

Evaluation of drug use by pregnant women in a teaching hospital in the countryside of Rio Grande do Sul

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Resumo

Justificativa e Objetivos: O abuso e a dependência de drogas transformaram-se em um importante problema de saúde pública, ganhando ainda mais ênfase quando se trata de gestantes, visto que quase todas as drogas atravessam a placenta e causam efeitos sobre o feto, podendo comprometer seu desenvolvimento. Assim, o presente estudo teve como objetivo avaliar a prevalência do uso de drogas durante a gestação entre as puérperas atendidas em um hospital de ensino do interior do Rio Grande do Sul. **Métodos:** Trata-se de um estudo transversal com 314 puérperas e seus neonatos, atendidos pelo Sistema Único de Saúde, no primeiro semestre de 2014. A coleta de dados deu-se pela análise de prontuários, aplicação de questionários semi-estruturados e entrevistas com parturientes usuárias de drogas de abuso. **Resultados:** Notou-se que a substância mais consumida foi o álcool, com 151 usuárias (48,1%), seguido pelo tabaco (44,6%). A droga ilícita mais consumida na gestação foi a maconha (8,0%). Ademais, constatou-se que 53,8% da amostra tinha convívio com fumantes e verificou-se uma tendência pelas gestantes de abandonar as drogas ilícitas mais precocemente do que as lícitas. **Conclusão:** Diante do exposto, evidencia-se a importância do rastreamento precoce do uso de drogas na gestação e da discussão, por parte dos profissionais de saúde com a comunidade, a fim de torná-la mais esclarecida dos malefícios que as drogas de abuso oferecem, bem como da importância da abstinência durante o período gestacional.

Descritores: gestantes, recém-nascido, bebidas alcoólicas, tabaco, drogas ilícitas.

Abstract

Background and Objectives: Drug abuse and addiction have become an important public health problem, gaining even more importance when it concerns pregnant women, since almost all drugs cross the placenta barrier and cause effects on the fetus, compromising its development. Thus, this study aimed to evaluate the prevalence of drug use during pregnancy among women treated in a teaching hospital in the countryside of the state of Rio Grande do Sul. **Methods:** This is a cross-sectional study of 314 mothers and their newborns, treated by the Unified Health System in the first half of 2014. Data collection was carried out through medical record analysis, application of semi-structured questionnaires and interviews with mothers that used abuse drugs. **Results:** It was observed that the most often consumed drug was alcohol,

with 151 users (48.1%), followed by tobacco (44,6%). The most often used illicit drug during pregnancy was marijuana (8.0%). Moreover, it was found that 53.8% of the sample had contact with smokers and there was a tendency for mothers to abandon illicit drugs earlier than licit ones. **Conclusion:** Given the abovementioned facts, we highlight the importance of early screening for drug use during pregnancy and discussions with the community carried out by health professionals to clarify the harm that abuse drugs offer, as well as the importance of abstinence during pregnancy.

Keywords: pregnant women, neonates, alcoholic beverages, tobacco, illicit drugs.

Introduction

In the current global context, drug abuse and addiction has become a major public health problem. There are several risk factors for drug use onset, but the most important one is the environment in which one lives. According to studies, social stimuli related to different contexts, such as family, school, peers, community, and media, would be primarily responsible for making people start using drugs.^{1,2}

Problems related to the consumption of alcoholic beverages, tobacco, and illicit drugs – marijuana, crack, and cocaine – were usually more common among men. However, changes in women's social role have determined a decrease in this difference. In recent years, there has been a substantial increase in the number of women users of alcohol and other drugs of abuse admitted in public hospitals, with clinical, surgical, and obstetric complications caused by addictive behavior.³

Drug use becomes a more significant problem when associated with pregnant women, as almost all drugs cross the placenta and have some effect on the fetus, which may compromise its development and health. Intrauterine growth restriction, prematurity, fetal death, Neonatal Abstinence Syndrome, and Sudden Infant Death Syndrome are just a few of the fetal effects. Intrauterine exposure to substances of abuse seems to be associated with a higher incidence of respiratory infections, asthma, sinusitis, and ear infections in childhood. Additionally, these children are more irritable, have difficulty concentrating and have more behavioral problems.^{4,5}

