

Risk factors for parenting practices that promote child development during the COVID-19 pandemic

Fatores de risco para práticas parentais que promovem o desenvolvimento infantil durante a pandemia de COVID-19

Factores de riesgo para las prácticas de crianza que promueven el desarrollo infantil durante la pandemia de COVID-19

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Abstract

Objective: To identify risk factors for parenting practices that promote child development during the Covid-19 pandemic.

Methods: Cross-sectional study carried out in three Brazilian early-childhood education centers, from October to November 2020. Data collected through an online questionnaire with items from the instrument “Early Childhood for Healthy Adults”.

Results: A total of 109 family members participated in the study. The use of alcohol or tobacco during pregnancy, the child's coexistence with a caregiver who uses alcohol, maternal depression and the family being headed by a woman were identified as risk factors for practices that promote child development such as storytelling, playing with manufactured toys or household objects, naming or drawing with the child.

Conclusion: The use of alcohol or tobacco during pregnancy, maternal depression, the coexistence of the child with someone who uses alcohol were associated with the reduction of parental care important for early childhood development.

Keywords

Child development; Parenting; Pediatric nursing; Child health; Primary health care

Resumo

Objetivo: Identificar fatores de risco para práticas parentais promotoras do desenvolvimento infantil durante a pandemia de Covid-19.

Métodos: Estudo transversal realizado em três centros de educação infantil brasileiros, de outubro a novembro de 2020. Dados coletados por meio de questionário online com itens do instrumento “Early Childhood for Healthy Adults”.

Resultados: Participaram do estudo 109 familiares. O uso de álcool ou tabaco durante a gestação, a convivência da criança com cuidador usuário de álcool, a depressão materna e a família chefiada por mulher foram identificados como fatores de risco para práticas promotoras do desenvolvimento infantil, como contar histórias, brincar com brinquedos industrializados ou objetos domésticos, nomear ou desenhar com a criança.

Conclusão: O uso de álcool ou tabaco durante a gestação, a depressão materna e a convivência da criança com alguém que faz uso de álcool foram associados à redução do cuidado parental importante para o desenvolvimento da primeira infância.

Descritores

Desenvolvimento infantil; Parentalidade; Enfermagem pediátrica; Saúde infantil; Cuidados de saúde primários

Resumen

Objetivo: Identificar factores de riesgo para prácticas parentales que promueven el desarrollo infantil durante la pandemia de Covid-19.

Métodos: Estudio transversal realizado en tres centros de educación infantil brasileños, de octubre a noviembre de 2020. Datos recolectados a través de un cuestionario en línea con ítems del instrumento “Primera Infancia para Adultos Saludables”.

Resultados: Participaron del estudio 109 familiares. El uso de alcohol o tabaco durante el embarazo, la convivencia del niño con un cuidador que consume alcohol, la depresión materna y la familia encabezada por una mujer se identificaron como factores de riesgo para prácticas que promueven el desarrollo infantil como contar cuentos, jugar con juguetes fabricados u objetos del hogar, nombrar o dibujar con el niño.

Conclusión: El uso de alcohol o tabaco durante el embarazo, la depresión materna, la convivencia del niño con alguien que consume alcohol se asociaron con la reducción del cuidado parental importante para el desarrollo de la primera infancia.

Descriptoros

Desenvolvimento infantil; Parentalidade; Enfermagem pediátrica; Saúde infantil; Cuidados primários de saúde

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Introduction

The period between gestation and the first six years of life is essential for the physical, emotional and cognitive development of children.⁽¹⁾ During this stage of life neural circuits are formed and strengthened through stimulation and bonding relationships with the child's caregivers.⁽¹⁾ Globally, investment in early childhood development has been prioritized to support the development of intellectual skills, creativity and well-being necessary for healthy children and productive adults.⁽²⁾

However, it is estimated that 250 million children (43%) under five years old living in low- and middle-income countries are at risk of not reaching their full development potential.⁽²⁾ To face this challenge, investment in early childhood has been internationally endorsed by the 2030 Sustainable Development Goals, and by the Action Network for Early Childhood Development - constituted by the United Nations Children's Fund (Unicef), the World Bank and by the World Health Organization.⁽¹⁾

To this end, these organizations have advocated a care model that promotes integral child development called Nurturing Care, which includes the dimensions of good health, adequate nutrition, learning opportunities, protection and safety, and responsive care.⁽³⁾ The protective and safety factors for child development involve age, education, occupation of the child's caregivers, presence of maternal depression, use of alcohol or tobacco during pregnancy, among others. On the other hand, responsive care or child development promoters are characterized by the bond between parents and children during childhood that is expressed in the act of playing, telling stories, naming or telling objects, drawing, singing, among others.⁽³⁾

