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Relationship between the use of licit and illicit drugs during pregnancy with prematurity

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ABSTRACT

OBJECTIVE

Correlate the use of licit and illicit drugs during pregnancy with prematurity.

METHODS

An epidemiological study was carried out through the descriptive analysis of medical records of postpartum women, provided by the Basic Health Units in the South Zone region of the city of São Paulo/SP, Brazil, specifically in the Grajaú neighborhood.

RESULTS

65 medical records were analyzed between 2020 and 2023, in which 69.2% of women had pregnancies classified as high risk. Furthermore, 15.38% of the infants analyzed were born prematurely, with 80% already having a high-risk pregnancy classification since prenatal care. Furthermore, 18.75% of women who used licit drugs during pregnancy had premature births and 6.25% had post-term births.

CONCLUSION

Comparing the data collected in the research with those from CEInfo of SMS-SP, it was observed that despite the many cases of prematurity reported in the medical records, the relationship between prematurity and drug use during pregnancy was insufficient to justify the high index of this prematurity, this is because this information is not easily reported by pregnant women. Excluding the use of drugs as the main factor causing prematurity, a possible relationship between other factors was noted, such as maternal age below 20 years and above 35 years, and the number of prenatal care sessions less than that recommended by the Organization World Health.

DESCRIPTORS

Pregnancy, Drug abuse, Premature birth.

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INTRODUCTION

Pregnancy is a period in a woman's life of great changes, and, therefore, marked as a priority in public health in the prenatal, childbirth and postpartum periods. However, some factors related to the habits and lifestyle of some pregnant women, such as the use of licit and illicit drugs during pregnancy, can negatively impact fetal health, requiring extreme care and maternal attention[1].

According to Liu and Li (2018), chemical dependency is a chronic disease that is based on the reward system, where situations of discomfort for the patient cause the need for compensation for drug use and this need becomes a compulsory act[2]. The dependence condition begins with the recreational use of drugs, which ends up becoming regular use and eventually the patient becomes addicted. Drugs are substances that are exogenous to the human body and that cause changes in the body, such as pharmaceuticals, illicit drugs and licit drugs. Licit drugs are defined as drugs that can be manufactured, sold and consumed without any restrictions by law, whereas illicit drugs are defined as products, which, due to restrictions by law, cannot be manufactured, sold or consumed and their commercialization is considered a crime[3].

In the year 2019, *The World Drug Report* indicated that at least 5% of the population uses drugs, and, while this number continues to increase, the number of pregnant women with drug addiction is also increasing, which has become a problem for public health. It is difficult to estimate the number of pregnant women who use drugs due to the use of multiple drugs and the lack of resources for data collection, but among the drugs most used by pregnant women are opioids, cocaine and marijuana. The abuse of chemical substances can affect several systems of the human body, such as the cardiovascular, respiratory and central nervous systems, affecting mental development and causing damage that extends to fetuses[3]. Furthermore, pregnant women exposed to such substances have a higher incidence of clinical and obstetric complications, due to fewer prenatal consultations and a greater number of hospitalizations[4].

Chemical dependency during pregnancy can be framed as a social problem, as it is generally related to lack of prenatal care, socioeconomic difficulties, homeless families, unemployment, teenage pregnancy and low education. Furthermore, drug use can cause pregnancy complications such as placental abruption, maternal and fetal death, and can even cause premature labor[3].

Conceptually, preterm labor is defined as regular contractions accompanied by cervical changes at less than 37 weeks of gestation. Premature births can occur for a variety of reasons and are responsible for 75% of perinatal mortality and more than half of long-term morbidity[5].

According to the Unified Health System (SUS) database, in 2019, 11% of live births in Brazil were premature; in 2020, 11.31%; and, in 2021, 12.19%. Being among the 10 countries where the most premature births are born, with around 280 thousand preterm births in the country in 2012, of these, 70% die within 28 days of life[6].

