, socioeconomic disparities are still prominent in Brazil, leading a significant portion of the population to live in poverty and extreme poverty³. Brazilian studies have described that low family income and maternal education negatively impacted children's health, generating an increase in child malnutrition⁴. Data from the Ministry of Health of Brazil also demonstrate that, despite significant improvements in infant morbidity and mortality rates, low maternal education and poverty are still associated with infectious diseases, such as pneumonia and diarrhea, and infant mortality⁵.

In Brazil, among the changes observed in contemporary society, attention is drawn to the increase in families headed by women, whose number has doubled in absolute terms in 15 years, from 14.1 million in 2001 to 28.9 million in 2015⁶. On the other hand, the increase in schooling and access to the labor market may improve the family's economic conditions. However, 15.3% of families headed by women have a single-parent arrangement, resulting in increased financial responsibilities for women, the overload of housework, and emotional stress and also

representing a threat to the quality of care offered by mothers to their children⁶.

Maternal mental health has become an object of study due to the significant increase in the incidence of mental disorders in the population and its effects on women's well-being and children's health. It is estimated that 10-15% of puerperal women are affected by depressive symptoms⁷. Children of depressed mothers are at higher risk for low self-esteem, depression, anxiety, and impaired cognitive and linguistic development^{8,9}. Maternal depressive symptoms are also associated with worse interaction between the mother-baby binomial and less critical tasks for affective development, such as reading and singing to the child, smiling, and interacting face to face¹⁰. Although the risk of emotional and developmental problems is greater in children of depressed mothers, more robust evidence is needed on the impact of this condition on their children's physical health. Most studies analyze isolated aspects of the child's health, such as, for example, inadequate maternal care leading to delayed vaccination and greater demand for emergency services¹¹. Lower prevalence and shorter duration of exclusive breastfeeding (EBF) are also described¹², and more nutritional disorders in children of depressed mothers¹³. However, none of these studies address children's health comprehensively, including aspects related to parental care.

Understanding that the child's health depends on multiple factors, this study aimed to analyze the association of maternal depression, family composition, and socioeconomic conditions with children's physical health during the first year of life.

METHODS

Scenario

This is a retrospective cohort study carried out at the Hospital Sofia Feldman (HSF), a reference maternity hospital for high-risk births in Minas Gerais, Brazil, exclusively associated with the Unified Health System (SUS).

Sample

Convenience sample, composed of 120 dyads admitted to one of the HSF intermediate care units between January and May 2015 and whose children were followed up at the maternity outpatient clinic during the first year of life. Newborns separated from their mothers for any reason (prison system, abandonment, etc.), whose mothers died at birth or had mental disorders that compromised their understanding of the questionnaires were excluded from the study.

Procedures

The mothers were invited to participate in the study while still in the maternity ward. Those who agreed to participate by signing the Informed Consent Form (ICF) were interviewed to characterize the family's socioeconomic and demographic conditions. The children were referred to the follow-up clinic as per the maternity routine. They had childcare consultations at 2, 4, 6, 9, and 12 months (corrected age for children born prematurely), following a standardized script for recording information about health and care for the child.

Instruments

• Indicator of Physical Health and Maternal Care (ISCM)

An Indicator of Physical Health and Maternal Care (ISCM- *Indicador de Saúde Física e Cuidados Maternos*) was created from the information recorded in the script for childcare consultation to aggregate information about health and maternal care for the child in a single variable. The ISCM was composed of seven items, each item being classified as “minimally satisfactory” (1 point) or “not satisfactory” (0 points), based on the literature, according to the criteria indicated below. The items that made up the ISCM and the criteria for classification were:

1. Nutritional status: the babies were weighed on an electronic horizontal scale and measured with the same anthropometric ruler in all consultations by adequately trained professionals. The children's nutritional status was assessed by the Body Mass Index (BMI) at 12 months. When the Z score on the BMI/age indicator was between -2 and +2 ($-2 > Z \text{ score} \leq +2$), the nutritional status was considered minimally satisfactory, according to guidelines from the Ministry of Health¹⁴, and the child received a point. For any other value of the Z score, the child received a zero score.

