

Prevalence of Narcotics Abuse and their Complications in Pregnant Women Referring to the Obstetric Department of Valiasr Hospital, Birjand

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Abstract:

Introduction:

Nowadays, substance abuse has crossed many social, economic and geographical boundaries, presenting itself as a major health challenge. It affects many demographic groups, including pregnant women, rendering them susceptible to maternal and fetal complications. The aim of the present study is to investigate the prevalence of narcotics abuse in pregnant women, as well as the ensuing maternal and fetal outcomes.

Material and Methods:

This is a descriptive-analytic study conducted on all pregnant women referring to the obstetric department from October 2006 to December 2007. Data were collected using questionnaires, and analyzed with SPSS software.

Results:

The prevalence of addiction was 0.69% in women admitted for delivery. The mean age of addicted women was 29.4 ± 1.32 years and the most frequent age subgroup (45.5%) pertained to ages 20-29 years. In the women studied, we found 11.4% placental abruption, 10% stillbirth, and 37.6% fetal distress. The mean gestational age was 34.6 ± 1.34 weeks, with addicted women having a significantly higher prevalence of premature delivery ($p \leq 0.01$). The odds ratio (OR) for premature delivery was 5.96 times higher for addicted women.

Conclusion:

Despite the small number of pregnant addicts, they constitute a high-risk population in terms of perinatal outcomes. Therefore, the educational programs during pregnancy must focus on rehabilitation or substitution of narcotics with safer drugs.

Keywords: Pregnancy, Prevalence, Narcotics Addiction, Premature Delivery, Fetal Outcome

Introduction:

Nowadays, addiction to narcotics is presenting as a major mental and social health-related challenge of modern societies (1, 2). Substance abuse is among potential menaces threatening different demographic

groups, including pregnant women. It is a high-risk behavior with untoward complications and outcomes for both mothers and fetuses. As previous studies have indicated, substance abuse in women has been rising considerably during the last

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two decades, and most of the victims are women in fertility age (3).

Certain conditions threatening children's, and even adults', health begin *in utero* (4). One such condition is substance abuse during pregnancy which not only compromises fetal growth, but also threatens other stages of life and imposes tremendous economic-social costs on societies (5).

William et al. reported 7.3% of pregnant women in their study to be substance abusers (6). The prevalence of narcotic abuse among pregnant women in Tehran is 1.4%, as reported by Ramezanzadeh et al (7). Drug addicts are mostly individuals of the lower socioeconomic classes who hardly refer for pregnancy cares, are underweight and suffer from anemia; thus, complications of pregnancy are often frequent among them. These complications include low birth weight, premature delivery and placental abruption (8, 9). The treatment costs of neonates born to addict mothers are almost twice the normal neonates, due to numerous fetal complications such as low birth weight, short length, low head circumference, risk of fetal brain injury, intrauterine growth retardation, placental insufficiency, fetal distress and intrauterine demise (5).

Considering the relatively easy access to narcotics in Iran, and the pivotal role of mother and infant health in maintaining the society's health, we conducted the present study to investigate the outcomes of narcotic abuse in pregnant women.

Material and Methods:

This is a descriptive-analytic study on 35 pregnant narcotic abusers among 4647 pregnant women who referred to the obstetric department of Valiasr Teaching Hospital, Birjand for delivery or pregnancy-related problems from October 2006 to December 2007. Data were collected using questionnaires. For this purpose, all the patients admitted to the obstetric department

were initially inquired about their age, last menstruation period, order of pregnancy and delivery, systemic diseases and narcotic abuse, according to the routine protocol of the hospital. Patients who mentioned narcotic abuse were then interviewed by a midwife expert, who was trained about establishing rapport with patients, in order to complete the questionnaire of the present study. Prior to the interview, the patient was provided some information about the objective of the study, method of data collection and use, anonymity of questionnaires and confidentiality of personal information. If the patient expressed her consent, she would be included in the study. We used the 4th edition of diagnostic and statistical manual of mental disorders (DSM-IV) to verify narcotic dependence. All patients who were thus diagnosed with narcotic dependence were considered drug addicts (10).

