

## Substance Abuse and its Associated Factors among Pregnant Women: A Cross-Sectional Study in the Southeast of Iran

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### Original Article

#### Abstract

**Background:** The data on the prevalence of substance abuse in Iranian pregnant women is scarce in the current literature. This study investigated the prevalence of and the factors associated with substance abuse among pregnant women, and compared self-reported use with urine test results.

**Methods:** This cross-sectional study included data for 2000 pregnant women admitted to a tertiary care hospital in the southeast of Iran. Data were collected on socio-demographic characteristics and the patterns of substance use. Multivariate logistic regression analysis was used to identify factors associated with opiate use. A subsample (200 women) was randomly selected to provide urine samples for toxicological screening.

**Findings:** The lifetime prevalence of substance abuse and tobacco smoking was 15% and 31%, respectively. Overall, 3.3% of the participants reported using at least one substance during the previous month. One third of pregnant women reported using substances as a home remedy for treatment of pregnancy related health problems. Overall, 23% of the urine screening tests were positive. The agreement between self-reported substance abuse and the results of the urine tests was poor. Factors associated with opiates use in pregnant women were age at the first pregnancy of less than 20 years, living in rural areas, unwanted pregnancy, lack of healthcare during pregnancy, and having a spouse and/or first-degree family member with substance abuse.

**Conclusion:** This study showed a high prevalence of substance abuse among the studied women. Thus, a multidisciplinary approach to provide preventive educational programs during pregnancy, and interviews and urinary screening of all pregnant women is recommended.

**Keywords:** Pregnancy; Substance abuse; Substance-related disorders; Opiates, Self-report; Iran

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## Introduction

Substance abuse in pregnant women is a significant public health concern, as the association between illicit drug abuse and adverse maternal and neonatal outcomes has already been established. Pregnant women who use illicit drugs and substances are more likely to experience cesarean delivery, placental abruption, meconium passage, neonatal weight of less than 2500 g, Apgar score of less than 7 in minute 5, neonatal intensive care unit (NICU) admission, and neonatal death.<sup>1,2</sup> Poor obstetric outcomes can be up to 6 times higher in patients abusing opiates.<sup>3</sup> Opium use during pregnancy increases the risk of preterm caesarean delivery, and concurrent use of opium and tobacco substantially increases the risk of vaginal preterm delivery.<sup>4</sup> Pregnant women using opiates during pregnancy are 4 times more likely to have a prolonged hospital stay and approximately 4 times higher risk of fatal outcomes before discharge.<sup>5</sup>

Substance abuse is more prevalent among women of reproductive age than the general population.<sup>6</sup> In 2012 in the United States, more than 50% of pregnant women were current alcohol consumers, 20% used tobacco products, and approximately 13% used other illicit drugs and substances.<sup>7</sup> A significantly lower rate of illicit drug abuse and prescription psychoactive drug consumption has been reported in cohorts of Spanish (3.9%), Danish (3.6%), and Italian (0.4%) pregnant women than in cohorts of American women.<sup>8-10</sup>

According to the results from the Iranian household Mental Health Survey (IranMHS) conducted in 2011, using the Diagnostic and Statistical Manual of Mental Disorders-4<sup>th</sup> Edition (DSM-IV) and DSM-V criteria for diagnosis of substance abuse disorders, the prevalence of 12-month substance abuse in the general population was reported at 2.09% and 2.44%, respectively. Opioids were the most commonly used substances in the Iranian population.<sup>11</sup>

Although, gender differences in substance use disorders in Iran have been barely addressed, it seems that younger individuals and women are more inclined to use new synthetic drugs such as crystal methamphetamine.<sup>12</sup> A gender-based study on drug use in a Triangular Clinic and Drop-in Center in Kerman, Iran, showed that men

often transit to illicit drug abuse from cigarette smoking, whereas women's drug use practices often begins with opium.<sup>13</sup> Women are usually introduced to substance abuse through their spouses and the role of their partners in their continuation of drug abuse is paramount; in addition, they sometimes experience sexual or physical abuse for this reason.<sup>14</sup>

