

Social determinants of health and psychoactive drug use in pregnancy

Determinantes sociais da saúde e o uso de drogas psicoativas na gestação
Determinantes sociales de la salud y el uso de drogas psicoactivas durante el embarazo

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Abstract

Objective: To analyze the relationship between social determinants of health and psychoactive drug use in pregnant women at habitual risk.

Methods: This is a documentary and retrospective study carried out with 344 medical records. Data collection used a semi-structured questionnaire, with questions related to sociodemographic, clinical and obstetric aspects. The predictor variables were configured as social determinants of health. Data were processed in the Statistical Package for the Social Sciences and discussed according to the Dahlgren and Whitehead Model.

Results: About psychoactive drug use, the most common among the population studied was alcohol, 12 (3.5%), followed by illicit drugs, 9 (2.6%) and tobacco, 8 (2.3%). An association of the proximal determinants belonging to the second layer of the model with alcoholism was noticed among the multigravidas. Regarding the intermediate determinants, it was evident that women who had an inadequate number of consultations during prenatal care were almost five times more likely to practice alcoholism. Inadequate supplementation was associated with smoking and education was associated with smoking and illicit drug use.

Conclusion: Thus, the present study demonstrated the relationship between the multiparity social determinants of health, inadequate number of prenatal consultations, inadequate supplementation and education with psychoactive drug use in pregnant women at usual risk, which may facilitate the detection of susceptible pregnant women, allowing the healthcare professional to strengthen health promotion actions aimed at reducing damage to the binomial.

Resumo

Objetivo: Analisar a relação entre os Determinantes Sociais de Saúde e o uso de drogas psicoativas em gestantes de risco habitual.

Métodos: Estudo documental e retrospectivo, realizado com 344 prontuários. A coleta de dados utilizou um questionário semiestruturado, com questões relacionadas a aspectos sociodemográficos, clínicos e obstétricos. As variáveis preditoras se configuraram como os Determinantes Sociais da Saúde. Os dados foram processados no Statistical Package for the Social Sciences e discutidos segundo o Modelo de Dahlgren e Whitehead.

Resultados: Sobre o uso de drogas psicoativas, a mais presente entre a população estudada foi o álcool, 12 (3,5%), seguida de drogas ilícitas, 9 (2,6%) e do tabaco, 8 (2,3%). Percebeu-se associação dos determinantes proximais, pertencentes à segunda camada do modelo, com o etilismo, entre as multigestas. Referente aos determinantes intermediários, evidenciou-se que as mulheres que tiveram um número de consultas inadequado durante o pré-natal apresentaram quase cinco vezes mais chances de praticar o etilismo. Suplementação inadequada esteve associada ao tabagismo e escolaridade esteve associada a tabagismo e uso de drogas ilícitas.

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Conflicts of interest: nothing to declare.

Conclusão: Dessa forma, o presente estudo demonstrou a relação entre os Determinantes Sociais de Saúde multigestação, inadequação do número de consultas pré-natais, suplementação inadequada e escolaridade com o uso de drogas psicoativas em gestantes de risco habitual, que poderá facilitar a detecção de gestantes suscetíveis, permitindo ao profissional de saúde fortalecer ações de promoção da saúde visando a redução de danos ao binômio.

Resumen

Objetivo: Analizar la relación entre los Determinantes Sociales de Salud y el uso de drogas psicoactivas en embarazadas con riesgo normal.

Métodos: Estudio documental y retrospectivo, realizado con 344 historias clínicas. La recopilación de datos utilizó un cuestionario semiestructurado, con preguntas relacionadas con aspectos sociodemográficos, clínicos y obstétricos. Las variables predictoras se configuraron como los Determinantes Sociales de Salud. Los datos se procesaron en el Statistical Package for the Social Sciences y discutidos de acuerdo con el Modelo de Dahlgren y Whitehead.

