

# Influence of Drug Addiction on Pregnancy

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## Abstract

*Introduction:* The present work deals with the problem area of drug addiction and its impact on pregnancy and the course of childbirth.

*Objective:* To describe the sociodemographic data of female drug addicts; to assess their impact on the provision of prenatal care and to compare this data with available foreign studies.

*Method:* A retrospective analytical study was conducted; the obtained data were encrypted and anonymized. Selection criteria: woman used drugs either before or during pregnancy; woman delivered in a healthcare facility in the Ústí nad Labem Region.

*Results:* The sociodemographic situation of female drug users has a significant impact on pregnancy and the form of delivery. Important factors for the development of drug addiction appear to be women's unemployment, lower education and socioeconomic instability. Addiction to habit-forming substances is directly related to cigarette smoking. The consequence of these factors is insufficient care in pregnancy due to a lack of interest by the pregnant drug-addicted woman.

*Conclusion:* Given the current development of our society, we must assume that the number of drug-addicted pregnant women will continue to increase in regions with higher unemployment, causing a lower socioeconomic status of the population. Addicted pregnant women in vulnerable communities should be detected and both existing and potential risks that such women are exposed to need to be addressed in the nursing care.

**Keywords:** drug abuse, health care, pregnancy, socioeconomic status

## Introduction

The problem of addictive drugs in the case history and their use by pregnant women is a very serious social phenomenon. Drugs influence women's mental and physical health condition in the reproductive period and cause complications to the unborn child. From the nursing point of view a pregnant drug user represents a number of actual and potential problems. A group of pregnant drug users shows socio-demographic differences as compared to pregnant women from the normal population (Vavřínková & Binder, 2008). Foreign studies describe drug addicted pregnant women as younger, single women from lower socio-economic classes, with lower education (Bailey, McCook, Hodge & McGrady, 2012).

## Objective

To support the dissemination of knowledge on the situation of drug addicted pregnant women in the Czech Republic; to describe the socio-demographic data on pregnant drug users and to find out from respondents if their drug addiction has an impact on their attendance in prenatal guidance clinics. To collect and evaluate the obtained data for preparing the basis for further

work towards identifying and evaluating the risks in nursing care of drug-addicted pregnant women.

## **Methodology**

The retrospective study involved 54 drug-addicted pregnant women from the Ústí nad Labem Region from 2013 to 2015. The data were generated retrospectively from the individual case records and childbirth records. Statistical evaluation was executed with regards to the mutual correlations of the defined indicators: type of drug addiction (woman used drugs prior to conception or in the course of pregnancy; the method of drug use – by injection, inhalation), socio-economic factors, anamnestic data, the course of pregnancy and the newborn's health condition, and the course of the postpartum period. The study took place in collaboration with the Gynaecologic and Obstetric Clinic of the Faculty of Health Studies, J. E. Purkyně University in Ústí nad Labem, under the auspices of Head Physician doc. MUDr. Tomáš Binder CSc. The method of purposeful sampling was used for selecting the sample of study. The selection criteria were the following: women took drugs prior to conception or in the course of pregnancy, women delivered at a healthcare facility in Ústí nad Labem Region. The goodness of fit test with a significance level of  $p = 0.05$  was used for comparing the data. Our paper refers to selected results of the study that regard mainly the demographic data and their correlations to the prenatal period of a female drug addict.

## **Results**

The respondents' average age in this retrospective study was 29 years. The average age of heroin users was 33.4 years, and the average age of methamphetamine users was 29.5 years.

Family status: 47 women were single, 2 women were married, 3 women were divorced and 2 were widows. Out of the total of 54 women, 19 lived on their own, 28 women shared their household with a partner and 7 women lived with their parents.

Level of education: 40 women completed elementary education, 9 secondary education without a school-leaving exam, 2 women had no complete elementary education, 2 graduated from a special school, 1 women completed secondary education with a school leaving exam and none had a university degree.

Occupation: A significant characteristic of this group of women was unemployment. 37 women were registered at the Labour Office, 13 were on a maternity leave, 2 women worked and 1 reported a student status. One woman did not report any occupational status. Heroin users are unemployed in almost 100% of the cases, methamphetamine addicts are unemployed in 85%.