The questionnaire collected data regarding gestational age, amniotic fluid color, fetal heart sound, route of delivery, newborn's length, weight and head circumference, first and fifth minute Apgar scores, and any neonatal anomalies. Data pertaining to obstetric history and previous outcomes of pregnancy were confirmed with the information available from obstetric records. Data were analyzed using descriptive statistics, statistical tests and logistic regression on SPSS software.

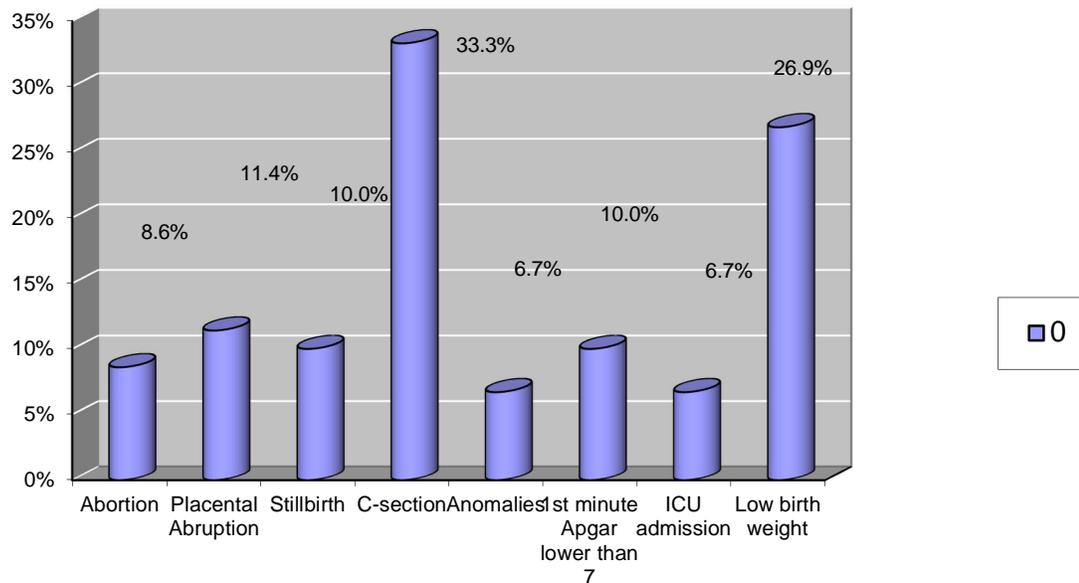
Results:

The findings of our study indicate that among 35 pregnant women who abused narcotics, the mean age was 29.4 ± 1.32 years, and the most frequent age subgroup pertained to ages 20-29 years (45.5%). The prevalence of addiction was 0.69% among women admitted for delivery. The mean parity count for these women was 3.88 ± 0.49 with a maximum of 13 pregnancies. The greatest proportion of pregnant addicts

were having in their second pregnancy. The mean gestational age was 34.6 ± 1.34 weeks. Among our patients, 32 had term or premature deliveries, and 3 had abortions. 31.3% of pregnant women and 7.1% of non-addicts had premature delivery, indicating that premature delivery was significantly more frequent among pregnant addicts ($p \leq 0.001$). The odds ratio (OR) of premature

delivery for addicted women was 5.96 times higher (95% CI: 2.8-12.7).

We found 8.6% abortion, 11.4% placental abruption, 10% stillbirth, and 37.6% fetal distress during delivery among pregnant addicts in our study. Furthermore, we found 6.7% neural tube defects (e.g. anencephaly and spina bifida) in these neonates (Diagram 1).



The mean birth weight of newborns in our study was 2674.6 ± 142.03 g, ranging from 900 to 4250 g. 26.9% of these newborns had low birth weight. The mean head circumference of the newborns was 33.11 ± 0.48 cm. 6.7% of them had fifth minute Apgar scores of less than 7, and were therefore admitted to neonatal intensive care unit.