Resultados: Sobre el uso de drogas psicoactivas, la más presente en la población estudiada fue el alcohol, 12 (3,5 %), seguida por las drogas ilegales, 9 (2,6 %) y el tabaco, 8 (2,3 %). Se notó una asociación de los determinantes proximales, que pertenecen a la segunda camada del modelo, con el etilismo, entre las multigestas. Referente a los determinantes intermedios, se evidenció que las mujeres que tuvieron un número de consultas inadecuado durante el control prenatal presentaron casi cinco veces más posibilidades de practicar el etilismo. La suplementación inadecuada estuvo asociada al tabaquismo y la escolaridad estuvo asociada al tabaquismo y al uso de drogas ilegales.

Conclusión: De esa forma, el presente estudio demostró la relación entre los Determinantes Sociales de Salud embarazo múltiple, inadecuación del número de consultas prenatales, suplementación inadecuada y escolaridad con el uso de drogas psicoactivas en mujeres embarazadas con riesgo normal, que podrá facilitar la detección de embarazadas susceptibles, posibilitándole al profesional de salud fortalecer acciones de promoción de la salud con el objetivo de reducir los daños al binomio.

Introduction

Psychoactive drugs consist of substances capable of altering brain functioning and are classified as legal or illegal, natural or synthetic, and depressants, stimulants or disturbers of the Central Nervous System (CNS).⁽¹⁾

Psychoactive drug use, whether legal or illegal, presents itself as a serious public health problem, affecting all social classes, age groups and genders, being, however, aggravated when used by pregnant women.⁽²⁾

Infant mortality has been tracing a new profile, showing a reduction in the rate of deaths from infection and an increase in the number of deaths from congenital malformations. Among the main reasons for these changes, the consumption of psychoactive drugs, such as alcohol and tobacco, stands out.⁽³⁾

The prevalence of psychoactive drug use among pregnant women is probably underestimated.⁽⁴⁾ A retrospective cohort study, carried out in the United States, showed a trend in increasing dependence on legal and illegal drugs in pregnant women, with increasing rates in recent years, reaching a prevalence of 35 cases per 10,000 births. Among the drugs used, there are opioids (33,285; 65.82%), cocaine (10,539; 20.84%) and cannabis (7,244; 14.32%).⁽⁵⁾

In Brazil, a prospective cohort of 1,447 pregnant women in São Luís (Maranhão) estimated the prevalence of illicit drug use in pregnancy at 1.45% for the population under analysis, with single par-

enthood evidenced by living without a partner, presenting levels of stress high and the use of legal drugs, alcohol and cigarettes, as factors associated with this use.⁽⁶⁾ Another study carried out with 394 pregnant women monitored in basic health units in Maringá, identified a prevalence of 6.09% for the use of alcohol; 9.14% for cigarette use; 0.51% for the use of cannabis and crack.⁽⁷⁾

It is necessary, however, to know the factors related to this use. It is noticed that psychoactive drug use is intrinsically related to social determinants of health (SDH). SDH are defined as the circumstances in which populations grow, live, work and age, as well as the systems put in place to deal with disease. These situations are shaped by political, social and economic forces.⁽⁶⁾

Some models help to understand the determinants, among which the Dahlgren and Whitehead (1991) model stands out. This model arranges SDH in five layers. The first layer is related to the proximal determinants – individual characteristics such as age, sex and hereditary factors; the second refers to the behavior and lifestyle of individuals; the third covers social and community networks, highlighting their relationship with the level of social cohesion or social capital; the fourth deals with intermediate determinants – factors related to living and working conditions; and the fifth layer involves the distal determinants – macro-determinants of a supranational character, related to the socioeconomic, cultural and environmental conditions of society.⁽⁸⁾

Given the perinatal risk scenario associated with psychoactive drug use in pregnancy, it is necessary to use a conceptual model of SDH, in order to obtain a better understanding of the relationship between the different determinants and psychoactive drug use by pregnant women. It is urgent to establish strategies aimed at promoting the health of the maternal-infant binomial, through preventive actions that favor determining the vulnerability of pregnant women, as well as intervening in a timely manner in order to avoid negative maternal-neonatal outcomes. Thus, the objective was to analyze the relationship between SDH and psychoactive drug use in pregnant women at habitual risk.