2. Exclusive breastfeeding up to four months: the breastfeeding pattern was classified as recommended by the Ministry of Health¹⁴. Exclusive breastfeeding for at least four months was considered minimally satisfactory, and the child received a point. Any other dietary pattern at this age received a zero score.

3. Breastfeeding supplemented at 12 months: the recommendation of the Ministry of Health¹⁴ is to keep supplemented breastfeeding for at least two years. In this case, as the follow-up occurred only until 12 months, the maintenance of breastfeeding during this period was analyzed. The supplemented breastfeeding child at 12 months obtained a point and, in the absence of breastfeeding at 12 months, received a score of zero.

4. Vaccination: The vaccination status was assessed at 12 months: if the infant had an updated vaccination according to the National Immunization Program¹⁵, the item obtained a point. Otherwise, it received zero.

5. Illness: In all consultations, the companion answered whether the child had any illness since the last visit. Besides, the companion was specifically asked about the most common diseases in this age group, which were grouped into respiratory symptoms (cold/flu/bronchospasm), gastrointestinal symptoms (vomiting/diarrhea), and other illnesses. The number of illnesses recorded in the five follow-up visits was analyzed. The occurrence of fewer than eight episodes of disease within the first 12 months of life received a point, and the event of eight or more episodes did not score¹⁶.

6. Domestic accidents: In all five consultations, mothers were asked about domestic accidents with their children. When there was no record of accidents during the first year of life, the item was considered satisfactory. The child received a point^{17,18} in the event of any domestic accident occurring, zero.

7. Use of ferrous sulfate: Ferrous Sulfate for iron deficiency anemia prophylaxis is a medical routine in the children's first-year follow-up¹⁹. When the infant made regular use of ferrous sulfate or another ferric compound at 12 months, a point was assigned¹⁹. A score of zero was assigned when the medication was not being administered.

• Edinburgh Postnatal Depression Scale (EPDS)

EPDS was used to screen for maternal depressive symptoms²⁰. The mothers answered the questionnaire at two and nine months. Mothers who had a score greater than or equal to 10 in at least one of the consultations were considered positive screening for depressive symptoms.

• Questionnaire for socioeconomic conditions

The researchers developed the questionnaire specifically for this study and applied it at the time of recruitment. The following information was obtained: origin, marital status, years of mother's education, participation in the Bolsa Família Program, per capita income of the family. The purchasing power of families was estimated by the Associação Brasileira das Empresas de Pesquisa (Classification of the Brazilian Association of Research Companies/ABEP)²¹.

• Questionnaire on perinatal conditions

The researchers developed the questionnaire specifically for this study. It was applied during the two-month consultation, based on the maternity discharge summary data, in the Pregnant Handbook or the Child Health Handbook. The following data were collected: sex, gestational age, and birth weight.

Health/care indicator	Punctuation
1. Nutritional status (12 months)	
a) Malnourished/Overweight	0
b) Eutrophic	1
2. Exclusive breastfeeding at 4 months	
a) Exclusive breastfeeding for less than 4 months	0
b) Exclusive breastfeeding for at least 4 months	1
3. Breastfeeding supplemented at 12 months	
a) Breastfeeding absent at 12 months	0
b) Breastfeeding supplemented for at least 12 months	1
4. Vaccination status at 12 months	
a) Delayed vaccination	0
b) Vaccination up to date	1
5. Illness during the first year of life	
a) Eight or more episodes of illness in the last 12 months	0
b) Less than eight episodes of illness in the last 12 months	1
6. Domestic accidents during the first year of life	
a) Occurrence of one or more domestic accidents in the first year of life.	0
b) Absence of domestic accidents in the first year of life.	1
7. Use of ferrous sulfate at 12 months	
a) Absence of ferrous sulfate supplementation	0
b) Use of ferrous sulfate in prophylactic or therapeutic dose	1

Figure 1: Child Health and Maternal Care Indicator (ISCM).