33.3% of narcotic addicts had C-section and 66.7% had normal vaginal delivery. Opium was the most frequently abused substance, and 5.7% abused crystal.

Conclusion:

Substance abuse is a serious social health challenge, imposing enormous social and financial burdens on modern societies. According to the 1999 report of the World Health Organization, 3%-4% of world population use one or more narcotic substances, and the figures are rising in developing countries (11).

Narcotic abuse during pregnancy entails serious complications for both mother and fetus. Such complications include premature delivery, abortion, intrauterine growth

retardation, low birth weight, intrauterine demise and placental abruption (6, 9-11).

Few studies have addressed the prevalence of addiction during pregnancy. According to a report by the National Institute on Drug Abuse in 1992, the rate of substance abuse during pregnancy was 5.5% (12). William et al. reported that 7.3% of pregnant women abused substances, which is lower compared to non-pregnant women (8.3%) (6). Ramezanzadeh et al. studied 4317 pregnant women in Tehran and reported a prevalence of 1.4% for narcotic abuse (7).

Different substances are abused in different societies. Previous studies suggest that the complications of pregnancy related to substance abuse depend on the type of substances used. A study on 51 pregnant substance abusers in Hong Kong reported the most frequently used substance to be heroin, with 41% premature delivery, 27.5% low birth weight, and 13.7% hemorrhage during labor (13). Vucinovic et al. conducted a study on pregnant Croatian women over a 10-year period (1997-2007). They found 2% (85 individuals) to be substance abusers, heroin was the most commonly used substance (50%), and they observed 4.6% neonatal demise, 33% low birth weight, and 8% fifth minute Apgar scores of less than 7. Moreover, they reported that premature delivery was more frequent in substance abusers compared to non-addicts (21% vs. 6%) which is statistically significant ($p \leq 0.05$) (14). Hoskins studied cocaine abuse in 314 pregnant women to report 28% delivery under 36 weeks of gestation, 29% low birth weight, and considerable placental abruption in them (15).

In our study, the prevalence of narcotic addiction is 0.69%; the discrepancy between our finding and that of Ramezanzadeh may be due to the cultural differences. Furthermore, we found 31.3% and 7.1% premature delivery in substance abusers and

non-addicts, respectively. Our findings indicate that narcotic addiction increases the risk of premature delivery by 5.96-fold, which is consistent with findings of Hoskins and Vucinovic.

26.9% of neonates in our study had low birth weight, which is in line with previous studies. Thaithumyanon et al studied 211 pregnant substance users to find 23.3% abortion, 5.2% preeclampsia, 1.9% hemorrhage during labor, and 3.3% infection (16). Dombrowski et al (1991) compared 592 cocaine using pregnant women with 4687 pregnant women in the control group and observed that in cocaine users, birth weight and age of delivery are significantly lower and the risk of placental abruption is twice as much (17). Mayet et al conducted a cross-sectional study on 118 medical records pertaining to pregnant women who abused narcotics or were under treatment with methadone; they reported 20% premature delivery, 28% low birth weight, and 21% NICU admissions (18).

In the present study, fifth minute Apgar scores were lower than 7 in 6.7% of neonates, who were admitted to neonatal intensive care unit. This is in line with findings of Vucinovic, but inconsistent with those of Mayet. This may be due to the fact that in the latter, all newborns admitted to NICU for any reason (e.g. low Apgar scores, withdrawal syndrome) were accounted, while we considered only those newborns who were admitted to NICU because of low Apgar scores.

We found 11.4% placental abruption, 10% stillbirth, and 37.6% fetal distress during labor in substance abusers in our study.

Considering the maternal and fetal complications in women abusing narcotics, as well as the 5.69-fold increase in risk of premature delivery (a major cause of mortality for infants in their first year of life) in these women, it is recommendable that in addition to the general educations regarding

the detrimental impacts of substance abuse during pregnancy, addicted pregnant women must be provided with strictly regular and

precise perinatal care to prevent heavy social and economic burdens on the society.

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