However, the Covid-19 pandemic may have influenced the ability of many families to offer this care that promotes the development of the child, generating repercussions for both the child and their families.⁽⁴⁾ A study carried out in China with 320 children and adolescents revealed that 36% of children showed excessive dependence on their parents, 32% inattention, 29% worry, 21% sleep problems, 18% lack of appetite, 14% nightmares and 13% discomfort and agitation.⁽⁵⁾ In terms of family outcomes, the Covid-19 pandemic caused a reduction in wages, unemployment, instabili-

ty to guarantee food and housing, limitations in access to health, education and social assistance services.⁽⁶⁾

Furthermore, the socioecological impact of the Covid-19 pandemic on child development includes not only the child and family, but also the community and society. In this sense, during the pandemic, there was an increase in family violence, neglect and psychological stress of the child, in addition to untreated mental problems and separation from parents. In the community, the impact refers to the limited access to community support, education and leisure services and, in society, the erosion of social capital.⁽⁷⁾

It is essential to investigate risk factors for parenting practices that strengthen early childhood development. Therefore, this study hypothesized that parental care that promotes early childhood development can be influenced by factors related to the caregiver such as age, education, occupation, presence of maternal depression, use of alcohol or tobacco during pregnancy, among others. Therefore, the objective of this study was to identify risk factors for parenting practices that promote child development during the Covid-19 pandemic.

Methods

This is a cross-sectional study with a quantitative approach. The study was carried out in three public Early Childhood Education Centers in Brazil, located in a region of high social vulnerability.

Participants were family members or guardians chosen by convenience sampling. The inclusion criterion was to be a parent or guardian of a child aged between zero and five years, regularly enrolled in early childhood education centers. The exclusion criterion was that the family member had suspected or diagnosed mental illness, was illiterate or did not use the WhatsApp® application.

The study adopted as a theoretical framework the Comprehensive Care Model or Nurturing Care proposed by the World Health Organization (WHO), the United Nations Children's Fund (Unicef) and the World Bank. It represents a relevant theoretical framework for thinking about early childhood care in an expanded perspective that includes five components: good health, adequate nutrition, learning opportunities, protection and safety, and responsive care.⁽³⁾

For data collection, questions related to the domains “protection and safety” and “responsive care” of the instrument Early Childhood for Healthy Adults (PIPAS) were Applied.⁽⁸⁾ It is an instrument for assessing the child development of children aged from zero to five years developed and validated in Brazil, and capable of large-scale application. This instrument included questions about the profile of children and their families that can potentially influence child development, considering that it is recommended to also monitor the quality and quantity of care that the child experiences in their environment.

The risk factors for early childhood development were investigated in this study using items from the protection and safety domain of PIPAS such as: occupation and education level of mothers and fathers, which family member is the head of the family (responsible for the major part of family income), participation of the family in a cash transfer program, presence of maternal depression, use of alcohol and smoking during pregnancy, and if the child lives with caregivers who do use of alcohol or drugs.

The primary outcome of the study was parenting practices that promote child development, which were verified using items from the responsive care domain of PIPAS such as: if caregivers told stories, sang with the child, took the child for a walk, if they named objects, if the child plays with homemade toys, manufactured toys, household objects or objects found outside the house (sticks, stones, animal shells or leaves) or electronic toys. The secondary outcome of the study was the total number of parenting practices that promote child development, composed of the sum of practices present in each family.

Data was collected through an online questionnaire sent to families through WhatsApp® by the director of early childhood education centers in October 2020.

Data was analyzed using SPSS software. Categorical variables are presented according to absolute and relative frequencies, and numerical variables according to descriptive statistics with mean, standard deviation, minimum and maximum. Inferential statistics were performed to analyze the relationship between risk factors and parenting practices that promote child development using Fisher’s exact test or Pearson’s chi-square test. Linear regression was performed to test the association

between risk factors and the total number of parenting practices that promote child development.

The development of the study complied with national and international standards of ethics in research involving human beings. The research project was submitted to the Research Ethics Committee of a Brazilian public university. The family members were informed about the objectives of the study before consenting their participation.