Statistical analysis

The data were recorded in physical forms and stored in an EXCEL software spreadsheet (version 16.0), with double typing and checking for inconsistencies before statistical analysis.

For sample description, absolute and relative frequencies were calculated for qualitative variables and measures of central tendency, position, and dispersion for quantitative variables.

The analyzed outcome was the ISCM score. The child's score was given by the sum of each item's points, and the ISCM was analyzed as a continuous variable, which ranged from 0 to 7 points. The higher the score, the better the child's health and maternal care.

To analyze the factors associated with ISCM, a Quasipoisson Regression was adjusted to estimate robust variances. The Forward method was used in the univariate analysis to select the potential predictors of ISCM. The multivariate analysis's initial model was composed of variables with $p < 0.25$ in the univariate analysis. A multivariate model of Quasipoisson regression was adjusted. In this model, the Backward method was applied, which is the procedure of removing, in turn, the variable with the highest p-value, repeating the process until only variables with $p < 0.05$ remain in the model. The software used in the analysis was R (version 3.4.1).

Ethical considerations

The project was approved by the Research Ethics Committee (COEP) of the Universidade Federal de Minas Gerais (Project Child Development Assessment and early intervention in high-risk children in Brazil and their families in Brazil - CAAE 29437514.1.0000.5149). The mothers signed the Free and Informed Consent Form before the beginning of the procedures. Informants' secrecy and confidentiality were guaranteed at all stages of the research.

RESULTS

Table 1 presents the description of the characteristics of the children, their mothers, and their families. The sample consisted of 55.8% of female children. Most children were born premature, with gestational age between 31 and 37 weeks, and with low weight (<2500 grams). Most mothers who lived in the metropolitan region of Belo Horizonte had a partner and were over 19 years old. More than half of the mothers were primiparous. The mothers studied, on average, for 10.38 + 2.46 years. The prevalence of mothers with depressive symptoms was 35.8%. As for the families' profile, 11.7% of them received the "Bolsa Família" benefit, and the majority belonged to classes C1/ C2 of the Brazil Socioeconomic Classification Criterion (ABEP)²¹.

Table 1: Characterization of the sample of children, mothers and families included in the study, Belo Horizonte, Minas Gerais, Brazil, 2020.

Variables		n	%	
Child data	Gestational age	≤ 30 weeks	14	11.7
		31-36 weeks	66	55.0
		>37 weeks	40	33.3
	Sex	Female	67	55.8
		Male	53	44.2
	Weight	< 2500g	71	59.2
> 2500g		49	40.8	
Maternal data	Origin	Belo Horizonte	43	38.7
		Metropolitan region	35	31.5
		Interior	33	29.7
	Marital status	With partner	75	63.0
		Without partner	44	37.0
	Age	Up to 19 years	20	16.7
		More than 19 years	100	83.3
	Kids	Only one	70	58.3
		More than one	50	41.7
Maternal education	(Media± SD)	10.38 + 2.46		
Depressive symptoms (EPDS)*	No	77	64.2	
	Yes	43	35.8	
Family data	ABEP classification**	A/B1/B2	37	30.8
		C1/C2	71	59.2
		D/E	12	10.0
	Bolsa Família	No	106	88.3
		Yes	14	11.7
	Per capita monthly income (reais)	(Media ± SD)	559.31 + 527.86	

*EPDS = Edinburgh Postnatal Depression Scale; **ABEP = Associação Brasileira das Empresas de Pesquisa (Brazilian Association of Research Companies); SD = Standard deviation.

The ISCM score ranged from 2 to 7 (Mean/SD = 5.03 + 1.07). The component with the lowest scores was exclusive breastfeeding at four months, with 75.2% of infants receiving an “unsatisfactory” classification. In the item breastfeeding supplemented at 12 months, most infants (55.1%) were classified as “satisfactory.” In the other components (vaccination, the occurrence of accidents, use of ferrous sulfate, illness, and nutritional status), more than 70% of infants received a “satisfactory” rating.