The association of pregnancy with the use of toxic substances may also lead to obstetric complications, especially placental abruption, and increased incidence of premature rupture of membranes, as well as miscarriage, increased maternal mortality, stillbirth, and neonatal mortality. Moreover, women who are drug users are at increased risk of medical problems, such as malnutrition, anemia, urinary tract infections and sexually transmitted diseases.^{5,6}

At several moments during prenatal care, it is possible for the health professionals to detect the use of licit and illicit substances by pregnant women, whose behavior in relation to drug use, both in Brazil and in other countries, draws attention to the need for diagnosis at the first consultations¹. Early diagnosis favors the intervention and creates possibilities for access to specialized treatment services. It is noteworthy, however, that in addition to all the social issues involved, pregnant drug users constitute a problem for health services, as they attend fewer prenatal consultations, and have a greater incidence of complications, which results in new challenges for the maternal and child health.^{1,7}

Considering this scenario, it is relevant to raise the awareness of health professionals about the importance of comprehensive, humanized, and qualified assistance to pregnant women, aiming to promoting health, preventing diseases, diagnosing drug abuse, offering early treatment and social reintegration. These support actions are efficient, since they reduce the level of stress, anxiety, and depression among pregnant women, creating an environment that is less prone to the use of psychoactive substances.^{7,8}

Therefore, the present study aimed to assess the prevalence of the use of licit and illicit drugs among pregnant women treated in the maternity hospital of a teaching hospital in the countryside of the state of Rio Grande do Sul, discriminating which drugs they used, how much they used and whether they had discontinued their use during pregnancy.

Methods

The Ministry of Health and the Ministry of Education have been working together to improve the collaboration strategies of states, municipalities, and universities to overcome the difficulties of working, training, and research in the health area. The National Program for the Reorientation of Vocational Training in Health (*Pró-Health*) and the Program of Education for Work in Health (*PET-Health*), strategies that are part of this policy, have been important markers in the formation of groups and teams of professionals involved in consolidating the integration of education, quality of service and interaction with the community. The partnership with the University of Santa Cruz do Sul (UNISC) began in 2005.

The present study was developed in the municipality of Santa Cruz do Sul and included medical undergraduate students of UNISC, who were scholarship recipients

and PET-Health volunteers, as well as Advisers and Preceptors that belonged to the tutorial group II – Psychosocial Care Network, which presents the project "Strengthening and integration of the care network for pregnant women users of crack and other drugs". The study was carried out at Hospital Santa Cruz, a reference hospital in the Vale do Rio Pardo region, during the first semester of 2014.

Following the ethical principles in Research with Human Beings, the study project was duly approved by the Research Ethics Committee of UNISC under Opinion number 609120 and the Free and Informed Consent Form was signed by the patients who accepted to participate in the study. Data collection was carried out through the analysis of medical records, use of semi-structured questionnaires and interviews with the pregnant women treated at Santa Cruz Hospital in the first semester of 2014. All of the mothers and their respective newborns (NBs), all treated through the Brazilian Unified Health System (SUS), who were admitted at the HSC maternity hospital during the data collection period and who accepted to participate in the study. Pregnant women with twin births were excluded, comprising 314 mother-baby binomials, whose data were analyzed using the Statistical Package for Social Sciences (SPSS) software, version 17.0 and Microsoft Excel 2010.

Using the profile of the pregnant women, it was evaluated whether they used the following drugs: alcohol, cigarettes, marijuana, cocaine, and crack. They were also asked how often, how much and how they used these drugs from the start of the consumption until the time they stopped – or until the time of data collection for those who never stopped. Additionally, they were questioned whether they had continued consuming these substances during pregnancy, if they had stopped using them when they became pregnant or at which trimester of the pregnancy the habit was discontinued (if they had done so).

Results

The results of the 314 pregnant women who comprised the sample regarding their use of alcohol, cigarettes, marijuana, cocaine, and crack are shown in Table 1.

Table 1. Drugs used by pregnant women treated in the first half of 2014

| Drug | n | % |
|-------------|----------|----------|
| Alcohol | 151 | 48,1 |
| Tobacco | 140 | 44,6 |
| Marijuana | 25 | 8,0 |

Of the 151 (48.1%) pregnant women who reported consuming alcohol, 78 (51.6%) reported consuming alcohol every week, 56 (37.1%) reported consuming it once a month and 17 (11.3%) reported consuming it at a variable frequency. Figure 1 shows the moment during pregnancy when alcohol consumption was discontinued.