Results

The study included 109 family members of children under six years of age. Most were the mothers (94,5%), followed by fathers (2,75%) and grandparents (2,75%). The average maternal age was 30 years, with a minimum of 17 years and a maximum of 46 years. As for paternal age, the mean age was 33 years, with a minimum of 19 years and a maximum of 57 years. Participant sociodemographic characteristics are presented in table 1.

Parenting practices that promote child development are described in table 2.

Data in table 2 reveal that the practices of playing games or playing and singing songs to children were the most frequent. However, playing with homemade toys (36.7%), and telling stories (77%) were less frequent practices. Risk factors were tested for their association with parenting practices that promote child development. Those who were associated with at least one parenting practice are shown in table 3.

Data in table 3 revealed that use of alcohol during pregnancy significantly reduced the chance of the family member telling stories to the child ($p=0.02$), as well as the fact that the child’s coexistence with a caregiver who uses alcohol was associated with a greater chance that the child does not play with manufactured toys ($p=0.04$). Smoking during pregnancy was associated with a lower chance that the family member would name or count objects ($p=0.005$). Playing with household objects such as spoons, pans and pots was significantly less frequent in the presence of maternal depression ($p=0.03$) and in families headed by a woman ($p=0.018$). The relationship between risk factors and the total number of parenting practices was analyzed using linear regression, according to table 4.

Table 1. Participant sociodemographic characteristics

Variable	n(%)
Education level of mothers	
Illiterate	1(0,9)
Elementary and Middle School	18(16,7)
High School	67(62)
College	22(20,4)
Education level of fathers	
Illiterate	5(4,9)
Elementary and Middle School	29(28,4)
High School	51(50)
College	17(16,7)
Occupation of mothers	
Unemployed	62(57,4)
Employed	46(42,6)
Depression diagnosis in mothers	
No	96(89,7)
Yes	11(10,3)
Head of the family	
Mother	56(51,9)
Father	45(41,7)
Mother and Father	2(1,9)
Stepfather	1(0,9)
Other	1(0,9)
Education Level of the head of the family	
Illiterate	1(0,97)
Elementary and Middle School	26(5,24)
High School	60(58,25)
College	16(15,53)
Family participates in cash transfer program	
No	66(61,1)
Yes	42(38,9)
Tobacco use during pregnancy	
No	97(88,9)
Yes	12(11,1)
Alcohol use during pregnancy	
No	104(95,4)
Yes	5(4,6)
Child is cared for another child younger than 10 years old	
No	103(94,5)
Yes	6(5,5)
Child lives with caregivers that consume alcohol	
No	104(95,4)
Yes	5(4,6)
Child lives with caregivers that use drugs	
No	108(99,1)
Yes	1(0,9)

Data in table 4 revealed that the total number of parenting practices that promote child development was significantly lower when the child was cared for by siblings, when living with a caregiver who used drugs and if there was alcohol use during pregnancy. On the other hand, the higher education level of the head of the family, father or mother of the child represented protective factors for the child’s development, since they significantly increased the number of parental practices that promote child development.

Table 2. Parenting practices that promote child development

Parenting practices that promote child development	n(%)
Have you told stories to your child?	
No	25(23)
Yes	84(77)
Have you sang songs to your child, or with your child? Including lullabies?	
No	7(6,43)
Yes	102(93,57)
Have you taken your child for a walk?	
No	23(21)
Yes	86(79)
Have you named or counted objects?	
No	18(16,7)
Yes	90(83,3)
Does your child play with homemade toys (rattle, mobile, origami)?	
No	69(63,3)
Yes	40(36,7)
Does your child play with manufactured toys?	
No	17(15,6)
Yes	92(84,4)
Does your child play with household objects (such as bowls, spoons) or objects found outside (sticks, stones, animal shells or leaves)?	
No	44(40)
Yes	65(60)
Does the child play with electronic toys (Smartphones or tablets)?	
No	59(54,1)
Yes	50(45,9)

Table 3. Risk factors for practices that promote child development

Tell stories to the child			
Alcohol use during pregnancy	No	Yes	p-value
No	20(83,3)	81(97,6)	0,02
Yes	4(16,7)	2(2,4)	
Naming or counting objects			
Tobacco use during pregnancy	No	Yes	
No	12(66,7)	84(93,3)	0,005
Yes	6(33,3)	6(6,7)	
Play with manufactured toys			
Child lives with caregiver who uses alcohol	No	Yes	
No	14(82,4)	89(96,7)	0,047
Yes	3(17,65)	3(3,3)	
Play with household objects			
Maternal depression	No	Yes	
No	44(100)	52(82,5%)	0,03
Yes	0(0)	11(17,6)	
Family headed by a woman	No	Yes	
No	15(34,9)	37(56,9)	0,018
Yes	28(65,1)	28(43,1)	