Table 2 presents the univariate analysis of the association between the explanatory variables and the ISCM. The variables selected for the initial model of the multivariate analysis were: maternal depressive symptoms (p = 0.03), gestational age (p = 0.04), child’s gender (p = 0.06), marital status (p = 0, 04), ABEP classification (p = 0.16), Bolsa Família (p = 0.04), mother’s age (p = 0.05) and per capita income (p = 0.13).

Table 3 shows the final model of the multivariate analysis. The variables depressive symptoms, marital status, and participation in the Bolsa Família Program showed an independent association with ISCM. The ISCM was 8% lower when the mother presented depressive symptoms than mothers without depression during the first postpartum year (p=0.03). The ISCM was also 8% lower when the mother had no partner than mothers who had a partner (p=0.04). ISCM was 14% higher when the family received the Bolsa Família benefit compared to families that did not receive this benefit (p=0.02).

Table 2: Univariate analysis of the association of explanatory variables with ISCM. Belo Horizonte, Minas Gerais, Brazil, 2020.

Variables		Exp(β)	95% CI	p-value	
Child data	Gestational age	≤ 30 weeks	1.00	-	
		31-36 weeks	1.06	0.94- 1.20	0.35
		>37 weeks	1.15	1.01- 1.31	0.04
	Sex	Female	1.00	-	-
		Male	1.07	1.00- 1.16	0.06
	Birth weight	<1500g	1.00	-	-
Between 1501 and 2500g		1.04	0.94- 1.16	0.42	
>2500 g		1.09	0.99-1.21	0.09	
Mother's data	Marital status	With partner	0.92	0.85- 1.00	0.04
		Without partner	1.00	-	-
	Depressive symptoms (EPDS*)	No	1.00	-	-
		Yes	0.92	0.85; 0.99	0.03
	Age	Up to 19 years	1.00	-	-
		More than 19 years	1.11	1.00- 1.23	0.05
	Kids	Only one	1.00	-	-
		More than one	1.04	0.96- 1.12	0.32
	Maternal education	-	0.99	0.98- 1.01	0.43
	Family data	ABEP classification**	A/B1/B2	1.00	-
C1/C2			1.06	0.98- 1.16	0.16
D/E			1.07	0.94- 1.23	0.31
Bolsa Família		No	1.00	-	-
	Yes	1.12	1.01-1.26	0.04	
Per capita monthly income	-	0.94	0.87- 1.02	0.13	

*EPDS = Edinburgh Postnatal Depression Scale, **ABEP = Associação Brasileira das Empresas de Pesquisa (Brazilian Association of Research Companies).

Table 3: Final model of the multivariate analysis relating the explanatory variables to the ISCM. Belo Horizonte, Minas Gerais, Brazil, 2020.

Variable		Exp(β)	95% CI	p-value
Depressive symptoms (EPDS)	No	1.00	-	-
	Yes	0.92	0.85 - 0.99	0.03
Marital status	With partner	1.00	-	-
	Without partner	0.92	0.86 - 1.00	0.04
Bolsa Família	No	1.00	-	-
	Yes	1.14	1.02 - 1.26	0.02

*EPDS = Edinburgh Postnatal Depression Scale

DISCUSSION

The present study demonstrated that physical health and maternal care in the first year of postpartum were affected by depressive symptoms, family composition, and receipt of the Bolsa Família benefit. Maternal depression and female single-parent family arrangements were associated with worse health conditions and maternal care as measured by ISCM. At the same time, while participation in the Bolsa Família Program had a protective effect.

The sample's profile included in this study corresponds to that of the population assisted by the Hospital Sofia Feldman, which serves exclusively within the scope of SUS and provides services to a portion of the population with low income and with significant social vulnerability. These characteristics alone represent a greater risk for maternal depression and negative impacts on the child's health^{11,22}.