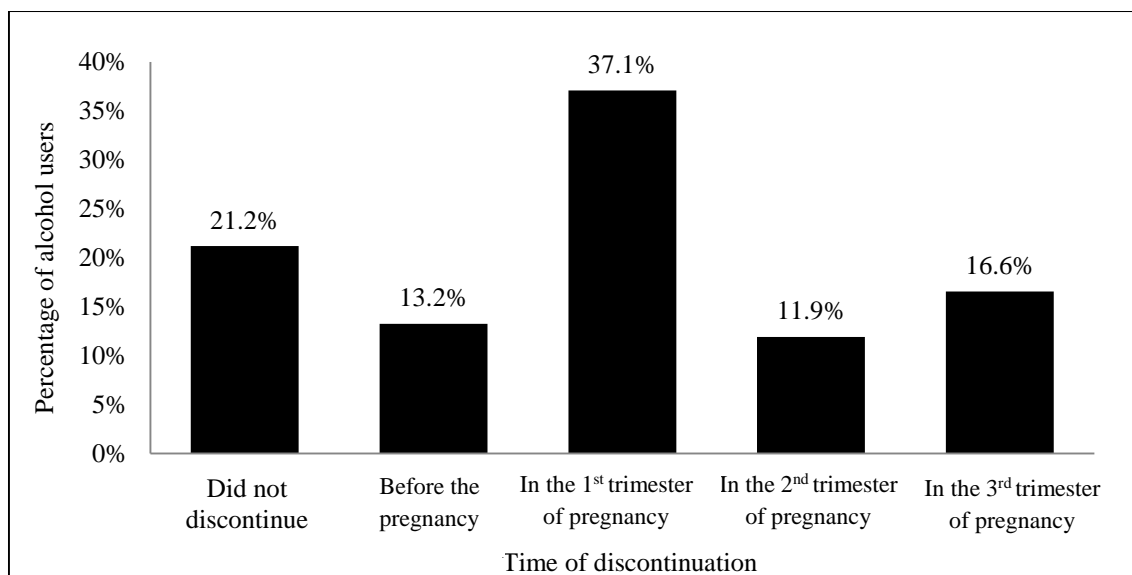


Figure 1. Discontinuation of alcohol consumption due to pregnancy by pregnant women who were alcohol users and were treated a referral hospital in the region of Vale do Rio Pardo in the first half of 2014.

Regarding tobacco use, when questioned regarding the number of cigarettes smoked per day, 56 (40.0%) answered between 1 and 10 cigarettes, 29 (20.7%) between 11 and 20, 2 (1.4%) reported smoking more than 20 and 53 (37.9%) did not know or did not want to tell. Figure 2 shows the time when these women stopped smoking or not due to the pregnancy.