Drug application method: The most frequent application method is intravenous in 37 women (76.7%), and 15 women (23.3%) use inhalation or oral application. Two respondents provided no data. 100% of heroin addicts use intravenous application, methamphetamine addicts use intravenous application in 73% and inhalation in 27%. 70.3% of the women used methamphetamine, 13% took heroin, 5.6% a combination of the two and the remaining 11.1% another combination of drugs (combination with toluene 1x, marijuana 2x, LSD 1x, subuxone 1x). 78% of drug-addicted women smoke. A study in Denmark (Nørgaard & Nielsson, 2015) reports smoking in pregnancy in 72.5% of these women, which is comparable to

the occurrence of smoking in our sample. The high occurrence of smoking confirms the tendency of these respondents to addictions.

Confirmation of pregnancy (see Tab. 1): in 37% pregnancy was confirmed in the 1st trimester, in 24% in the 2nd trimester and in 13% as late as in the 3rd trimester. 20% of the women did not visit prenatal guidance clinic, including 6% of the respondents who only arrived for the actual delivery. More than a half of the women had no prenatal screening done; 6% of the women had had a positive screening and 33% a negative screening. 52% of addicted women had obstetric complications (pre-eclampsia, abruptio placentae, premature delivery), the delivery of the remaining 48% was free of complication (the occurrence of complications in the normal Czech population is nearly 15% [ÚZIS 2013]).

Infectious diseases: 48% of the women reported to have hepatitis C, 5% hepatitis C and B. There were two cases of a combination of syphilis with hepatitis.

Tab. 1 **Timing of confirmation of pregnancy**

Confirmation of pregnancy	$n_i$	$f_i$
1st trimester	20	37
2nd trimester	13	24
3rd trimester	7	13
Did not visit prenatal guidance clinic	<b>11</b>	<b>20</b>
Arrived only for delivery	<b>3</b>	<b>6</b>
$\Sigma$	54	100

## Discussion

The average age of our sample of respondents was 29 years; compared to a foreign study, the average age of drug addicts is 2 years higher in the Czech Republic (27.4 years in the USA; Lind, Petersen, & Lederer, 2015). Both studies demonstrated a comparably low level of education: 73% in the US study vs. 74% in Czech respondents.

Comparing the family status and employment of our sample with an Italian study by Domenici, Cuttano et al. (2009), 87% of our respondents were single (vs. 58% single women in Italy). The difference in the higher percentual proportion of single women is probably due to the higher tolerance of our society towards unmarried couples. Unemployment in the Czech sample was 70%; the Italian study specifies 16% (but 45% out of that study reported to be on maternity leave, which reduces the occurrence of unemployment). The most frequent drug application method is intravenous in 37 women (76.7%), and 15 women (23.3%) use inhalation or oral application. Drug users using intravenous application represent the most hazardous groups due to a high risk of transmission of infections, especially hepatitis C, B and HIV; foreign studies report a higher occurrence of hepatitis C (Vavřínková & Binder 2008).

Pregnancy in drug users is typically confirmed only after the 12th week, which is why abortion is impossible. The sample includes 63% of women with pregnancy confirmation after the 12th week. 20% of the women did not attend any prenatal guidance clinic and 6% came to the hospital only at the onset of delivery. The usual number of visits during pregnancy is 10 for the normal population; for drug addicted pregnant women, there are only 4 visits at the prenatal guidance clinic on average. 11 respondents had not visited the prenatal

guidance clinic even once, 9 of them were completely methamphetamine addicted and 2 were fully heroin addicted. Only 7 women out of the total of 54 respondents had undergone all the visits that are considered standard in the normal population, i.e. 10 visits. We have found a significant correlation between the variable “low socio-economic status” and the variable “number of prenatal guidance visits” ( $p = 3.86421^{-8}$ ).

Our study has proven a low number of women on substitution therapy: 22% (subutex, methadone; see Tab. 2). Foreign studies report 65.4% of women seeking substitution therapy (Nørgaard, 2015). The reason for this difference has not been explored so far; it may be due to a longer historical experience in care for drug addicts.