The prevalence of mothers (35.8%) with depressive symptoms was higher than that described in the literature, between 10-15%^{7,23,24}. This can be explained by using a

screening instrument in two moments and a cut-off point to classify depressive symptoms. We decided to screen in two moments so that mothers with depressive symptoms in the period of most significant incidence of postpartum depression (first eight weeks of puerperium), those with late-onset of symptoms, and those with prolonged symptoms^{23,24} were included in the analysis.

The cut-off point of EPDS (greater than or equal to 10) was based on a scale validated in the Brazilian population²⁵. Most international studies that chose EPDS as a screening test for maternal depression adopted a cut-off point of around 12-13 points²⁶. The choice of a lower cut-off point, with greater sensitivity but less specificity, may have contributed to a higher prevalence than that described in the literature. However, the characteristics of the sample may also have led to an increased prevalence of postpartum depression.

Maternal depressive symptoms negatively impacted children's health since the ISCM was 8% lower in children of mothers with depressive symptoms when compared to children whose mothers did not have depression during the first postpartum year. This association is corroborated by other studies that analyzed adverse outcomes alone. The association of maternal depression with child malnutrition has been demonstrated^{13,27} and with an increased risk of overweight and childhood obesity²⁸.

There is also evidence of an association between maternal depressive symptoms and greater illness, with a higher occurrence of diarrhea episodes and a worse quality of life for both mother and child^{7,12}. Other studies have documented lower prevalence and duration of breastfeeding in children of depressed mothers^{5,12}. Despite the relevance of these studies' results, to date, no studies addressing maternal health, as well as child care and their association with maternal depressive symptoms, have been identified.

The present study suggests that the female single-parent family arrangement also negatively impacted the health of infants. Besides, it revealed that when the mother was single, widowed, or divorced, the ISCM was 8% lower compared to mothers who said they were married or living in a stable relationship. Although childcare and access to health services are social functions assumed predominantly by women, the social support of parents/partners in childcare and their importance in the division of tasks have grown²⁹.

Recent studies have shown that educational interventions aimed at parents during pregnancy and after childbirth have increased the proportion of women starting breastfeeding early and maintaining exclusive breastfeeding for 4 and 6 months^{29,30}. Another study showed that when the mother received support from the father, the family, or even the community, the children received the vaccines on the dates most frequently recommended³¹. The present study results show the importance of the participation of parents/partners in the integral care of offspring.

In addition to the risk factors described above, participation in the Bolsa Família program represented a protective factor for children's health. ISCM was 14% higher among families benefited by the Program when

compared to those who did not receive the benefit. The Bolsa Família Program is a conditional cash transfer program that aims to guarantee access to fundamental social rights for families in poverty and extreme poverty. Rasella *et al.* (2013) found evidence that receiving the benefit can reduce illness and infant mortality in general, and, in particular, deaths attributable to poverty, such as malnutrition and diarrhea³².

Shei A *et al.* (2014) demonstrated that receiving Bolsa Família increased children's chances of attending the health center for prevention and health promotion actions³³. Therefore, these two studies corroborate the results of the present study demonstrating that the benefit increases the chances of better outcomes in infants' health.

The results corroborate the importance of the father figure's social support for the care and integral health of the child. Inclusion and intervention strategies that aim to increase support for the mother by the partner or another family member can also result in better indicators of child health and maternal care. Finally, the results reinforce the importance of conditional cash transfer and poverty reduction programs as a possible protective factor for children's health.

Some strengths and limitations should be highlighted. The team's training and the standardization of procedures in childcare consultations gave greater consistency to the information obtained during the 12 months of monitoring the dyads. Longitudinal monitoring may have reduced the memory bias since the information was collected and stored in real-time. Also, the database's construction underwent rigorous quality control, which included reviewing medical records by a trained team for precisely perform double-independent typing and data registration in an electronic database that automatically detected inconsistencies in the typing process.