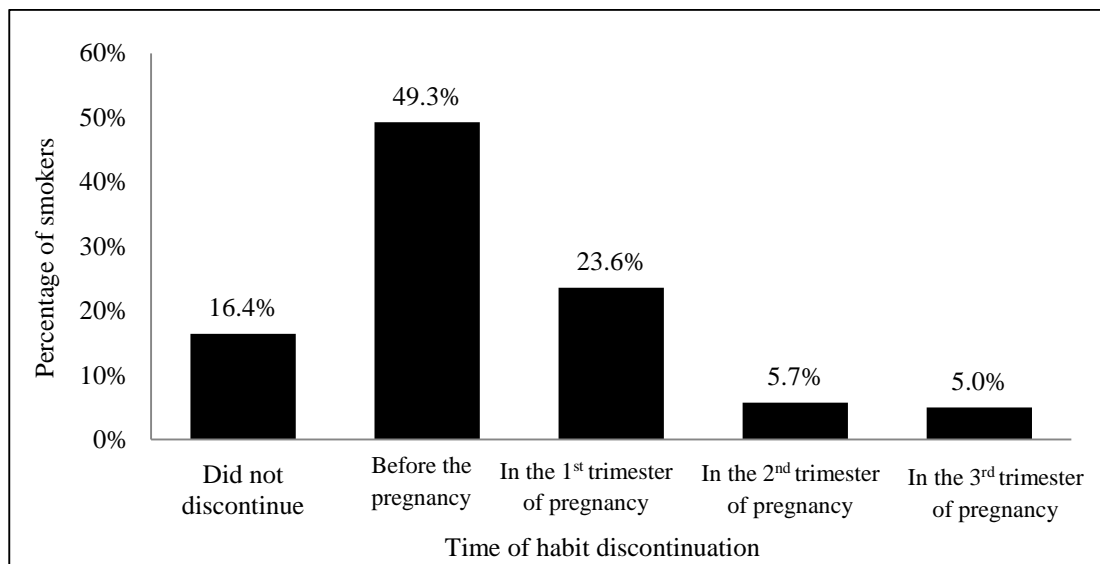


Figure 2. Smoking cessation due to gestation in smokers treated in a referral hospital in the Vale do Rio Pardo region in the first half of 2014.

Marijuana consumption was reported by 25 women, corresponding to 8.0% of the assessed sample. Of these, thirteen (52.0%) reported smoking between 1 and 10 marijuana cigarettes a day, 2 (8.0%) between 11 and 20 and 10 (40.0%) did not know or did not want to tell. Figure 3 shows the frequency of marijuana use cessation during pregnancy.

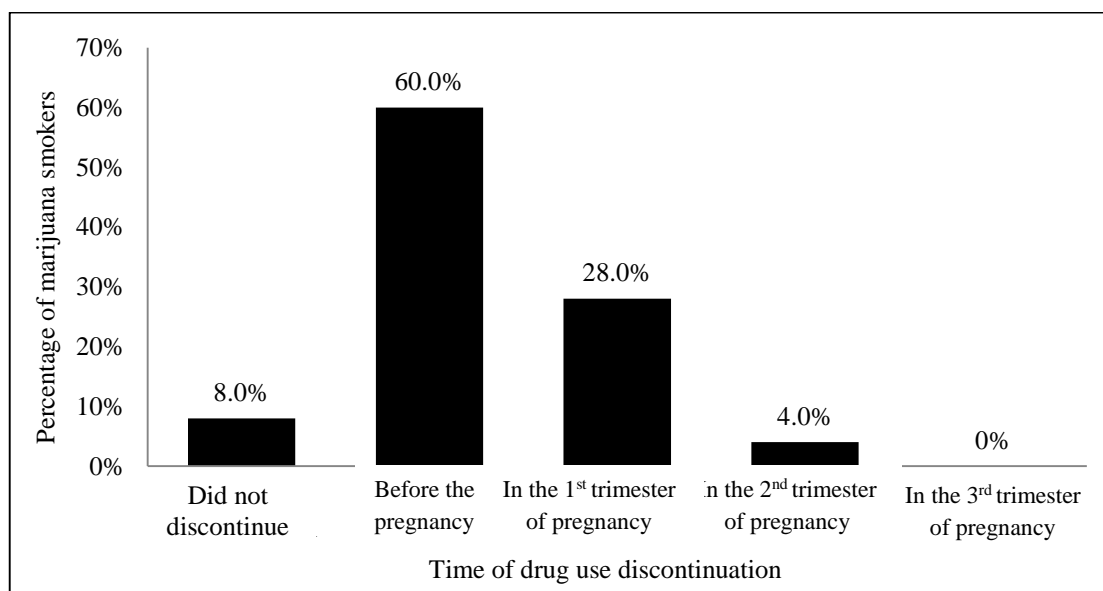


Figure 3. Interruption of marijuana use by pregnant women treated in a referral hospital in the Vale do Rio Pardo region in the first half of 2014.

The use of cocaine and/or crack was reported by 13 of the assessed pregnant women. Regarding frequency of use, 2 (15.4%) reported using these drugs only once a month, 5 (38.5%) reported using at least once a week and 6 (46.1%) reported consuming at a different frequency. All cocaine users said they inhaled the drug.

Regarding the amount of crack stones consumed a day, 1 (7.7%) reported consuming 1 to 2 stones, 2 (15.4%) reported consuming 3 to 5 stones and 2 (15.4%) more than 5 stones. Figure 4 shows the gestational period when cocaine/crack use was discontinued.

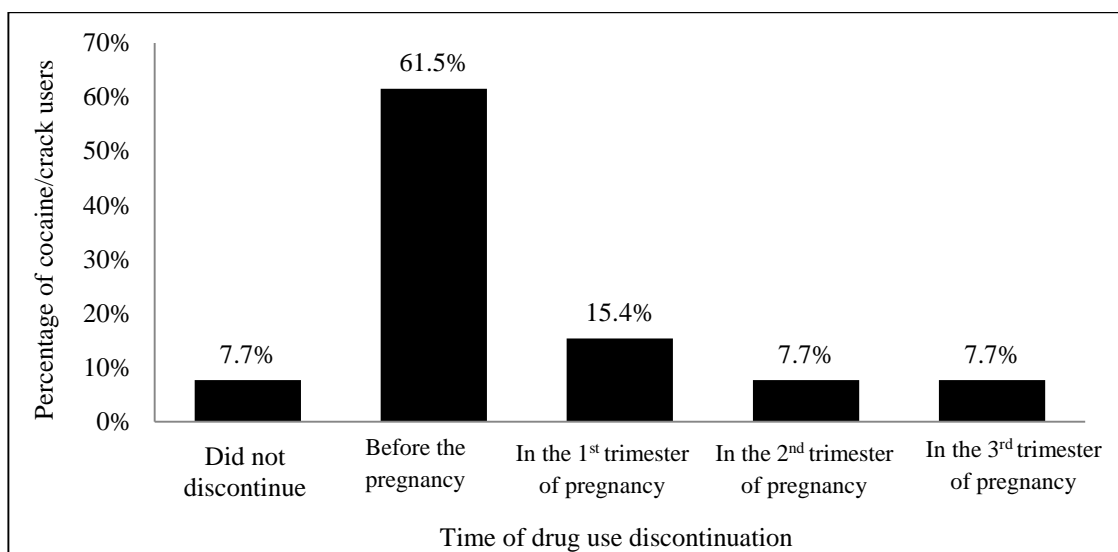


Figure 4. Abandonment of cocaine and /or crack use by pregnant women treated in a referral hospital in the Vale do Rio Pardo region in the first half of 2014.

Living with smokers (of cigarettes and/or marijuana) was reported by 169 of the total number of assessed pregnant women, equivalent to 53.8% of the sample.

Discussion

The present study showed that the drug most often used during pregnancy is alcohol, which is consistent with other studies. In relation to the consumption of alcohol, 48.1% used it during pregnancy, values that agree with the literature, as the prevalence of alcohol use during pregnancy ranges from 0.5 to 62.0%, depending on the type of study and the research method used.^{1,9,10} Alcohol easily crosses the placenta through the mother's blood, reaching the amniotic fluid and, consequently, the fetus. Ethanol levels in fetal blood and amniotic fluid are equivalent to those in the mother's blood about one hour after consumption, and may damage the fetus at any stage of pregnancy, including during the first few weeks – even before the woman knows that she is pregnant. In this study, 131 pregnant women (86.7%) maintained their consumption of alcoholic beverages during at least some period of the pregnancy. This is an alarming fact that shows that the sensitization of professionals and early screening for alcohol consumption during the prenatal consultations seem to be the best strategy. The approach to this question by the health professional promotes reflections and

strengthens feelings and attitudes of greater self-control and self-care, enough for the reduction or even cessation of alcohol consumption.^{1,4}

Excessive alcohol consumption during pregnancy can be explained due to Brazilian cultural issues, since some women drink alcoholic beverages during pregnancy and/or puerperium – more specifically dark beer – under the guidance of their mothers and grandmothers, who associate dark beer consumption to an increased breastmilk production. Among the several immediate consequences that alcoholism causes to the fetus during pregnancy, fetal alcohol syndrome (FAS) is one of the most serious. FAS is defined by severe damage to the central nervous system, which causes neurological and craniofacial abnormalities as well as behavioral dysfunctions. It is estimated that the risk of having a child with FAS is approximately 6% among alcoholic pregnant women.^{11,12}

The second most often consumed drug by pregnant women was tobacco (44.6%), which corroborates other studies that showed it is one of the drugs most often used by pregnant women. In relation to this drug, a major problem shown in the study was the fact that the pregnant women were living with smokers, a fact reported by 53.8% of the sample, which might have been not only the triggering factor for drug use but also the factor that made it difficult for them to quit.

Another alarming finding of the study was that 50.7% of the pregnant women who smoked cigarettes reported having smoked during some period of the pregnancy or even did not stop smoking. This fact has implications for the fetus, who is affected by multiple tobacco substances, being the major cause of miscarriage, membrane rupture and placental abruption.^{1,6}

Nicotine concentrations – only one of the 4,000 substances to which the fetus is exposed when the mother smokes cigarettes – are higher in the fetal compartment when compared to maternal serum concentrations. Although the exact mechanisms by which nicotine causes deleterious effects to the fetus are not fully elucidated, hypoxia, malnutrition, and vasoconstriction effects on the placenta and umbilical cord vessels seem to be of utmost importance. Moreover, it has been shown that nicotine causes damage to brain development, affecting its metabolism and neurotransmitters.^{1,4,6}

In our study, we observed that, after alcohol and tobacco, the drug most often used by pregnant women was marijuana, which is the illicit drug most often consumed by future mothers, corroborating the data in the literature. The self-reported prevalence of marijuana use during pregnancy found in this study was 8.0%, higher than that found

in other studies, which observed a prevalence of 2 to 5%; it can, however, reach 15 to 28% among young, urban, and socioeconomically disadvantaged women. According to the American College of Obstetricians and Gynecologists, intrauterine exposure to exogenous cannabinoids can disrupt brain development and function, impairing cognition and increasing sensitivity to drugs of abuse.¹³⁻¹⁶

The proliferation of psychoactive drug use, such as cocaine, has increased among women of childbearing age, which has led to several medical and social challenges regarding the association between drug use and maternal and child health. In our study, the use of cocaine and / or crack was disclosed by 13 (4.1%) of the assessed women, slightly below the values found in other studies, which showed a prevalence rate of approximately 10%. The abuse of these types of drugs is a matter of concern for health professionals, as the use of crack in pregnancy can lead to miscarriages, prematurity and decreased fetal growth, for instance. Cocaine crosses the blood-brain barrier, which can result in brain growth and fetal cortical development alterations.^{1,6,17}

The neurobehavioral effects of cocaine are varied, such as difficulty eating and sleeping, stress, nervousness, motor immaturity, altered reflexes and signs of withdrawal. As for the global motor pattern of neonates, the literature indicates an increase in tonus and altered reflexes in babies exposed to cocaine in the prenatal period, also resulting in changes in the state of consciousness, in oral reflexes and suction pattern.^{1,4,6}

Even though there is no reliable estimate of the number of pregnant drug users, there is evidence that women tend to omit their drugs use habit, which could explain the low drug use rates, especially regarding illicit drugs, during the pregnancy period. When comparing the assessed period of drug use discontinuation (alcohol, tobacco, marijuana, cocaine, and crack), there was a trend towards an earlier abandonment of illicit drugs and a later one for licit drugs. That is, most of the interviewed women stopped using drugs such as cocaine and crack before pregnancy, although some of them used tobacco until days before the birth of their children. This fact should be carefully assessed, as licit drugs can result in deficits that are as harmful as illicit ones to fetal brain development.⁴

Considering the abovementioned facts, alarming deficiencies are observed in the care offered to drug users when we analyze the sociocultural context where the individual is living, as one can identify the risk factors that permeate the dysfunctional

use of drugs, such as low self-esteem, financial problems, anxiety, and relationship problems –especially with one’s partner.

This issue is crucial for the creation of strategies for the health teams to work with families and other vulnerable individuals. Moreover, studies have found that women's motivation to change their behaviors in relation to the use of abuse drugs during pregnancy is high and have stated that the focused implementation of effective intervention programs for pregnant drug users has the potential to have a substantial impact on public health.^{18,19}

Thus, the early detection of risk factors related to drug use by pregnant women – through effective screening programs, combined with the participation of trained professionals through continuing education programs and the development of further studies on the subject – may allow the correct targeting of measures to improve pregnancy quality. This may contribute to the reduction of obstetric complications and, consequently, of health costs.

We believe the results found in the present study can make health professionals aware of the problem and provide essential information concerning the care offered to pregnant women who are drug users in the Vale do Rio Pardo region. Health professionals are expected to discuss and present the issue to the community aiming to make them more aware of the harm that abuse drugs cause and the importance of abstinence during the gestational period. The study points out that it is crucial to treat the pregnant woman in a more individualized way, through support groups, by offering full assistance to the mother and her baby – including psychiatric, nutritional, obstetric, and pediatric support. This type of care could help even to prevent a post-pregnancy return to addiction. Based on this study, we expect that more studies will be developed aiming to establish the best approach strategy for this vulnerable segment of the population.

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