



CRACK IN PREGNANCY: CONSEQUENCES IN FETUS AND NEWBORN GROWTH/DEVELOPMENT

CRACK NA GESTAÇÃO: CONSEQUÊNCIAS NO CRESCIMENTO/DESENVOLVIMENTO DO FETO E RECÉM-NASCIDO

CRACK EN EMBARAZO: IMPLICACIONES PARA EL CRECIMIENTO/DESARROLLO DEL FETO Y RECIÉN NACIDO

Francine Moraes da Silva¹, Simone Algeri², Alex Antônio Dumann da Cunha³, Charlise Pasuch de Oliveira⁴

ABSTRACT

Objective: to identify the consequences in the growth and development of the fetus and newborn of women who use crack during pregnancy. **Method:** integrative review guided by the question << *What are the consequences in the growth and development of the fetus and newborn of women who use crack during pregnancy?* >> carried out in the LILACS, MEDLINE and SCIELO Virtual Library databases, published between 2008 and 2013, using descriptors in Portuguese, Spanish and English: Pregnancy, Crack, Fetus, Newborn. The analysis of the articles consisted of the corpus of analysis of 10 scientific productions. **Results:** four categories emerged: effects of using crack in pregnancy, effects of crack use on the fetus and newborn, consequences for the growth and development of the newborn, health education/limitations of the professionals. **Conclusion:** the use of crack by pregnant women has impacted the growth and development of the fetus and newborn, configuring a phenomenon that interferes in the quality of life of both.

Descriptors: Pregnancy; Crack; Fetus; Newborn; Cocaine.

RESUMO

Objetivo: identificar as consequências no crescimento e desenvolvimento do feto e recém-nascido de mulheres usuárias de crack durante a gestação. **Método:** revisão integrativa norteada pela questão << *Quais as consequências no crescimento e desenvolvimento do feto e recém-nascido de mulheres usuárias de crack durante a gestação?* >> realizada nas bases de dados LILACS, MEDLINE e Biblioteca Virtual SCIELO, publicados no período de 2008 a 2013, empregando descritores em português, espanhol e inglês: Gravidez, Crack, Feto, Recém-nascido. A análise dos artigos foi composta pelo *corpus de análise* de 10 produções científicas. **Resultados:** emergiram quatro categorias: efeitos do uso de crack na gestação, efeitos do uso de crack no feto e recém-nascido, as consequências para o crescimento e desenvolvimento do recém-nascido, educação em saúde/limitações dos profissionais. **Conclusão:** evidenciou-se que o uso do crack por gestantes tem impactado o crescimento e desenvolvimento do feto e recém-nascido, configurando-se um fenômeno que interfere na qualidade de vida de ambos. **Descritores:** Gravidez; Crack; Feto; Recém-Nascido; Cocaína.

RESUMEN

Objetivo: identificar el impacto en el crecimiento y desarrollo del feto y del recién nacido de mujeres consumidoras de crack durante el embarazo. **Método:** revisión integradora guiada por la pregunta << *¿Cuáles son las consecuencias sobre el crecimiento y el desarrollo del feto y recién nacido de las mujeres consumidoras de crack durante el embarazo?* >> realizada en las bases de datos LILACS, MEDLINE y Biblioteca Virtual Scielo, publicados en el periodo 2008-2013, utilizando descriptores en portugués, español e inglés: Embarazo, Crack, feto, recién nacido. El análisis de los artículos fue compuesto del corpus de análisis de 10 publicaciones científicas. **Resultados:** surgieron cuatro categorías: efectos del consumo de crack durante el embarazo, efectos del uso de crack en el feto y el recién nacido, las consecuencias para el crecimiento y desarrollo de los recién nacidos, la educación en la salud/limitaciones de los profesionales. **Conclusión:** se observó que el consumo de crack por las mujeres embarazadas ha impactado en el crecimiento y desarrollo del feto y del recién nacido, siendo un fenómeno que interfiere con la calidad de vida.