The obstetric precursors that most lead to preterm birth are: birth due to maternal or fetal complications (30-35%), spontaneous preterm labor with intact membranes (40-45%) and premature rupture of preterm amniotic membranes (25-30 %). Furthermore, they can be subdivided according to gestational age: around 5% of premature births occur at less than 28 weeks (extreme prematurity), around 15% at 28-31 weeks (severe prematurity), around 20% at 32 -33 weeks (moderate prematurity) and 60-70% at 34-36 weeks (near term)[5].

Premature birth is identified as one of the main causes of early neonatal mortality, along with congenital malformations, intrapartum asphyxia, perinatal infections and maternal factors[6].

It is known that smoking, alcoholism and drug use are a public health problem throughout the world. However, when this practice is associated with pregnant women, greater attention is required, since after being exposed to the substances, the fetus' central nervous system may be compromised, as when crossing the blood-brain barrier, these substances pass through the placenta to fetus[1]. Furthermore, when these defects persist during pregnancy, they are highly associated with prematurity[6].

The objective of the present study was to correlate the use of licit and illicit drugs during pregnancy with prematurity.

METHODS

Study design

This is an epidemiological study with data analysis from physical records present at the Basic Health Unit (UBS) Parque Residencial Cocaia Independente in the city of São PauloQSP, Brazil.

Casuistry

To compose the sample, the medical records of 65 pregnant women and 65 newborns dated from 2020 onwards who underwent prenatal care at the Basic Health Unit (UBS) Parque Residencial Cocaia Independente were evaluated, which provided all conventional, non-electronic medical records.

The information collected was authorized by the City of São Paulo, through the Letter of Consent, and signed by the main researcher and research assistants the Term of Justification of Absence of the Free and Informed Consent Form (TCLE) and the Term of Commitment and Confidentiality, to guarantee the anonymity of patients regarding to confidential data involved in the research.

This research was approved by the Research Ethics Committee (CEP), of the Santo Amaro University Institution (UNISA) by opinion number 5,572,780, based on the ethical principles of research projects and/or scientific studies, of research ethics committee of UNISA and São Paulo City Hall.

Variables

From the selected sample, a retrospective analysis of medical records was carried out. Searching for data such as: patient identification (age, race, education, employment status), pre-existing comorbidities or those acquired during pregnancy, pregnancy risk classification, clinical and obstetric complications of the mother during childbirth, mode of delivery, quantity of prenatal care performed, gestational age at birth, drug use during pregnancy and the type of drug used.

Data analysis

Using the information obtained from the medical records, descriptive statistical analysis was carried out, percentage tables and graphs were created, with the aim of verifying aspects relevant to the research.

RESULTS

The study consisted of 130 patient records, 65 referring to pregnant women and 65 to their respective newborns.

Analysis of the results revealed that although the age of pregnant women ranged between 14 and 45 years, with an arithmetic average of 29.5 years, there was a significant percentage among those under 18 years of age (12.31%) and among those over 35 years of age. (13.85%), ages those are classified as high-risk pregnancies.

Regarding race, the majority, 38 (58.46%) declared them-

selves mixed race, regarding employment status, only 33 (50.77%) were employed during pregnancy , and when education was analyzed, only 30 (46. 15%) had completed high school (Table 1).

Table 1. Characteristics of the pregnant women studied.

	n	%
AGE		
12 to 17 years old	8	12,31%
18 to 25 years old	20	30,77%
26 to 35 years old	28	43,08%
36 to 40 years old	8	12,31%
> 40 years old	1	1,54%
RACE		
White	18	27,69%
Pardas	38	58,46%
Black	5	7,69%
Not mentioned	4	6,15%
EMPLOYMENT SITUATION		
Unemployed	7	10,76%
Maids	33	50,77%
Not mentioned	25	38,46%
EDUCATION		
Incomplete 1st degree	8	12,31%
1st degree complete	5	7,69%
Incomplete 2nd degree	10	15,38%
Incomplete 2nd degree	30	46,15%
Incomplete 3rd degree	4	6,15%
3rd degree complete	7	10,77%
Not mentioned	1	1,54%

Regarding obstetric data, 45 (69.23%) were identified as high-risk pregnancies. And in relation to the gestational week in which birth occurred, 10 (15.38%) infants were born prematurely.