Methods

This is a documentary, retrospective, cross-sectional study, written based on the STROBE checklist (Strengthening the Reporting of Observational Studies in Epidemiology),⁽⁹⁾ developed at the Coordination of Family Development (CDFAM) of the *Universidade Federal do Ceará* (UFC), a teaching unit that offers primary care to women's sexual and reproductive health, including reproductive planning, prenatal care (PN) and gynecological nursing consultation. Services are free, complementary to the local health network and provided based on spontaneous demand arising in the area covered by the unit.

The study population and sample included all medical records of pregnant women attended at CDFAM between August 2015 and December 2018. Participants having been referred to a high-risk PN or having only one PN consultation registered, characterizing withdrawal were excluded. During this period, 445 records were totaled. Of these, 55 had a record of only one consultation and 46 had a record of referral to the high-risk PN, making up a final sample of 344 evaluated medical records.

Data collection took place using a semi-structured questionnaire, with questions related to sociodemographic, clinical and obstetric aspects, prepared by the authors and validated by three teachers in the area of sexual and reproductive health, with

experience in PN care. There was double checking of data collection to avoid collection errors. The outcome variable was psychoactive drug use and the predictor variables were configured as SDH arranged in the first four layers of the model, considering that the fifth layer refers to macrodeterminants, not being addressed in the study.

The *Rede Cegonha* strategy criteria were adopted for adequacy in relation to the minimum number of PN consultations (seven consultations) and the early start of PN (up to 12 weeks of gestation). The Ministry of Health (MoH) recommendations were adopted for the adequacy regarding folic acid supplementation (first trimester of pregnancy), ferrous sulfate (from the 20th gestational week) and laboratory tests, namely: a blood type and Rh factor (ABO/Rh), two hemoglobins and two hematocrits (Hb/Ht), two syphilis tests (VDRL), two fasting glucose tests, two anti-HIV tests, one HbsAg test, one serology for toxoplasmosis and two urine summaries. We also considered immunization (antitetanus and hepatitis B) in pregnancy.⁽¹⁰⁾

Data were processed using the Statistical Package for the Social Sciences SPSS version 18.0. For nominal variables, Pearson's chi-square, Fisher's exact and Likelihood Ratio tests were used, considering statistical significance when $p < 0.05$. Reliability interval of 95% was adopted. Odds Ratio (OR) was used to evaluate risk in the associations and the Kolmogorov-Smirnov normality test was used for numerical variables, adopting the median, since there was a deviation from normality. Data were presented in absolute and relative frequencies and discussed according to the appropriate literature.

The present study was approved by the Institutional Review Board (IRB) of UFC, under Opinion 3,728,323 (CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 15948619.7.0000.5054).

Results

Most pregnant women were between 20 and 34 years old, 230 (66.9%), with a minimum age of 14

years and a maximum age, 45, with a median of 24 and an interquartile range of 9 years (p25 20.0 – p75 29.25). Regarding education, 173 (50.3%) pregnant women had secondary education. Most had a partner, 263 (76.5%), and, considering the valid answers, most were economically active 112 (67.0%).

As for obstetric data, most had up to three pregnancies, 271 (78.8%), were nulliparous, 199 (57.8%), and never had an abortion, 287 (83.4%). Regarding PN, most participants did not perform the minimum number of consultations recommended, 177 (51.5%), and started PN consultation after 12 weeks of pregnancy, 236 (68.6%).

It was observed that the most pregnant women, 250 (72.7%), received folic acid and ferrous sulfate supplementation in accordance with national recommendations. Most participants were immunized, 252 (73.3%), however they did not perform the routine laboratory tests of PN properly, 290 (84.3%).

Regarding psychoactive drug use, the most present among the population studied was alcoholism, 12 (3.5%), followed by the use of illicit drugs, 9 (2.6%) and smoking, 8 (2.3%).

Data referring to the association of SDH with psychoactive drug use by pregnant women were shown in Table 1.