Descriptores: Embarazo; Crack; Feto; Recién Nacido; Cocaína.

¹Nurse Multiprofessional Resident in Health with emphasis on Mental Health at the Hospital Group Conceição (GHC), Nursing School, Federal University of Rio Grande do Sul/UFRGS. Porto Alegre (RS), Brazil. E-mail: morais.francine@hotmail.com; ²Nurse, Doctor in Education, Assistant Professor, Mother-Child Department, Coordinator of the Program for Assistance and Prevention of Children Victims of Violence 8th edition, Nursing School, Federal University of Rio Grande do Sul/UFRGS. Porto Alegre (RS), Brazil. E-mail: algeri@terra.com.br; ³Nurse, Nursing School, Federal University of Rio Grande do Sul/UFRGS. Porto Alegre (RS), Brazil. E-mail: alex.dumann@gmail.com; ⁴Nurse, Specialist in Mental Health and Psychiatry, Clinics Hospital of Porto Alegre/HCPA. Porto Alegre (RS), Brazil. E-mail: charlise.pasuch@gmail.com

INTRODUCTION

The use of licit and illicit drugs during pregnancy has always been a difficult issue. Although it is a subject little discussed by the governments, it is a public health problem, since the repercussions in the outcomes of those pregnancies end up being extremely onerous for the society.¹

The expansion of psychoactive drug use has reached women at childbearing age by considerably increasing consumption in that specific population. It has generated different challenges in various spheres, regading the health and social field for the relantioship between the drug use and mother-child health.²

The complications of drug use are not restricted to pregnant women but also to the fetus, since most drugs go beyond the placental and blood-brain barrier without previous metabolism, acting mainly on the central nervous system of the fetus, causing cognitive deficits to the newborn, malformations, abstinence syndromes, among others.^{1,11}

The newborn exposed to cocaine shows two types of behavior resulting from its effect on the fetus: depression or neurobehavioral excitability.³⁻⁴

In this sense, depressed newborn behavior includes lethargy, hypotonia, weak crying, difficulty to wake up and suck, while the newborn with excitability may present hypertonia, stiffness, irritability, acute crying, inability to be comforted and intolerance to routine changes.³⁻⁴

Cocaine, as a teratogenic substance, is responsible for malformations such as microcephaly, defects in the limbic system, abnormalities in the genitourinary tract and delayed neuropsychomotor development, for ischemia and anoxia cause reduction of limbs, intestinal atresia, intestinal infarctions and genitourinary abnormalities (cryptorchia, hydronephrosis, different syndromes, such as Prunebelly syndrome).⁵

Thus, the present study has the purpose of offering subsidies that allow qualifying nursing care on the complications resulting from the use of crack during pregnancy to the fetus and newborn.

OBJECTIVE

- To identify, in the literature, the consequences on the growth and development of the fetus and newborn of women who use crack during pregnancy.

METHOD

Integrative review (IR) study that contemplates the analysis of several primary researches on certain subject, in order to define more comprehensive conclusions on a specific phenomenon. There are five stages for IR, which are: formulation of the problem; data collection; data evaluation; analysis and interpretation of data and presentation of results.⁶

In the first stage, there was formulation of the problem, selection of the topic and definition of the guiding question: What are the consequences on the growth and development of the fetus and newborns of women who use crack during pregnancy described in the literature?

In the second stage, there was data collection in the following electronic databases: the Latin American and Caribbean Literature System in Health Sciences (LILACS), the Medical Literature Analysis and Retrieval System OnLine (MEDLINE) and the virtual library Scientific Electronic Library Online (SCIELO) in the Portuguese, Spanish and English languages, published between 2008 and 2013. Descriptors: pregnancy, crack, fetus; cocaine; In Science and Health Descriptors (DeCS) and MeSH (Medical Subjec Headings): Pregnancy, Crack; Fetus, Newborn; Cocaine.