Tab. 2 **Number of women using substitution therapy**

Substitution	$n_i$	$f_i$
Substitution therapy	<b>12</b>	<b>22</b>
Non-treated women	42	78
$\Sigma$	54	100

## Conclusion

Compared to the normal society, drug addicted pregnant women are more frequently single, with elementary education and unemployed. Their pregnancy is usually without any follow-up, their prenatal care is typically insufficient; the patients frequently seek out a healthcare facility only at the beginning of their delivery. The low socio-economic status of an addicted woman has a negative impact on the number of visits at the prenatal guidance clinic. The results are comparable to those of foreign studies and only differ in parameters related to the mentality and way of life in the individual countries.

The care for a drug addicted patient starts with her entry into the healthcare system. It is not advisable to force them to abstinence but rather to recommend them to seek professional care, supporting them while reducing the doses of the addictive substance they use. Drug-addicted women usually need to have the following issues addressed: food, housing in pregnancy and after giving birth, subsequent care for the newborn etc. Especially intravenous drug use involves an increased occurrence of infectious diseases, especially hepatitis C, B and sexually transmitted diseases (Vavřínková & Binder 2008).

Addicted women are less able to tolerate pain, tend to be agitated and anxious and have higher demands for obstetric analgesia. If it is possible, it is advisable to conduct natural delivery; indications for a Caesarian section from the foetus' perspective do not differ from indications in patients without any drug addiction.

Drug addicted woman always have a high-risk pregnancy, both for the mother and for the newborn; they are threatened not only by the direct drug effect but also by numerous health and socio-economic factors.

In practice, emphasis should be placed on informing and educating drug addicted women especially in the area of pregnancy care. It has been shown that drug addiction causes reduced attendance in the prenatal guidance clinic, which leads to a reduced quality of prenatal care provided to such women.

It can be assumed that the number of drug-addicted pregnant women will rise, and therefore actual and potential risks represented by such women from the perspective of nursing care must be addressed.

### **Ethical aspects and conflict of interest**

The present paper does not interfere with ethical principles and does not pose any conflict of interest.

### **Bibliography**

- Bailey, B., McCook, J., Hodge, A., & McGrady A., L. (2012). Infant Birth Outcomes Among Substance Using Women: Why Quitting Smoking During Pregnancy is Just as Important as Quitting Illicit Drug Use. *Maternal*, 16 (2), 414–422.
- Domenici, CH., Cuttano, A., Nardini, V., Varese L., Ghirri, P., & Boldrini, A. (2009). Drug addiction during pregnancy: Correlations between the placental health and the newborn's outcome – Elaboration of a predictive score. *Gynecological Endocrinology*. 25 (12), 786–792.
- Lind, J. N., Petersen, E. E., Lederer, P. A. et al. (2015). *Infant and Maternal Characteristics in Neonatal Abstinence Syndrome - Selected Hospitals in Florida, 2010–2011*. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/25742381>.
- Nørgaard, M., Nielsson, M., S., & Jørgensen U., H. (2015). Birth and Neonatal Outcomes Following Opioid Use in Pregnancy: A Danish Population-Based Study. *Substance Abuse: Research*, Suppl. 2, 5–11.
- Vavřínková, B., & Binder, T. (2008). Prospective comparative study of the effect of buprenorphine, methadone and heroine on the course of pregnancy, birth weight of the newborn, early postpartum adaptation and course of the neonatal abstinence syndrome (NAS) in women followed up in the outpatient department. *Neuroendocrinology Letter*, 29 (1), 80–86.
- Vavřínková, B., & Binder, T. (2007). Návykové látky v těhotenství. Zaostřeno na drogy 4/2007. Úřad vlády ČR. Národní monitorovací středisko pro drogy a závislost. Available at: [https://www.drogy-info.cz/data/obj\\_files/4610/584/Zaostreno\\_na\\_drogy\\_200704\\_drogy\\_a\\_tehotenstvi.pdf](https://www.drogy-info.cz/data/obj_files/4610/584/Zaostreno_na_drogy_200704_drogy_a_tehotenstvi.pdf)
- Healthcare Information and Statistic Institute of the Czech Republic (2013). *Zdravotnická statistika*. Prague: Healthcare Information and Statistic Institute of the Czech Republic

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