By analyzing the association between psychoactive drug use and the layers of the SDH model, it was possible to observe statistical significance. The association of the proximal determinants, belonging to the second layer of the model, with alcoholism, made it evident that multigravidas were more than five times more likely to practice alcoholism ($p=0.05$; OR 5.49; CI 1.6 - 17.8). Regarding the intermediate determinants, fourth layer, it was evident that women who had an inadequate number of consultations during PN care were almost five times more likely to practice alcoholism ($p=0.026$; OR 4.8; CI 1.0 – 22.6). Likewise, women who received inadequate supplementation were eight times more likely to smoke during pregnancy ($p=0.010$; OR 8.4; CI 1.8 – 39.1). Another worrying fact is related to the higher proportion of pregnant women with low education related to psychoactive drug use. It was

observed that pregnant women with less education used more illicit drugs ($p=0.048$). Furthermore, the association between education and alcoholism also showed this same trend ($p=0.024$). Although no statistical significance was found when associating the age of pregnant women with psychoactive drug use, it was noticed that those aged 35 years or more had a lower frequency of smoking and illicit drug use, in which no women in this age group reported them. On the other hand, it was observed that pregnant women aged 19 years or less reported smoking and use of illicit drugs more frequently, when compared to other age groups.

Discussion

As for the most consumed substances among pregnant women at habitual risk, alcohol was the most prevalent, followed by illicit drugs and tobacco. Other Brazilian studies corroborate by pointing out that the frequency of alcoholism is higher than that of other substances.^(6,11)

Internationally, recent estimates suggest that 41.3% of women in the UK consume alcohol at some point during pregnancy, one of the highest rates in the European Region.⁽¹²⁾ On the other hand, in North America, there is evidence of a trend towards smoking among pregnant women, with the use of alcohol and illicit drugs being less prevalent.⁽¹³⁾ In Canada, a population evaluation showed that 10.5% of women smoked cigarettes daily or occasionally during the last gestational trimester; 10.5% reported drinking alcohol; and 1% used street drugs during pregnancy. It is noticed that substance use varies according to the race and ethnicity of the population.⁽¹⁴⁾

It is essential to highlight that the number of women who take psychoactive drugs during pregnancy is underdiagnosed, either because of their low adherence to PN care, due to prejudice,⁽¹⁵⁾ or due to omission about their real consumption due to possible embarrassment in front of professionals.⁽¹⁶⁾

Nurses, as reference professionals in PN care, are of great importance in this scenario, as they are able to build a bond of trust with patients, allowing

Table 1. Association of SDH with psychoactive drug use by the evaluated pregnant women (n=344)