The present study adopted an innovative strategy that significantly contributes to the analysis of social determinants by proposing a single indicator that reflects aspects of the child's health and maternal care with them, based on comprehensive health. As the main limitation, we can mention the sample's composition, which was recruited in a non-probabilistic manner and a context of substantial social vulnerability. Future studies with more extensive and diverse samples are needed to analyze this indicator's psychometric properties and demonstrate its ability to identify different standards of care for the child's health.

This study identified possible protection and risk factors for children's physical health in the first year of life. One of the risk factors, maternal depression, can be identified with relative ease through screening tests in routine consultations to monitor child health. Identifying groups of mothers who may be struggling to offer responsive care to their children enables interventions and health promotion strategies specifically aimed at these groups.

It has also been shown that the female single-parent family arrangement harms health and child care and that the direct income transfer program is a protective factor for child health. In this way, routine screening for postpartum depression in primary care, strengthening

the support network for postpartum women, and public policies to combat poverty can help protect children's health and favor maternal care.

Funding

Grand Challenges Canada (grant 0582-3).

REFERENCES

1. World Health Organization (WHO). Indicators for assessing infant and young child feeding practices: conclusions of a consensus meeting held 6–8 November 2007 in Washington D.C., USA. Disponível em https://apps.who.int/iris/bitstream/handle/10665/43895/9789241596664_eng.pdf?sequence=1. Acesso em 26/02/2021
2. World Health Organization, United Nations Children's Fund, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva; 2018. Disponível em <https://apps.who.int/iris/bitstream/handle/10665/272603/9789241514064-eng.pdf>. Acesso em 26/02/2021.
3. Victora CG, Barreto ML, do Carmo Leal M, Monteiro CA, Schmidt MI, Paim J, et al. Health conditions and health-policy innovations in Brazil: the way forward. *The Lancet*. junho de 2011; 377(9782): 2042–53.
4. Santos IS, Matijasevich A, Domingues MR, Barros AJD, Barros FCF. Long-lasting maternal depression and child growth at 4 years of age: a cohort study. *The Journal of Pediatrics*. setembro de 2010; 157(3): 401–6.
5. Brasil- Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Análise de Situação em Saúde. Resumo Executivo Saúde Brasil 2013: uma análise da situação de saúde e das doenças transmissíveis relacionadas à pobreza [recurso eletrônico] / Ministério da Saúde, Secretaria de Vigilância em Saúde, Departamento de Análise de Situação em Saúde. – Brasília: Ministério da Saúde, 2015.
6. Cavenaghi, S., Alves, JED. Mulheres chefes de família no Brasil: avanços e desafios. 1. ed. Rio de Janeiro: ENS-CPES, 2018. Disponível em: https://www.ens.edu.br/arquivos/mulheres-chefes-de-familia-no-brasil-estudo-sobre-seguro-edicao-32_1.pdf. Acesso em: 26/02/2021.
7. Darcy JM, Grzywacz JG, Stephens RL, Leng I, Clinch CR, Arcury TA. Maternal depressive symptomatology: 16-month follow-up of infant and maternal health-related quality of life. *The Journal of the American Board of Family Medicine*. 1o de maio de 2011; 24(3): 249–57.
8. Walker SP, Wachs TD, Grantham-McGregor S, Black MM, Nelson CA, Huffman SL, et al. Inequality in early childhood: risk and protective factors for early child development. *The Lancet*. outubro de 2011; 378(9799): 1325–38.
9. Premji S. Perinatal distress in women in low- and middle-income countries: allostatic load as a framework to examine the effect of perinatal distress on preterm birth and infant health. *Matern Child Health J*. dezembro de 2014; 18(10): 2393–407.
10. Field T. Postpartum depression effects on early interactions, parenting, and safety practices: A review. *Infant Behavior and Development*. fevereiro de 2010; 33(1): 1–6.
11. Minkovitz CS. Maternal depressive symptoms and children's receipt of health care in the first 3 years of life. *PEDIATRICS*. 1o de fevereiro de 2005; 115(2): 306–14.
12. Rahman A, Hafeez A, Bilal R, Sikander S, Malik A, Minhas F, et al. The impact of perinatal depression on exclusive breastfeeding: a cohort study: Impact of perinatal depression on breastfeeding. *Maternal & Child Nutrition*. julho de 2016; 12(3): 452–62.
13. Hassan BK, Werneck GL, Hasselmann MH. Maternal mental health and nutritional status of six-month-old infants. *Rev Saúde Pública [Internet]*. 2016 [citado 26 de fevereiro de 2021];50(0). Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-89102016000100206&lng=en&tlng=en
14. Cab no 23 – saúde da criança – aleitamento materno e alimentação complementar [Internet]. [citado 26 de fevereiro de 2021]. Disponível em: <https://portaldeboaspraticas.iff.fiocruz.br/biblioteca/cab-no-23-saude-da-crianca-aleitamento-materno-e-alimentacao-complementar/>
15. Programa nacional de imunizações - vacinação [Internet]. Ministério da Saúde. [citado 26 de fevereiro de 2021]. Disponível em: <https://www.gov.br/saude/pt-br/aceso-a-informacao/acoes-e-programas/programa-nacional-de-imunizacoes-vacinacao>.
16. Liu L, Oza S, Hogan D, Perin J, Rudan I, Lawn JE, et al. Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: an updated systematic analysis. *The Lancet*. janeiro de 2015; 385(9966): 430–40.
17. Cooper MC, Kilvert HS, Hodgkins P, Roskell NS, Eldar-Lissai A. Using matching-adjusted indirect comparisons and network meta-analyses to compare efficacy of brexanolone injection with selective