Discussion

Our study revealed that the use of alcohol or tobacco during pregnancy, the child’s coexistence with a caregiver who uses alcohol, maternal depression, and the

Table 4. Association between risk factors and total number of practices that promote child development

Explanatory variables	Category	Reference	Coefficient	Standard error	p-value
Main caregiver	Siblings	Mother	-2,43	1,02	0,020
Level of education of the head of the family	Elementary/Middle School	Illiterate	3,81	1,43	0,009
Level of education of the head of the family	High School	Illiterate	3,88	1,41	0,007
Level of education of the head of the family	College Degree	Illiterate	4,44	1,44	0,003
Father education	College Degree	Illiterate	1,44	0,70	0,042
Living with a caregiver who uses drugs	Yes	No	-3,94	1,44	0,007
Mother education	Elementary/Middle School	Illiterate	3,83	1,46	0,010
Mother education	High School	Illiterate	3,82	1,43	0,009
Mother education	College Degree	Illiterate	4,45	1,45	0,003
Use of alcohol during pregnancy	Yes	No	-,34	0,60	0,027

family being headed by a woman were risk factors for parenting practices that promote development of children during the Covid-19 pandemic.

Low or moderate alcohol consumption, as well as active or passive smoking during pregnancy are risk factors for child's development, since they can negatively impact a child's neuropsychomotor development, mental health, memory, language and vision.⁽⁹⁾ The association between alcohol consumption by the child's caregiver and parenting practices was reported in a study carried out at the beginning of the Covid-10 pandemic with 342 family members of children in the United States. The results revealed that alcohol use increased the chances of punitive parenting practices, especially in those caregivers with high levels of stress.⁽¹⁰⁾

In addition to the use of alcohol by caregivers, this study revealed that maternal depression during the Covid-19 pandemic reduced parenting practices such as playing with household objects. Parental distress and stress during the pandemic can reduce caregivers' involvement in play that is part of the child's daily life, and is important for their development and emotional regulation.⁽¹¹⁾ Corroborating this finding, a study revealed that symptoms related to maternal mood disorders are significantly associated with emotional or behavioral problems in preschool children.⁽¹²⁾ Similarly, a study revealed the negative effects of maternal depression on children's internalizing behaviors, such as childhood depression and anxiety, and also on externalizing behaviors, such as aggression and other conduct disorders in children, during the Covid-19 pandemic.⁽¹³⁾

Another risk factor for parenting practices identified in this study was the fact that the head of the household were women. Our findings revealed that

playing with household objects was less frequent in female-headed households, which suggests the effects of the female burden on childcare plus the responsibility for most of the family's income. During the Covid-19 pandemic, there was an increase in poverty and food insecurity⁽¹⁴⁾ affecting mainly families with children and headed by women, which represents an important risk factor for child development.

Although this study presents relevant contributions in generating evidence on risk factors for the development of children during the Covid-19 pandemic, some limitations include the cross-sectional design and the non-assessment of child developmental stage. Longitudinal follow-up studies of children and families could identify changes in parenting practices throughout the pandemic and their repercussions on child development.

These study findings highlight the urgent need for intersectoral public policies to promote early childhood development during the Covid-19 pandemic. Support for the development of children in early childhood depends on the provision of health, education and social development actions, among others.

Reducing inequalities in early childhood requires integrated intersectoral actions that identify risk factors and support care that promotes child development. Pediatric nurses play a crucial role in articulating family demands and public actions, programs and policies aimed at promoting early childhood development. Some of these actions include access to parenting support programs, in order to strengthen the mental health of caregivers and promote parenting practices that favor learning, a safe and violence-free home environment, as well as affectionate and responsive parental care. Other actions include ensuring access to well qualified early childhood education, health

services, and cash transfer programs that reduce the proportion of families in extreme poverty.

Conclusion

The use of alcohol or tobacco during pregnancy, maternal depression, the child's coexistence with someone who uses alcohol were associated with a reduction in parental care important for early childhood development, such as storytelling, playing with manufactured toys or household objects, and naming or counting objects.

Contributions

Costa P, Cruz AC, Silva L, Carvalho MES and Marques MB declare that they contributed to the design of the study, collection, analysis, and interpretation of data, writing of the manuscript, critical and relevant review of the intellectual content, and approval of the final version to be published.

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