MSDH Layers	Alcoholism n(%)		Smoking n(%)		Illicit drugs n(%)	
	Yes	No	Yes	No	Yes	No
1. Individual determinants						
Age group						
≤ 19 years old	2(2.5)	77(97.5)	4(5.1)	75(94.9)	5(6.4)	73(93.6)
20 to 34 years old	8(3.6)	215(96.4)	4(1.8)	218(98.2)	4(1.8)	214(98.2)
≥ 35 years old	2(6.7)	28(93.3)	0(0.0)	30(100.0)	0(0.0)	30(100.0)
p-value	0.624 [†]		0.161 [†]		0.070 [†]	
2. Proximal determinants						
Gestation						
4 and more	7(9.7)	65(90.3)	3(4.2)	69(95.8)	2(2.9)	68(97.1)
Up to 3	5(1.9)	255(98.1)	5(1.9)	254(98.1)	7(2.7)	249(97.3)
p-value	0.005*		0.306*		0.956*	
Parity						
4 and more	2(15.4)	11(84.6)	0(0.0)	13(100.0)	0(0.0)	12(100.0)
Up to 3	6(4.6)	125(95.4)	3(2.3)	127(97.7)	4(3.1)	125(96.9)
p-value	0.167*		0.447*		0.395*	
Abortion						
Yes	3(5.5)	52(94.5)	2(3.6)	53(96.4)	1(1.8)	54(98.2)
No	9(3.2)	268(96.8)	6(2.2)	270(97.8)	8(3.0)	263(97.0)
p-value	0.427*		0.624*		1.000*	
3. Influence of social networks						
Marital status						
Without a partner	3(4.5)	63(95.5)	3(4.6)	62(95.4)	3(4.5)	63(95.5)
With a partner	9(3.5)	248(96.5)	5(1.9)	252(98.1)	6(2.4)	246(97.6)
p-value	0.716*		0.205*		0.400*	
4. Intermediate determinants						
GA PN start						
Inadequate	9(3.9)	219(96.1)	5(2.2)	222(97.8)	7(3.2)	215(96.8)
Adequate	3(2.9)	101(97.1)	3(2.9)	101(97.1)	2(1.9)	102(98.1)
p-value	0.760*		0.710*		0.724*	
No. PN consultations						
Inadequate	10(5.8)	162(94.2)	3(1.8)	168(98.2)	6(3.6)	162(96.4)
Adequate	2(1.2)	158(98.8)	5(3.1)	155(96.9)	3(1.9)	155(98.1)
p-value	0.037*		0.490*		0.504*	
Supplementation						
Inadequate	3(7.1)	39(92.9)	4(9.5)	38(90.5)	2(5.1)	37(94.9)
Adequate	6(2.5)	238(97.5)	3(1.2)	240(98.8)	7(2.9)	235(97.1)
p-value	0.131*		0.010*		0.362*	
Immunization						
Inadequate	6(6.8)	82(93.2)	4(4.6)	83(95.4)	2(2.3)	84(97.7)
Adequate	6(2.5)	238(97.5)	4(1.6)	240(98.4)	7(2.9)	233(97.1)
p-value	0.090*		0.214*		1.000*	
Examinations						
Inadequate	11(3.9)	269(96.1)	7(2.5)	272(97.5)	7(2.5)	268(97.5)
Adequate	1(1.9)	51(98.1)	1(1.9)	51(98.1)	2(3.9)	49(96.1)
p-value	0.700*		1.000*		0.636*	
Education						
Illiterate	1(100.0)	0(0.0)	0(0.0)	1(100.0)	0(0.0)	1(100.0)
Primary	5(5.4)	88(94.6)	4(4.3)	89(95.7)	6(6.4)	88(93.6)
Secondary	3(1.8)	167(98.2)	2(1.2)	167(98.8)	1(0.6)	167(99.4)
University	1(4.2)	23(95.8)	1(4.3)	22(95.7)	1(4.3)	22(95.7)
p-value	0.024 [†]		0.420 [†]		0.048 [†]	
Work out						
Yes	6(5.4)	106(94.6)	2(1.8)	109(98.2)	2(1.8)	108(98.2)
No	2(3.7)	52(96.3)	1(1.9)	53(98.1)	3(5.7)	50(94.3)
p-value	1.000*		1.000*		0.331*	

†Likelihood Ratio *Fisher's exact test †Pearson's chi-square

them to be welcomed in a more humanized way. Associated with this, it is clear that pregnancy is an opportune period for greater receptiveness to interventions that strengthen care for this population.⁽¹⁷⁾

From the perspective that some factors may interfere with psychoactive drug use among pregnant women, it is considered essential that healthcare professionals know the condition in which these women are inserted, with a focus on SDH, in order to provide comprehensive care focused on promotion of health, harm prevention and harm reduction.

Regarding the association of individual determinants with psychoactive drug use, it is clear that the age group above 35 years was the one with the lowest prevalence of psychoactive drug use, corroborating the retrospective cohort study carried out in the United States, which showed that the sharpest increase in drug addiction among pregnant women was among women aged 25 to 34 years.⁽⁵⁾

On the other hand, the age group of adolescents was among those that most consumed illicit drugs, which are factors that increase the exposure of adolescents to unplanned pregnancy and even the risk of acquiring a sexually transmitted infection, due to the practice of unprotected sexual intercourse, influenced by the consumption of such substances, denoting the importance of healthcare professionals recognize such determinants and address the main vulnerabilities of young people.