- serotonin reuptake inhibitors for treating postpartum depression. *CNS Drugs*. outubro de 2019; 33(10): 1039–52.
18. Schwebel DC, Brezausek CM. Chronic maternal depression and children's injury risk. *Journal of Pediatric Psychology*. 4 de fevereiro de 2008; 33(10): 1108–16.
 19. Sociedade Brasileira de Pediatria. Consenso sobre anemia ferropriva: mais que uma doença, uma urgência médica! Consenso do Departamentos de Nutrologia e Hematologia-Hemoterapia da Sociedade Brasileira de Pediatria. Rio de Janeiro; 2018. https://www.sbp.com.br/fileadmin/user_upload/21019f-Diretrizes_Consenso_sobre_anemia_ferropriva-ok.pdf
 20. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression: development of the 10-item edinburgh postnatal depression scale. *Br J Psychiatry*. junho de 1987; 150(6): 782–6.
 21. Critério brasil - abep [Internet]. [citado 26 de fevereiro de 2021]. Disponível em: <http://www.abep.org/criterio-brasil>
 22. Fisher J, Tran T, Nguyen TT, Nguyen H, Tran TD. Common mental disorders among women, social circumstances and toddler growth in rural Vietnam: a population-based prospective study: Common perinatal mental disorders among women and toddler growth. *Child: Care, Health and Development*. novembro de 2015; 41(6): 843–52.
 23. Santos IS, Matijasevich A, Tavares BF, Barros AJD, Botelho IP, Lapolli C, et al. Validation of the edinburgh postnatal depression scale (Epd) in a sample of mothers from the 2004 pelotas birth cohort study. *Cad Saúde Pública*. novembro de 2007; 23(11): 2577–88.
 24. Gibson J, McKenzie-McHarg K, Shakespeare J, Price J, Gray R. A systematic review of studies validating the Edinburgh Postnatal Depression Scale in antepartum and postpartum women. *Acta Psychiatrica Scandinavica*. maio de 2009; 119(5): 350–64.
 25. Motlhatlhedhi K, Setlhare V, Ganiyu A, Firth J. Association between depression in carers and malnutrition in children aged 6 months to 5 years. *Afr j prim health care fam med* [Internet]. 30 de janeiro de 2017 [citado 26 de fevereiro de 2021]; 9(1). Disponível em: <https://phcfm.org/index.php/phcfm/article/view/1270>
 26. Surkan PJ, Kawachi I, Peterson KE. Childhood overweight and maternal depressive symptoms. *Journal of Epidemiology & Community Health*. 1o de maio de 2008; 62(5): e11–e11.
 27. Wolfberg AJ, Michels KB, Shields W, O'Campo P, Bronner Y, Bienstock J. Dads as breastfeeding advocates: Results from a randomized controlled trial of an educational intervention. *American Journal of Obstetrics and Gynecology*. setembro de 2004; 191(3): 708–12.
 28. Bich TH, Hoa DTP, Målqvist M. Fathers as supporters for improved exclusive breastfeeding in viet nam. *Matern Child Health J*. agosto de 2014; 18(6): 1444–53.
 29. Surkan PJ, Kiihl SF, Kozuki N, Vieira LMC. Social support of low-income Brazilian mothers related to time to completion of childhood vaccinations. *Human Vaccines & Immunotherapeutics*. maio de 2012; 8(5): 596–603.
 30. Rasella D, Aquino R, Santos CA, Paes-Sousa R, Barreto ML. Effect of a conditional cash transfer programme on childhood mortality: a nationwide analysis of Brazilian municipalities. *The Lancet*. julho de 2013; 382(9886): 57–64.
 31. Shei A, Costa F, Reis MG, Ko AI. The impact of Brazil's Bolsa Família conditional cash transfer program on children's health care utilization and health outcomes. *BMC Int Health Hum Rights*. dezembro de 2014; 14(1): 10.
 32. Organização Mundial da Saúde (OMS). Indicadores para avaliação das práticas de alimentação de bebês e crianças pequenas: Conclusões de uma reunião de consenso realizada de 6 a 8 de novembro de 2007 em Washington DC, EUA. Organização Mundial da Saúde (OMS), 2008.
 33. World Health Organization, United Nations Children's Fund, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva; 2018.