Only a handful of studies have investigated the prevalence of substance abuse in pregnant women in Iran. Substance abuse during pregnancy is difficult to detect. This could be partly explained by the following reasons. First, the signs and symptoms of substance abuse disorders are often subtle, and healthcare providers may fail to regularly monitor for illicit drug abuse among pregnant women.<sup>6</sup> Second, fear of reprisal is a major obstacle in women for disclosing their habit of substance abuse and this may in turn prevent them from receiving appropriate medical and psychological care.<sup>15</sup> Third, pregnant women with substance abuse behaviors are less likely to seek medical care during pregnancy. According to the literature, the reported prevalence of substance abuse among Iranian pregnant women ranges from 0.2% to 5.4%.<sup>16-20</sup>

Sistan and Baluchestan Province located in the southeast of Iran, has a long common border with Afghanistan. Most of the opiates in Central Asia are of Afghan origin and this province has long been used as a transit route for opiates by drug smugglers. A marked increase in opium poppy cultivation has resulted in an increasing flow of drugs from Afghanistan into the neighboring countries and Central Asia during the last 10 years.<sup>21</sup> Hence, the prevalence of and mortality due to substance abuse in the general population of this province is higher than the average national figures.<sup>12,22,23</sup> Sistan and Baluchestan Province has the highest total fertility rate of 3.58 in the country and the highest maternal mortality rate (12% of all maternal mortality) in the country is attributed to this province.<sup>24</sup> During the past 5 years, at least 4 pregnant women in the province have succumbed to drug overdose, and, in 2017, a total of 9 out of 30 maternal deaths were among drug addicts (personal communication). To the best of our knowledge, no studies have investigated the prevalence of substance abuse in pregnant women in Sistan and Baluchestan Province.

The aim of the present study was to determine the prevalence and correlates of self-reported substance abuse among pregnant women admitted to Zahedan Ali-ibn AbiTaleb (PBUH) Tertiary Care Hospital, Southeast Iran, and to provide information on correlates of illicit drug use disorder in the study population. The validity of self-report drug use was also investigated as compared with toxicological screening of urine samples for detecting substances.

## Methods

This cross-sectional study was conducted between June 2017 and July 2018 in Sistan and Balouchestan Province. Based on the data from a similar study on the prevalence of illicit drugs and alcohol use during pregnancy in Ilam Province, west of Iran, that reported the prevalence of drug use was  $P = 0.05^{18}$  and  $\alpha = 0.05$ ,  $\beta = 0.2$ , and  $d = 0.01$  and considering a 10% increase in sample size due to possible dropouts, the estimated sample size was calculated as 2000 pregnant women. All pregnant women who gave birth in the maternity unit or were admitted to the obstetrics and gynecology ward of the Ali-ibn Abitalib (PBUH) Tertiary Care Hospital in Zahedan, southeast of Iran, and underwent cesarean section surgery were approached. Pregnant women who agreed to participate in the study were included in the survey. The unwillingness of the pregnant women to participate in the study did not cause any disruption in the provision of the required services.

The questionnaire used for data collection included 42 items structured into 5 parts. The first part included 10 questions on socio-demographic characteristics of the study subjects. The second part included 7 questions on midwifery and pregnancy records of women including age at the first pregnancy, number of pregnancies, history of stillbirth and abortions, gestational age, and number and place of care during pregnancy. The third part of the questionnaire asked for information on substance use that was designed according to the Youth Risk Behavior Survey (YRBS) developed by the US Centers for Disease Control and Prevention (CDC).<sup>25</sup> This part of the questionnaire assessed the use of 15 types of substances with regard to lifetime consumption, age at the onset of consumption, consumption during the last year and in the past 6 months, the

frequency of consumption in the past month, and the manner of consumption of each substance. The substances we investigated in this study included cigarette, hookah, naas, paan, opium, opium extract, heroin, cannabis, morphine, crystal, crack, methadone, tramadol, tranquilizers, and alcohol.