Decs Databases	Pregnancy And Crack	Pregnancy And Cocaine	Newborn And Crack	Newborn And Cocaine	Fetus And Crack	Fetus And Cocaine	Total
LILACS	7	12	3	5	0	1	28
SCIELO	3	5	1	1	0	0	10
MEDLINE	0	26	0	23	0	15	64
Total	10	43	4	29	0	16	102

Figure 1. Result of the distribution of articles published between 2008 and 2013, according to descriptors and databases.

In the third stage, as inclusion criteria, there was selection of national and international nursing articles, as well as from

other areas; written in Portuguese, Spanish and English; published in the period from 2008 to 2013. There was selection of original

articles of qualitative and quantitative type that cover the research theme; complete articles, freely available, online or containing abstracts indexed in the databases (which, when not fully available, will be accessed in journals).

In the fourth stage, for the analysis and interpretation of the results, there was the development of a general synoptic framework to record the elements that answer the guiding question: consequences for the fetus and the newborn and the authors that mention them. The analysis of that table consisted of the comparison, synthesis, discussion and conclusion of the information extracted from the instrument called the General Synoptic Framework (Table 2). The data were analyzed and discussed, which allowed identifying the conclusion and information that answer the guiding question of this integrative review.

In the fifth stage, tables were constructed to present the results, in order to critically analyze those data and, later, compare the ideas of the authors that compounded the sample of the study. One respected the authenticity of the ideas of the authors who constituted the sample of this study.

The exclusion criteria were: incomplete articles, not for free, not fully available online, not addressing the study topic, doctoral theses, dissertations, monographs, documents and annals of events.

In order to register the data of the articles, there was elaboration of an instrument with the following information: title, identification

of the authors, journal, year of publication, objective, methodology of the study and conclusion. The instrument was completed after reading the articles, thus enabling the analysis of the found information called Form for Evaluation of Studies (Table 3).

The study was sent to the Research Committee of the Nursing School of the Federal University of Rio Grande do Sul (COMPESQ-EEUFRGS), being approved under number 27561.

RESULTS

The search in the database resulted in 28 (27%) articles in LILACS, 10 (11%) articles in the SCIELO Virtual Library and 64 (62%) articles in the MEDLINE database, obtaining 102 articles. It is important to clarify that nine articles from the LILACS and 12 databases from MEDLINE were repeated and in the SCIELO Virtual Library, two articles were duplicates and one article quadruplicated. Thus, of the 102 articles of the search, 24 of them were repeated, presenting a repetition frequency equal to 54 times and, among them, only one article was selected to compound the analysis.

Thus, 102 papers served as an object of analysis at first; excluding the repetitions ($102 - 30 = 72$), we have 72 articles for the analysis and reading of their titles and abstracts. After reading titles and abstracts, 16 articles were selected to be fully read. With the critical reading of the texts, there was selection of 10 for this integrative review, according to Figure 2.

Article No.	Title	Authors	Method
01	Oral and general motor behavior of newborns from crack and/or cocaine using mothers.7	Gasparin, M Silveira, JL Garcez, LW Levy, BS.	Cross-sectional-type Quantitative
02	Crack: the new obstetric epidemic.8	Martins-Costa, SH Vettorazzi, J Cecin, GKGC Maluf, JMRA Stumpf, CC Ramos, JGL.	Review-type Qualitative
03	Cocaine/crack use and dependence in pregnancy, delivery and puerperium.9	Botelho, APM Rocha, RC Melo, VH.	Review-type Qualitative
04	Pregnant crack addicts in a psychiatric unit.10	Costa, GM Soibelman, M Zanchet, DL Costa, PM Salgado, CAI.	Cross-sectional-type Quantitative
05	Prevalence of drug abuse among pregnant women.11	Kassada, DS Marcon, SS Pagliarini, MA Rossi, RM.	Cross-sectional-type Quantitative
06	Drug abuse during pregnancy.1	Yamaguchi, ET Cardoso, MMSC Torres, MLA de Andrade AG.	Bibliographic Review-type Qualitative
07	Perception of pregnant on consumption of illicit drugs in	Portela, GLC.	Descriptive-type Qualitative