With regard to individual determinants, although no statistical association was found between maternal age and psychoactive drug use, it is considered essential to highlight that the age of onset of these substances has been early, suggesting that adolescence is an important risk factor, which may be linked to the period of discovery of individuals, including family and peer relationships, capable of influencing psychoactive drug use.⁽¹⁷⁾

On the other hand, it is also pointed out that older age (30 years or more) is a maternal risk factor significantly associated with alcohol abuse in pregnancy, which can be justified by the behavior established throughout life, which diverges from the results pointed out in this research.⁽¹⁸⁾ Accordingly, the existence of the belief that abused substances do

not harm the baby, considering previous experiences of psychoactive drug use in pregnancy, interferes with the abandonment of these drugs.⁽¹⁶⁾

With regard to the second layer of the SDH model, proximal determinants stand out as behaviors capable of interfering with pregnant women's health conditions. In this context, the fact that multigravidas are linked to the higher prevalence of alcoholism, a risky behavior is highlighted. It is pointed out that women with more children consume more alcoholic beverages, when compared to those with fewer children.⁽¹⁸⁾ This finding may reflect the occurrence of unplanned pregnancies. In a study carried out in Kenya, it was observed that some women cited unexpected pregnancy as a reason for using drugs.⁽¹⁹⁾

It is known that women with unplanned pregnancy are more likely to develop anxiety,⁽²⁰⁾ which may lead to increased psychoactive drug use.⁽¹⁹⁾ Therefore, a somatization of relevant vulnerabilities can be seen and that should be considered by healthcare professionals during PN care, in order to reduce the risks of the mother-child binomial.

A study carried out in a primary care unit in South Africa with 376 pregnant women showed an incidence of 18% of current use of alcohol and other drugs (AOD). Of these, 18% were experiencing a major depressive episode, 19% had a current diagnosis of anxiety and 22% expressed suicidal ideation. Depression, anxiety, suicide, food insecurity, interpersonal violence, relationship dynamics and previous mental health problems were predictors of AOD use.⁽²¹⁾

Although the present study did not verify statistical significance between psychoactive drug use and women's parity, it is pointed out in the literature that having greater parity is related to alcohol consumption in pregnancy.⁽¹⁸⁾ Moreover, it is worth noting that the behavior and lifestyle adopted by pregnant women, related to the use of drugs and alcohol, are associated with the incidence of premature birth, low birth weight and impact adverse effect on the duration of pregnancy,⁽²²⁾ emphasizing the importance of recognizing second-tier SDH. In this sense, it is believed that recognizing the type of behavior of pregnant women will help the health

team in providing more individualized care, with guidelines more directed to women's needs.

Regarding the social determinants of the third layer of the model, it is highlighted that the Social and Community Networks reflect the level of social cohesion between pregnant women and their support network, including family, neighbors, friends and groups.⁽²³⁾ In this scenario, the experience of pregnancy, permeated by physical, emotional and social changes, can reflect on women's behavior, as well as that of their family and the people with whom they relate. Thus, it is believed that the partner's participation in the gestation process is very important, capable of directly affecting maternal-fetal well-being.⁽²⁴⁾

Although the present study did not observe an association between the consumption of psychoactive drugs and the presence of a partner, it is pointed out that living without a partner is related to alcohol consumption in pregnancy.^(18,25) Corroborating this, it is evident that the presence of a partner can be effective in supporting his partner in reducing drug use, especially in the context of planned pregnancy.⁽¹⁹⁾

Aiming to minimize the damage caused by psychoactive drug use on the binomial, it is believed that knowing the social scenario in which pregnant women are inserted enables the development of interventions aimed at them and their social and community network, which constitutes their social capital and influences their behavior.

Regarding intermediate-level determinants, which are influenced by distal determinants, their importance on health is highlighted, as they reflect exposure differentials and vulnerabilities to risk factors. Therefore, the importance of periodic PN care is emphasized, which enables the identification of real problems as well as potential of pregnant women, favoring the development of nursing care considering the clinical and obstetric risks presented.⁽²⁶⁾

The late start of PN follow-up can have consequences that hinder timely interventions, and it is recommended that pregnant women start PN in the first trimester, to intervene in adverse conditions that may occur during this period, potentially reducing the risk of complications for the woman and for the newborn during the parturition process.⁽²⁷⁾ This prior monitor-

ing is important since among drug users there is an increasing risk of preterm labor and birth.⁽⁵⁾