However, of the 10 premature babies, 8 had high-risk pregnancies, meaning that 80% of infants born prematurely were already classified as high-risk pregnancies during prenatal care.

Taking into account that the ideal number recommended by the World Health Organization (WHO) in 2016, when it comes to prenatal care during pregnancy, it would be equal to or greater than 6: one in the first trimester, two in the second and three in the thirdly, it was analyzed in the research that only 39 (60%) pregnant women had more than 6 prenatal care.

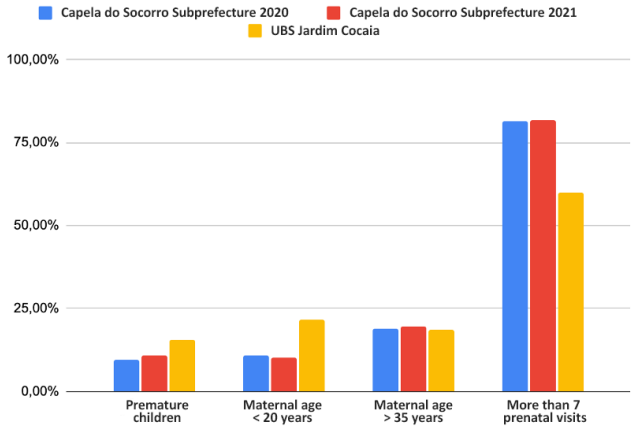
And regarding the analysis of pregnant women who used legal and/or illegal drugs during pregnancy, only 16 women (24.62%) reported having used some type of legal drug, and of the 65 women, no woman reported having used any type of illicit drug. Furthermore, only 3 pregnant women who used licit drugs during pregnancy had premature birth, and 1 pregnant woman had post-term birth, thus 18.75% of women who used some type of licit drug during pregnancy had premature birth and 6, 25% had post-term births (Table 2).

Table 2. Characteristics of newborns.

	n	%
GESTATIONAL RISK		
High risk	45	69,23%
Low risk	17	26,15%
Not mentioned	3	4,62%
GESTATIONAL WEEK		
Premature	10	15,38%
Post-term	2	3,08%
Aterm	53	81,54%
PRENATAL		
> 6 consultations	39	60%
6 consultations	10	15,38%
< 6 consultations	11	16,92%
Not mentioned	5	7,69%
USE OF DRUGS		
Deny use	24	36,92%
Use of licit drugs	16	24,62%
Use of illicit drugs	0	0%
Not mentioned	25	38,46%

To better understand the reality of the population analyzed, data from 2021 and 2020 were analyzed, from the CEInfo bulletin prepared by the Epidemiology and Information Coordination (CEInfo) of the Municipal Health Secretariat of São Paulo (SMS-SP), in the sub-prefecture of Capela do Socorro, where UBS Parque Jardim Cocaia is located, which demonstrated a high rate of prematurity in this location. According to the bulletin, 10.9% of children born alive were born prematurely in 2021 and 9.4% in 2020. Regarding maternal age , 10.1% of mothers were under 20 years old in 2021 and 10.8% in 2020 and 19.7% were over 35 years of age in 2021 and 18.8% in 2020. Regarding the number of prenatal visits, 81.8% had more than 7 prenatal visits in 2021 and 81.4% in 2020 (Graph 1).

Graphic 1. Comparison between data collected at UBS Jardim Cocaia with data from CEInfo from SMS-SP in the Capela do Socorro subprefecture.