pregnancy.12			
08	Cocaine and its metabolites in the placenta: A systematic review of the literature.13	Giovanni, N Marchetti, D	Systematic Review -type Qualitative
09	Consequences of cocaine and methamphetamine during pregnancy.14	Cembranelli, E Campos, lrf Portella, m Salomão, pc Monteiro, dlm.	Review-type Qualitative
10	Transverse meromelia in all four limbs with characteristic facie associated with cocaine abuse in the first trimester of pregnancy.15	Salinas-Torres, VM Aguirre-Jáuregui, OM Pérez-García, G Cadera-González, PJ Raya-Trigueros, A Gutiérrez-Padilla, JA.	Clinical Case-type Qualitative

Figure 2. Titles and authors of articles selected as study sample.

The 10 selected articles were analyzed and classified into four categories, according to the results presented: effects of using crack and cocaine during pregnancy; effects of crack use on the fetus and newborn; consequences for the growth and development of the newborn in relation to the development of the oral motor and global motor sensor systems and health education/limitations of the professionals.

DISCUSSION

The discussion will be presented through analytical categories that appeared after the attentive reading of the articles according to the presented results:

◆ Effects of using crack and cocaine during pregnancy

Pregnancy, with its physiological changes, becomes a hyperdynamic and hypervolemic state. The vasoconstrictive effect of the drug, by the increasing vascular tonus, reduces uteroplacental blood flow, increases the chances of fetal hypoxia, suffering and restriction of fetal intrauterine growth, acidosis and ischemia, in addition to heart attacks and placental bleeding at any time during pregnancy.^{1,16}

In this context, given the vasoconstrictor effect of cocaine, drug use can cause hypertension, tachycardia and arrhythmias, precipitating crisis. Other symptoms include seizures, hyperreflexia, fever, mydriasis, emotional instability, proteinuria, and edema. The combination of hypertension, proteinuria, and convulsions, resulting from cocaine abuse, may be mistaken for eclampsia.¹⁷

The high incidence of abortion, premature placental abruption (PPA), preterm labor, uterine rupture, cardiac dysrhythmias, hepatic rupture, cerebral ischemia, infarction, and death evidence the maternal complications resulting from the use of that drug during pregnancy.^{17,13}

The importance of prenatal care should be reinforced for those pregnant women, since

adequate follow-up allows the early identification of risk situations, preventing negative pregnancy outcomes in the neonatal period and the occurrence of deaths.¹⁸

◆ Effects of crack use on the fetus and newborn

The prevalence of the use of licit or illicit drugs in pregnant women has increased, which poses great risks to the health of the woman and the neonate, since the physiological changes induced by pregnancy potentiate the effects of crack.¹

The drug rapidly crosses the placental barrier, acting directly on the fetal vasculature, determining vasoconstriction, as well as urogenital, cardiovascular, and central nervous system malformations.¹⁹ Substances such as amphetamines, cocaine, and nicotine can be transferred along with nutrient transporters, favoring competition, which reduces the distribution of nutrients to the fetus, and contributes to the growth deficit.²⁰

Among the complications that the fetus may present due to exposure to the mother's use of drugs during pregnancy are: prematurity, low birth weight, decreased head circumference, displacement of the placenta, leading, in some cases, to abortion.²⁰ In this context, however, there is no characteristic syndrome, as occurs among neonates exposed to alcohol (fetal alcoholic syndrome). Fetal exposure to cocaine associates with hearing impairments, sensory asymmetries, tremors and overreaction to environmental stimuli, hyperactivity, restlessness.²¹

Newborns exposed to intrauterine cocaine/crack usually present low birth weight, reduced head circumference, retarded neuropsychomotor development, and risk of sudden death.²² After birth, they may present difficulty to gain weight, increased incidence of sleep apnea and sudden infant death syndrome. Damage occurs more frequently in cognitive functions.