Corroborating this, a cohort carried out in São Luíz/MA, when evaluating PN care, he pointed out that the greatest harm to pregnant women was related to the reduced number of consultations by gestational age (GA), confirming the importance of adequate follow-up, with a view to identifying vulnerable situations and ensuring specific interventions.⁽²⁸⁾

Regarding the relationship between the number of PN consultations and alcoholism, a study carried out in Canada corroborates our finding by pointing out that the consumption of alcoholic beverages was more frequent among women who had fewer PN consultations.⁽²⁹⁾ Furthermore, a survey carried out in Maranhão showed that alcoholism and smoking are associated with a decrease in PN follow-up.⁽³⁰⁾

Faced with inadequate PN monitoring, it is suggested that pregnant women may be more subject to conditions of vulnerability, since PN consultations are moments of bonding between the team and the pregnant woman, facilitating interventions aimed at controlling psychoactive drug use.⁽³¹⁾ In agreement, it is pointed out that the number of PN consultations was negatively influenced by maternal smoking among pregnant women in Porto Alegre/RS.⁽³²⁾ It is also emphasized that pregnant women who did not receive professional guidance on the risks of using drugs in pregnancy were more likely to use drugs of abuse during pregnancy, compared to those who received guidance.⁽¹⁶⁾

In this scenario of comparison of intermediate determinants, the importance of vitamin supplementation, immunizations and routine exams is highlighted, which can be harmed by inadequate monitoring of PN.

With regard to vitamin supplementation, it was evidenced that pregnant women who received inadequate supplementation were more likely to be smokers. A study carried out with pregnant women in Rio Grande (RS) showed that the use of ferrous sulfate was less prevalent among pregnant women who had less than six PN consultations, suggesting a relationship with the recommendation by health-care professionals, confirming the importance of adequate follow-up.⁽³³⁾ The importance of further

studies investigating the relationship between vitamin supplementation and the use of psychoactive substances in pregnancy is highlighted.

Regarding maternal education, in line with the findings in this study, the high prevalence of alcohol consumption during pregnancy was evidenced in women with less education.⁽¹⁸⁾ Furthermore, another study identified a significant association between education and drug use, demonstrating a prevalence of pregnant drug users with complete high school (30%) and incomplete primary education (26.7%). In contrast, pregnant women with incomplete or complete higher education used less drugs, 10% and 3.3%, respectively.⁽²⁾

In addition to the findings of this research, it is evident that the inadequacy of PN care is associated with several factors that indicate the persistence of social inequality.⁽³⁴⁾ Thus, it is necessary to work to the satisfaction of Primary Health Care in the operationalization of its essential functions and attributes, according to existing policies, to ensure comprehensive care for pregnant women, and it is advisable to consider the sociocultural context that this is inserted to intervene in conditions of social vulnerabilities, which are essential to achieve equity in health.⁽²³⁾

The limitations of the research are related to the use of secondary sources, which are subject to underreporting, and the fact that the investigation was carried out in a single specialized service. Furthermore, one should consider the possibility of women neglecting or reporting consumption of psychoactive substances below reality, for fear of disapproval by healthcare professionals. Despite this, the data found are relevant, as they constitute results related to a subject aimed at a poorly studied population in Brazil. It is believed that the use of instruments to investigate risk factors for the use of these substances by pregnant women is effective in directing professional care.

Conclusion

The present study demonstrated the relationship between SDH and psychoactive drug use in pregnant women at habitual risk. Multiparity, inad-

equate number of PN consultations, inadequate supplementation and education were the determinants that were associated in the present study, which were included in the categories of proximal and intermediate determinants. It was realized that it is essential to create and maintain a link between healthcare services and pregnant women, in order to make them feel welcomed, that the risk or psychoactive drug use is detected early, increasing adherence to pre- and, consequently, interventions to promote the binomial's health.

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Crisóstomo BS, Nascimento AS, Oliveira RA, Balsells MMD, Ribeiro SG, Gadelha IP and Aquino PS collaborated with the study design, data analysis and interpretation, article writing, relevant critical review of the intellectual content and approval of the final version to be published.

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