DISCUSSION

Cocaia Basic Health Unit with CEInfo from SMS-SP in the subprefecture of Capela do Socorro, where the UBS analyzed is located, it was observed that, between 2020 and 2023, In the studied population, there were many cases of prematurity, which cannot be evidenced by the use of drugs during pregnancy, as only 24.62% of pregnant women reported that they used drugs during pregnancy, which is an insufficient number to justify the high rate of prematurity.

By eliminating the use of drugs as the main factor causing prematurity, the possible relationship between other factors, such as maternal age less than 20 years and more than 35 years, and the number of prenatal visits equal to or greater than 6 , with the premature birth.

It was also evident that 21.5% of pregnant women at UBS were under 20 years old, while in the bulletins for the years 2021 and 2020 at Capela do Socorro they were below 10.8%. As for pregnant women over 35 years old, 18.40% were identified at UBS, and above 18.8% by CEInfo.

It is understood that pregnancy after 34 years of age is considered an advanced age by medicine, and predisposes to greater obstetric risks. These occur due to ovarian senility and an increase in the frequency of chronic diseases. Adverse perinatal outcomes include prematurity, low Apgar score and low birth weight[7].

It appears that in addition to late pregnancy, pregnancy during adolescence is a pertinent topic due to its high prevalence and the fact that it is one of the predominant causes of morbidity and mortality in women of this age. Pregnancy in this age group tends to have less access to quality prenatal care due to low adherence and late onset. It is noteworthy that in addition to all the reasons already mentioned, the probability of premature birth, low birth weight and maternal and neonatal mortality is higher in pregnant adolescents when compared to adults due to obstetric performance[8]. However, age cannot be pointed out as the sole and absolute factor causing prematurity, but must be observed as one of the contributors to it.

Regarding the frequency of prenatal care, at the UBS it was recorded that 60% of pregnant women performed more than 6, a lower number compared to those at CEInfo which were above 81.4%.

The importance of access to and correct monitoring of pregnancy through prenatal care is directly associated with better health outcomes for pregnant women and newborns. According to the Ministry of Health, through prenatal care, it is possible to prevent and/or detect early maternal or fetal pathologies in laboratory tests and physical examinations, promoting the healthy development of the baby and reducing the risks for pregnant women.

However, despite prenatal care being offered free of charge to pregnant women in Brazil, in a country marked by socioeconomic inequalities, the use of this service ends up being unequal.

Studies show that this inequality is associated with low levels of prenatal consultations due to factors such as pregnant teenagers, the individual's socioeconomic conditions and low education9. It is believed that these factors are associated with an unfavorable outcome of pregnancy because they are related to the socioeconomic standard of pregnant women. Because of this pattern, they end up gaining little weight during pregnancy and seek prenatal care late.

FINAL CONSIDERATIONS

It is concluded from the study that the cases of prematurity analyzed cannot be evidenced by the use of licit or illicit drugs during pregnancy, considering that this number is insufficient to justify the high rate of prematurity. However, it is possible to point out factors that may be contributing to justify this high rate, such as maternal age being under 18 years old, or over 35 years old, and the low rate in the number of prenatal care performed by women in this location.

Therefore, it is necessary to carry out additional studies to carry out a comparative analysis aiming at more concrete results for the main causes of prematurity in this population.

Furthermore, during data capture, research restrictions were evident due to the chosen method, analysis of medical records, and the lack of some data and their reliability was noticed.

This lack was revealed when reading the medical records in which the data were presented in divergent ways, as different information was identified on the same topic in the medical records of the pregnant woman and the child, making it difficult to create a standard of the data collected.

Regarding the lack of data, the information was often not present in the medical record, either because it was self-reported or due to inattention on the part of the professional who was filling it out. When those that were present in the medical record were written in an illegible way, thus damaging not only the capture, but also the completeness that is a principle of the Unified Health System, preventing the next professional from understanding what is written there, and the opportunity for future investigation and research in this regard arises.

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