Breastfeeding and caring for newborns of active users of crack or cocaine are issues that must be handled with great care. Clinical evidence demonstrates adverse effects of breastfeeding of those newborns and advises the non-breastfeeding in those cases.²³

The extent of prenatal exposure to cocaine may determine the occurrence of neonatal abstinence syndrome. Symptoms appear two to three days after birth and tend to disappear in the first few months of life. Among them, there are feeding problems, such as difficulty in sucking; irritability; hypertonia; yawning and sneezing, which are due to increased CNS stimulation.²¹

Mothers who use the drug often have a high risk of parental competence. In those cases, there is little interaction between mother and child, inadequate social support, low mother's self-esteem, child hostility, aggression, anxiety and depression. Children of dependents are at increased risk of behavioral, psychological, and academic problems, including becoming toxic-dependent.²²

♦ Consequences for the growth and development of the newborn in relation to the development of the oral motor and global motor sensor systems

Pregnant women who consume crack or cocaine have an increased risk of unfavorable outcomes, both maternal as fetal, in relation to the obstetric population, characterizing that group of patients as high-risk pregnant women.^{8,10}

One believes that children born of unfavorable or incomplete pregnancies, and coming from adverse socioeconomic status, are exposed to various risks, such as delays in growth and motor development. Thus, they have a greater tendency of presenting neuropsychomotor development delays.²⁴

Damages occur more frequently in cognitive functions. Studies with children in the age group of two to seven years show problems to keep the attention. There are reports of mild mental deficiency and impairment of memory and learning, with greater deficiency or retarded cognitive development in children up to two years old. Cognitive disorders were more evident among pregnant women who had combined use of alcohol with other drugs.²⁵

There are evidences that cocaine can affect the development of the baby, both directly, through intrauterine exposure, as indirectly, through changes in maternal care. Two neuroendocrine substances recognized as important for the mother-fetus binomial, and

altered with the use of cocaine, are oxytocin and dopamine, which act as social and behavioral mediators, as well as in the control of reactivity to stress.²⁶

Using cocaine during pregnancy is an avoidable factor, among those with adverse perinatal outcomes. It is important to provide care interventions for dependent pregnant women in an attempt to stop or reduce cocaine use. In this context, some of those interventions include the stimulation of prenatal care and residential re-habilitation programs, which showed a tendency to improve perinatal outcomes, with interventions focused on reducing maternal exposure to cocaine.^{27,14,15}

♦ Health education/limitations of the professionals

Drug use by pregnant women is a serious social and public health problem. Pregnant women with chemical dependence have lower adherence to prenatal care, less participation in pregnant groups and are at higher risk of obstetric and fetal complications.¹¹

Women's health programs should emphasize the screening of pregnant women in areas where drug use is frequent, in order to prevent and detect that risk group early. It is also relevant to raise the awareness of health managers about the need for ongoing education for professionals, as well as to carry out further studies to identify key risk groups in order to implement interventions effectively.²⁸

There is much more discrimination against puerperal pregnant women who use drugs, which predisposes them to deny their addiction and not to seek prenatal care or late access to medical care. Crack users have prenatal care deficits and that lack or scarce number of consultations also relates to social isolation, imposed on those women with discrimination and prejudice.⁹

Frequency and regularity in prenatal care allow developing a link between the pregnant woman and the health professional, which allows the deepening of the relationship with a greater exchange of information, facilitating the identification of life-threatening health habits, such as the inadequate use of alcohol and drugs.²⁹ In this context, it is important to understand the use of illicit drugs in pregnancy in order to effectively address that problem, as well as to contribute to a critical reflection among nurses who work directly with those pregnant women, with health promotion actions and follow-up focused on their often neglected needs.²³