Resumo

Introdução: A saúde integral da criança depende de vários fatores, entre eles a qualidade do ambiente em que vive e dos cuidados que recebe. O bem-estar da criança no início da vida tem impacto na sua saúde futura e das próximas gerações.

Objetivo: Analisar a associação da depressão materna, composição da família e condições socioeconômicas com o indicador de cuidados maternos e saúde física de crianças.

Método: Coorte retrospectiva que analisou dados de 120 crianças no primeiro ano de vida. Foi criado um Indicador de Saúde e Cuidados Maternos (ISCM), agregando informações sobre crescimento, aleitamento materno, vacinação, profilaxia de anemia ferropriva, adoecimentos e acidentes. A condição socioeconômica e de saúde foram obtidas por entrevista estruturada. A depressão materna foi avaliada pela Edinburgh Postnatal Depression Scale. A associação entre o ICSM e os preditores foi examinada pela Regressão de Quasipoisson. O modelo inicial foi composto por variáveis com $p < 0,25$ na análise univariada e $p < 0,05$ no modelo final.

Resultados: As mães eram adultas (83,3%), estudaram, em média, por 10 anos e 36% delas apresentaram sintomas depressivos. Cerca de 37% das famílias eram do tipo monoparental feminino, 59% eram da Classe C1-C2 da ABEP e 12% recebiam o benefício “Bolsa Família”. O ISCM foi 8% menor nas crianças cujas mães eram deprimidas ($p=0,04$) ou não tinham companheiro ($p=0,03$), e foi 14% maior nas famílias que recebiam o Bolsa família ($p=0,02$) em relação aos seus pares.

Conclusão: A depressão materna e o arranjo familiar monoparental feminino impactaram negativamente a saúde e os cuidados com a criança, enquanto o programa de transferência condicionada de renda representou um fator de proteção.

Palavras-chave: depressão materna, cuidados maternos, saúde da criança, fatores socioeconômicos, apoio social.

©The authors (2021), this article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated.