



Influence of Substance Use During Pregnancy on Maternal and Fetal Health

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 11 Sept 2023	<p><i>The increase in substance use, whether legal or illegal, represents a growing global public health problem, affecting various social groups, including pregnant women. The main objective of this research is to describe the use of drugs during pregnancy and to analyze the harmful effects that these substances can cause both in the mother and in the fetus. To carry out this study, a qualitative research methodology of exploratory documentary type was used. Relevant data was collected and selected by reviewing documents, books, and journals published from 2015 to the present. This exhaustive bibliographical review provided us with the necessary support to develop this research work. The findings showed that the consumption of illicit drugs during pregnancy entails a high-risk situation both for the health of the mother and for the development of the fetus. In addition, it was possible to establish that the onset and duration of the neonatal abstinence syndrome vary depending on the type of drug consumed, the amount ingested, and the time of consumption in relation to the date of delivery. In the conclusions of the study, it has been shown that the use of drugs, both legal and illegal, is more frequent in pregnant women. There are many complications that can arise because of drug use during pregnancy, affecting both the mother and the fetus.</i></p>
CC License CC-BY-NC-SA 4.0	Keywords: Substances, legal, Illegal, Mother, Fetal health, Drugs, Pregnancy

1. Introduction

Drugs have their appearance since the time of Colonialism, whose period is in the late eighteenth and early nineteenth centuries. Since the 70s, drug use has been a social problem for pregnant women, and a mortal danger to the fetus. ⁽¹⁾

The consumption of licit and illicit substances is a growing public health problem worldwide, in the general population and in the different socioeconomic strata; but it is also striking that it occurs frequently in pregnant women, a situation that affects fetal and neonatal maternal morbidity and mortality. A worrying fact is to know that these women consume more than one type of drug daily during their pregnancy, that is, in addition to marijuana or cocaine, they also consume drugs that are socially accepted such as alcohol and tobacco, even tend to abuse those drugs for medical use. ⁽²⁻¹²⁾

During our research we identified that the consumption of illicit drugs during pregnancy leads to a situation of high risk for the mother and the fetus, since it can affect fetal growth, adaptation to life outside the womb with manifestation of withdrawal syndrome and the subsequent development of the child. Most psychoactive substances cross the placenta by passive diffusion, affecting the fetus, in addition to this, it is necessary to take into account the route of administration used, dosage, duration of consumption, and the gestational period in which exposure occurs. During pregnancy physiological

changes occur that can alter the kinetics of drugs in the body, increasing toxicity and morbidity and mortality. Women who are addicted to injecting drugs are also at risk of contracting serious infections such as HIV, hepatitis B and C, and increasing the possibility of vertical transmission in the newborn. (3-13)

Neonatal abstinence syndrome: is characterized by a set of symptoms and signs of hyperexcitability of the nervous, digestive and respiratory system, due to the withdrawal of drugs that cause addiction. The onset and duration of NAS vary depending on the type of drug, amount consumed, and time of use in relation to the date of delivery. The AEP says it appears in 70% of children of consuming mothers. (4-14)

Diagnosis is not difficult in most cases. In a general sense, each patient must be individualized. The behavior of the addicted patient is usually irresponsible, and this also applies to prenatal care, which makes her responsible for many complications that can occur to her, the fetus and the newborn. (5-15)

The use of illegal drugs in addition to affecting the woman's body can affect pregnancy at all stages. These expose them to risk behaviors in which they can contract serious infectious diseases such as HIV and Hepatitis B or C.

There are multiple effects that substance use can cause during pregnancy and that cause a risk situation in the fetus and newborn. Some of these effects can be: prematurity, malformations, vertical infections, low weight, neonatal abstinence syndrome, etc. It not only affects the fetus, but also affects its adaptation to life outside the womb and its subsequent development as a child. Neonatal abstinence syndrome should be noted for its frequency in cases of consuming mothers. This is accompanied by different signs and symptoms (digestive, neurological and autonomic) that must be treated initially, without drugs, and adding a pharmacological treatment later. All treatment should be given individually and according to the factors surrounding the child. There are units for their control and follow-up after birth, since they require special attention. (6)

Pregnant women who consume drugs in gestation do not have a clear knowledge of the consequences that these substances attract, so it is important to keep all the staff of the health home that provides care to patients trained, and at the same time socialize according to the situation and diagnosis.

Mothers who use drugs during pregnancy increase their risk of anemia, blood and heart infections, skin infections, hepatitis, and other infectious diseases. It also has an increased risk for sexually transmitted diseases. Almost all drugs pass from the mother through her bloodstream through the placenta to the fetus. Illicit substances that cause drug dependence and addictions in the mother can also cause the fetus to become addicted. (7)

Effects on the fetus and newborn

Effects that have been reported due to opioid use on the fetus and newborn are:

Low birth weight. It is mainly due to intrauterine growth retardation.

Meconium aspiration. Due to hypoxia and fetal distress during childbirth.

Opioid withdrawal syndrome of the newborn. Although opioid withdrawal syndrome is not fatal in adults, there is evidence that the fetus is more susceptible to it than the mother. As for the symptoms, they are similar to those observed in adults, and their appearance depends on the following factors: daily maternal dose of drug, duration of addiction and interval from taking the last dose and delivery. The more intense the drug addiction in volume and time, and the shorter the free interval between the last dose and delivery, the more easily the syndrome will appear. The most important symptoms are: digestive (vomiting and diarrhea), neurological (irritability, hyperactivity, tremors, hypertonia, voracity, masticatory crises, myoclonus, apnea attacks and even seizures), respiratory (tachypnea), cutaneous (rubbing injuries) and other less frequent, such as: sneezing, yawning, nasal congestion, insomnia and fever.

There are many causes that encourage women of childbearing age and low resources to fall into drug addiction, so it is frequent and brings with it unplanned pregnancies and repercussions on neonatal maternal health. So, we set out to describe the use of drugs in pregnancy and the damage that these substances cause.

2. Materials And Methods

This research is based on a quantitative methodological approach of documentary type, through which relevant information was collected and selected through the reading and exhaustive analysis of documents, books and scientific journals. This complementary observation technique has been defined as a valuable tool if there are records of actions and programs related to the object of study. ⁽⁸⁾

The documentary review has been very useful to obtain a deep understanding of the development and characteristics of the processes investigated, as well as to have information that supports or questions the statements obtained through the interviews carried out with the study group. The bibliographic and documentary review has allowed us to analyze the actions, experiences and various conceptions about the phenomenon studied, providing us with a solid theoretical support to understand drug use during pregnancy.

This methodological approach has been fundamental to accurately delimit our object of study and to verify the current state of knowledge in relation to the subject investigated. The elaboration of a theoretical structure based on the documentary review has allowed us to delve into the key aspects of drug use during pregnancy and, in this way, obtain conclusions based on solid evidence and fundamental answers to the question posed.

In addition, the quantitative approach has given us the opportunity to quantify and analyze numerical data related to drug use in the gestational period, which has enriched the analysis and interpretation of the results. The methodological rigor applied in this research has guaranteed the validity and reliability of the findings, which strengthens the credibility of the conclusions obtained.

The documentary-type quantitative methodological approach has been a valuable tool in the present research, providing a solid basis for describing and understanding drug use during pregnancy. The documentary review has allowed us to obtain complementary information and contrast the data obtained, which has enriched our knowledge about this phenomenon. Likewise, this methodology has been key to establishing a theoretical structure that guides our conclusions and contributes to the advancement of knowledge in this area of study.

3. Results and Discussion

Table N°1: Drugs and pregnancy

Finds	Article Name	Analysis
Illicit drug use during pregnancy leads to a high-risk situation for mother and fetus	Toxic effects of consumption. Drugs in pregnancy ⁽³⁾	Drug use during pregnancy has serious repercussions as it affects the development of the child and the health of the mother ⁽³⁾

Source: peer-reviewed articles. Authors; 2021.

Table N°2: Neonatal abstinence syndrome

Finds	Article Name	Analysis
The onset and duration of NAS vary depending on the type of drug, amount consumed, and time of use in relation to the date of delivery.	Addictive substances and pregnancy: Nursing care for pregnant women and newborns to minimize their effects ⁽⁴⁾	NAS occurs in a high percentage in mothers who consume signs and symptoms due to eliminating the drugs that produce addiction ⁽⁴⁾

Source: peer-reviewed articles. Authors; 2021.

Table N°3: Characteristics of drug-dependent pregnant women

Finds	Article Name	Analysis
The behavior of the addicted patient is usually irresponsible, and this also applies to prenatal care, which makes her responsible for many complications that can occur to her, the fetus and the newborn.	Cocaine: obstetric, medical and perinatal complications. Clinical characteristics and treatment of these patients ⁽⁵⁾	The life of the pregnant addict is irresponsible for any act even of the being that is developing in his womb ⁽⁵⁾ . In the effects of the ingested drug, they have the ability to generate risks to the fetus and newborn such as prematurity, malformations, neonatal abstinence syndrome etc ⁽⁶⁾ . In dependence on illicit substances, dependence or transmitted diseases can affect the fetus

There are multiple effects that substance use can cause during pregnancy and that cause a risk situation in the fetus and newborn.	Drugs during pregnancy and effects on neonates and newborns ⁽⁶⁾	since drugs pass from the mother through the bloodstream through the placenta. Even the mother increases the risk of contracting anemia, infections, hepatitis etc. ⁽⁷⁾ . Drug use leads to unwanted pregnancies and worsening maternal and neonatal health ⁽⁹⁾
Illicit substances that cause drug dependence and addictions in the mother can also cause the fetus to become addicted.	Illegal drug use and pregnancy ⁽⁷⁾	
Incidence of withdrawal syndrome, its manifestations and other effects produced by substance use in both mother and neonate before, during and after delivery.	INSTITUTIONAL REPOSITORY OF THE UNIVERSITY OF GUAYAQUIL ⁽⁹⁾	

Source: peer-reviewed articles. Authors.

The issue of the influence of substance use during pregnancy is of paramount importance, as it represents a public health problem with significant implications for the mother and fetus. The increase in substance use, both licit and illicit, among pregnant women is a global concern that poses medical, social and ethical challenges. Pregnancy is a critical stage in a woman's life and fetal development. During this period, maternal and fetal health are interconnected, and any alteration or exposure to toxic substances can have long-term consequences. It is important to note that drug use during pregnancy can put the mother's health at risk. The substances consumed can negatively affect the physical and mental well-being of the pregnant woman, increasing the likelihood of obstetric and medical complications. Substance use can also lead to dependence, which can negatively impact long-term maternal health.

In addition, the fetus is especially vulnerable to the effects of substances consumed by the mother during pregnancy. The placenta, which is the barrier between mother and fetus, is not completely impermeable, allowing some substances to cross this barrier and reach the fetus. This can have serious consequences for fetal development, such as congenital malformations, intrauterine growth retardation, low birth weight, neurological and behavioral problems, among others.

It is important to note that the effects of substance use on the fetus can vary depending on the type of drug, the dose, and the stage of pregnancy at which the use is performed. Some drugs can have immediate and obvious effects, while others can cause long-term damage that may not be apparent until later in the child's life. Given the complexity of this issue, it is critical that health professionals, researchers, and policymakers work together to address this problem holistically. Prevention, education and treatment are key pillars to reduce substance use during pregnancy and protect the health of both mother and fetus.

The influence of substance use during pregnancy on maternal and fetal health is a critical issue that requires ongoing care and an effective response. The implementation of preventive and early intervention strategies, along with increased public awareness of the associated risks, are critical to protecting the health and well-being of pregnant women and their future children. As researchers and scientific professors, it is our duty to continue researching and promoting evidence-based solutions to address this public health challenge and improve the future of generations to come.

4. Conclusion

After conducting a thorough review, it is clear that the consumption of drugs, both licit and illicit, is a problem that most often affects pregnant women. Multiple causes have been identified that incite to fall into drug addiction during this stage, and studies show that many of these women use some type of drug on a daily basis. This situation represents a significant concern for public health, since it has important repercussions on maternal-fetal and neonatal morbidity and mortality, a phenomenon that is progressively increasing. The impact of drug use on pregnancy manifests itself in a series of complications that affect both mother and fetus at all stages of gestation. Among these complications are infectious diseases, anemia, prematurity, malformations, low birth weight and vertical infections. Notably, it has been observed that one of the most relevant consequences is neonatal abstinence syndrome, which occurs when the consumption of a drug that has already generated dependence in

the fetus is abruptly withdrawn or decreases. Neonatal abstinence syndrome is characterized by a variety of signs and symptoms, including seizures in the neonate.

A worrying aspect is that pregnant women who use drugs often lack sufficient information about the risks associated with these substances. In this sense, it is of vital importance the performance of nursing staff when faced with these cases, based on the basic pillars of the national drug plan, which are prevention, education and rehabilitation. The multidisciplinary approach and the implementation of prevention strategies from gestation are essential to address this problem. Once the neonatal abstinence syndrome is established, comprehensive management is required that includes both non-pharmacological and pharmacological approaches. However, it is necessary to emphasize that a gap has been found in the knowledge about the specific management of neonatal abstinence syndrome, especially due to the increase in the appearance of new drugs of abuse, which is considered one of the main causes of its increase today.

The issue of breastfeeding is also a matter of debate in the context of pregnant women who continue to use drugs. While breastfeeding has undoubted benefits for the baby, in mothers with active drug use, the risk can outweigh the benefits, making proper education essential for both the mother and her family group.

In conclusion, the influence of substance use during pregnancy on maternal and fetal health is a complex problem with a high impact on public health. It is imperative to continue researching and developing effective prevention, education and treatment strategies that comprehensively address this situation. The active participation of nursing staff and a multidisciplinary approach are essential to improve health outcomes for both expectant and developing babies. Proper education and public awareness are essential to address this issue and ensure the well-being of future generations.

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