It is important to emphasize the importance of a well-structured interdisciplinary team, since those women are high-risk patients and require specialized care, in order to attend them in an integral and continuous way, enabling a plan of care that considers their vulnerabilities.³⁰ Therefore, it is necessary to prepare the professionals, especially nurses, on the phenomenon of drugs during pregnancy, and its importance, to better address the problem, in order to promote the health of that clientele, based on measures to prevent the use and abuse of illicit drugs.^{23,12}

CONCLUSION

The use of crack by pregnant women has affected the growth and development of the fetus and the newborn, becoming a phenomenon that interferes with the quality of life of the pregnant and newborn. The epidemic of crack use, in current societies, with a greater focus on the pregnant user of crack, shows the need for greater attention at the problem.

The crack in pregnancy topic is not an easy topic. It combines the feelings of the professional who deals with that problem in his/her routine. Professionals should have a critical view of the subject and, at the same time, not be critical of the patient in question, nor subjugate them. The attention to the patient who uses crack during pregnancy must be made in a welcoming and individualized way, respecting each individual according to his/her ethical and moral principles, culture, and his/her own individualities, that is, each pregnant woman has personal ways of dealing with the mentioned problem.

The study identified that there are repetitions of works in the SCIELO virtual library and in the LILACS and MEDLINE databases. Therefore, it is necessary to develop a larger number of studies on the subject of crack during pregnancy and consequences for growth and development for the fetus and newborn in order to create strategies to better approach that specific segment of the population.

One believes that the study reached the proposed goal, since it brought contents related to the drug addiction issue in the current literature, as well as the nurse professional as a direct collaborator in the care to those pregnant women, with actions to promote the health of the fetus and the newborn.

The results suggest that researchers should study the subject in the practical field, such

as the creation of an extension project on the theme, case studies presented to the HCPA community, a public health institution whose clients come from different cities in the state and in the country, attending at various levels of attention (Basic Health Unit, ambulatory, emergency, hospitalization).

REFERENCES

1. Yamaguchi ET, Cardoso MMSC, Torres MLA, Andrade AG. Drogas de abuso e gravidez. Rev psiquiatr clín [Internet]. 2008 [cited 2015 June 15];35(1):44-7. Available from: <http://www.scielo.br/pdf/rpc/v35s1/a10v35s1.pdf>
2. Zilberman ML, Hochgraf PB, Andrade AG. Gender differences in treatment-seeking Brazilian drug-dependent individuals. Subst Abus. 2003 Mar;24(1):17-25. (IMPRESSO)
3. Chiriboga CA, Kuhn L, Wasserman GA. Prenatal cocaine exposures and dose-related cocaine effects on infant tone and behavior. Neurotoxicol Teratol [Internet]. 2007 May/June [cited 2015 June 15];29(3):323-30. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4307783/pdf/nihms26029.pdf>
4. Hockenberry MJ, Wilson D. Wong Fundamentos de enfermagem pediátrica. 8th ed. Rio de Janeiro: Elsevier; 2011.
5. Callen PW. Ultra-sonography in Obstetrics and Gynecology. Obstet Gynecol. 2008;44(1):128.
6. Cooper, HM. The integrative research review. A systematic approach. Newburg: Park; 1982.
7. Gasparin M, Silveira JL, Garcez LW, Levy BS. Comportamento motor oral e global de recém-nascidos de mães usuárias de crack e/ou cocaína. Rev Soc Bras Fonoaudiol [Internet]. 2012 Dec [cited 2015 June 18];17(4):459-63. Available from: <http://www.scielo.br/pdf/rsbf/v17n4/16.pdf>
8. Martins-Costa SH, Vettorazzi J, Cecin GKG, Maluf JMRA, Stumpf CC, Ramos JGL. Crack: a nova epidemia obstétrica. Rev HCPA & Fac Med Univ Fed Rio Gd do Sul [Internet]. 2013 Jan/Mar [cited 2015 June 16];33(1):55-65. Available from: <http://seer.ufrgs.br/index.php/hcpa/article/view/33833/25672>
9. Botelho APM, Rocha RC, Melo VH. Uso e dependência de cocaína/crack na gestação, parto e puerpério. FEMINA [Internet]. 2013 Jan/Feb [cited 2015 June 12];41(1):23-32. Available from: <http://files.bvs.br/upload/S/0100-7254/2013/v41n1/a3777.pdf>

10. Costa GM, Soibelman M, Zanchet DL, Costa PM, Salgado CAI. Pregnant crack addicts in a psychiatric unit. *J Bras Psiquiatr* [Internet]. 2012 [cited 2015 June 13];61(1):8-12. Available from: <http://www.scielo.br/pdf/jbpsiq/v61n1/03.pdf>
11. Kassada DS, Marcon SS, Pagliarini MA, Rossi, RM. Prevalência do uso de drogas de abuso por gestantes. *Acta Paul Enferm* [Internet]. 2013 [cited 2015 June 15];26(5):467-71. Available from: <http://www.scielo.br/pdf/apv/v26n5/a10v26n5.pdf>
12. Portela GLC. Percepção da gestante sobre o consumo de drogas ilícitas na gestação. *SMAD Rev Eletrônica Saúde Mental Álcool Drog* [Internet]. 2013 [cited 2015 June 12];9(2):58-63. Available from: <http://www.revistas.usp.br/smad/article/view/79656/83662>
13. Giovanni N, Marchetti D. Cocaine and its metabolites in the placenta: a systematic review of the literature. *Reprod Toxicol*. 2012 Jan;33(1):1-14. (IMPRESSO)
14. Cembranelli E, Campos lrf, Portella m, Salomão pc, Monteiro dlm. Consequências do uso de cocaína e metanfetamina durante a gravidez. *FEMINA* [Internet]. 2012 Sept/Oct [cited 2015 June 12];40(5):241-5. Available from: <http://files.bvs.br/upload/S/0100-7254/2012/v40n5/a3413.pdf>
15. Salinas-Torres VM, Aguirre-Jáuregui OM, Pérez-García G, Cadera-González PJ, Raya-Trigueros A, Gutiérrez-Padilla JA. Meromelia transversa en las cuatro extremidades con facies característica asociadas al abuso de cocaína en el primer trimestre del embarazo. *Bol Med Hosp Infant Mex* [Internet]. 2012 Jan/Feb [cited 2015 June 15];69(1):50-5. Available from: <http://www.scielo.org.mx/pdf/bmim/v69n1/v69n1a8.pdf>
16. Baurer CR, Shankaran S, Bada HS, Lester B, Wright LL, Krause-Steinrauf H, Smeriglio VL, et al. The Maternal Lifestyle Study: drug exposure during pregnancy and short-term maternal outcomes. *Am J Obstet Gynecol* [Internet]. 2002 Mar [cited 2015 June 13];186(3):487-95. Available from: http://www.psy.miami.edu/faculty/dmessaging/fp/dm/MLS_Bayley.Peds.pdf
17. Prentice S. Substance misuse in pregnancy. *Obstet Gynaecol Reprod Med* [Internet]. 2010 [cited 2015 June 16];20(9):278-83. Available from: [http://www.obstetrics-gynaecology-journal.com/article/S1751-7214\(10\)00115-6/pdf](http://www.obstetrics-gynaecology-journal.com/article/S1751-7214(10)00115-6/pdf)
18. Moraes CL, Reichenheim ME. Rastreamento de uso de álcool por gestantes de serviços públicos de saúde do Rio de Janeiro. *Rev Saúde Pública* [Internet]. 2007 Oct [cited 2015 June 16];41(5):695-703. Available from: <http://www.scielo.br/pdf/rsp/v41n5/6075.pdf>
19. Krishna RB, Levitz M, Dancis J. Transfer of cocaine by the perfused human placenta: the effect of binding to serum proteins. *Am J Obstet Gynecol*. 1993 Dec;169(6):1418-23. (IMPRESSO)
20. Pinheiro SN, Laprega MR, Furtado EF. Morbidade psiquiátrica e uso de álcool em gestantes usuárias do Sistema Único de Saúde. *Rev Saúde Pública* [Internet]. 2005 Aug [cited 2015 June 13];39(4):593-98. Available from: <http://www.scielo.br/pdf/rsp/v39n4/25531.pdf>
21. White SM, Lambe CJ. The pathophysiology of cocaine abuse. *J Clin Forensic Med*. 2003 Mar;10(1):27-39. (IMPRESSO)
22. Albright BB, Rayburn WF. Substance use among reproductive age women. *Obstet Gynecol Clin North Am* [Internet]. 2009 Dec;4(36):891-906. (IMPRESSO)
23. American Academy Of Pediatrics Committee On Drugs. Transfer of drugs and other chemicals into human milk. *Pediatrics* [Internet]. 2001 Sept [cited 2015 June 14];108(3):776-89. Available from: <http://pediatrics.aappublications.org/content/pediatrics/108/3/776.full.pdf>
24. Halpern R, Giugliani ERJ, Victora CG, Barros FC, Horta BL. Fatores de risco para suspeita de atraso no desenvolvimento neuropsicomotor aos 12 meses de vida. *J Psiquiatr (Rio J)*. 2000 [cited 2015 June 13];76(6):421-28. Available from: <https://www.nescon.medicina.ufmg.br/biblioteca/imagens/1714.pdf>
25. Coles CD, Black MM. Introduction to the special issue: impact of prenatal substance exposure on children's health, development, school performance, and risk behavior. *J Pediatr Psychol* [Internet]. 2006 [cited 2015 June 13];31(1):1-4. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3265017/pdf/nihms307287.pdf>
26. Strathearn L, Mayes LC. Cocaine addiction in mothers: potential effects on maternal care and infant development. *Ann N Y Acad Sci* [Internet]. 2010 Feb [cited 2015 June 16];1187:172-83. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3016156/pdf/nihms257824.pdf>
27. Gouin K, Murphy K, Shah PS. Effects of cocaine use during pregnancy on low

birthweight and preterm birth: systematic review and metaanalyses. Am J Obstet Gynecol [Internet]. 2011 Apr [cited 2015 June 12];204(4):340e1-12. Available from: <https://www.issues4life.org/pdfs/20110100ajog.pdf>

28. Oliveira EFV, Gama SGN, Silva CMFP. Gravidez na adolescência e outros fatores de risco para mortalidade fetal e infantil no Município do Rio de Janeiro, Brasil. Cad Saúde Pública [Internet]. 2010 Mar [cited 2015 June 13];26(3):567-78. Available from: <http://www.scielo.br/pdf/csp/v26n3/14.pdf>

29. Rodrigues DT, Nakano AMS. Violência doméstica e abuso de drogas na gestação. Rev Bras Enferm [Internet]. 2007 Jan/Feb [cited 2015 June 16];60(1):77-80. Available from: <http://www.scielo.br/pdf/reben/v60n1/a14v60n1.pdf>

30. Wronski JL, Pavelski T, Guimarães AN, Zanotelli SS, Schneider JF, Bonilha ALL. Uso do crack na gestação: vivências de mulheres usuárias. Rev enferm UFPE on line [Internet]. 2016 Apr [cited 2016 June 16];10(4):1231-9. Available from: <http://www.revista.ufpe.br/revistaenfermage/index.php/revista/article/download/9090/14682>.

Submission: 2015/11/05

Accepted: 2016/08/21

Publishing: 2016/12/15

Corresponding Address

Francine Moraes da Silva
Rua Cipó, 705 - Portaria
Bairro Passo d'Areia
CEP 91360-370 — Porto Alegre (RS), Brazil

English/Portuguese

J Nurs UFPE on line., Recife, 10(Suppl. 6):4934-41, Dec., 2016