The Persian version of the YRBS has been established to be reliable and valid for the evaluation of substance use in the Iranian population.<sup>26,27</sup> The next part included 5 questions on non-habitual consumption of substances for reducing ailments such as pain, stress, high blood pressure, high blood glucose, and bleeding during pregnancy. The last part of the questionnaire consisted of 5 questions regarding the quitting of substance use before and during pregnancy.

For data collection, we obtained the necessary legal permissions from the head and the director of the maternity unit of the hospital. The collection of information was carried out by trained midwives using a semi-structured questionnaire and through interviews. The midwives working in the maternity unit were not involved in the data collection. The interviewers were briefed on the study protocol and the purpose of the survey, and recommendations were made to avoid possible biases. The interviews were carried out under appropriate conditions for the privacy of the pregnant women. The interview time for women who gave birth at the maternity unit was after relative improvement in the post-delivery period. In cesarean section cases, the women were interviewed after being transferred to the obstetrics/gynecology ward to make sure they were fully alert during the interview.

After the interview, a urine sample was collected from women who enrolled into the study. Due to resource constraints, 200 pregnant women (10% of the estimated sample size) were randomly selected for toxicological screening of urine samples for illicit drugs. The selection was based on a list of random numbers previously generated from the consecutive ID numbers allocated to the questionnaires. In order to maintain confidentiality, no personal identification was attached to the samples and they were labeled only with the questionnaire ID numbers. Urine samples sent to the laboratory were assayed on the same day using one-step competitive immunoassay kits. The kits were the

product of Farafan Diagnostics Company, Tehran, Iran (<https://www.personalcare1.com/personal-care-suppliers/farafanddiag/>). We used two types of dipstick kits that can detect morphine, amphetamine, methamphetamine, and methadone within 5 to 7 minutes. The cut-off for detection of morphine and methadone was 300 ng/ml and for amphetamine and methamphetamine was 500 ng/ml. The sensitivity and specificity of these kits for detection of these substances have been reported as 99% and 95%, respectively.

Categorical variables were presented as counts and percentages. Characteristics were compared between different groups using chi-square and Fisher's exact tests. Multivariate logistic regression analysis (enter method) was performed to identify factors associated with opiate use in pregnant women. Given the low number of pregnant women with opiate use, we only included those variables with a conservative P-value of less than 0.25 in univariate logistic regression models and with sufficient number of subjects in each category of the variables. We decided to dichotomize categorical variables for a better fit in the final logistic regression model. Since opiates were the only substance used by pregnant women in their current pregnancy, we used opiate use as the dependent variable in the logistic models fitted to identify factors associated with substance abuse. Cohen's Kappa statistics was used to determine if there was agreement between the results of the urine toxicological screening and self-reported substance abuse. A P-value < 0.05 was considered significant for all analyses. SPSS software (version 20, IBM Corporation, Armonk, NY, USA) was used for data analysis.

Ethical approval for this study was obtained from the Ethics Committee of Zahedan University of Medical Sciences, Iran.

## Results

The present study was conducted on 2000 pregnant women. Table 1 shows the socio-demographic characteristics of the study subjects. Almost a quarter of the participants were younger than 25 years, 40% had married at ages younger than 20 years, and 27% had their first pregnancy at 20 years of age or younger. The majority of the subjects were living in urban areas (74%), only 3.6% were illiterate and 14.8% had a

university education, 90% were housewives, and nearly 40% had a fair income level.

**Table 1.** Socio-demographic characteristics of the studied pregnant women in Zahedan, Iran, in 2018 (n = 2000)

Variables		n (%)
Age group (year)	< 25	478 (23.9)
	25-30	800 (40.0)
	≥ 31	722 (36.1)
Age at the first pregnancy group (year)	< 20	542 (27.1)
	21-25	1043 (52.2)
Place of residence	Urban	1481 (74.1)
	Rural	519 (26.0)
Education	Illiterate	142 (7.1)
	Primary School	757 (37.9)
	Guidance School	333 (16.7)
	High School	473 (23.7)
	University	295 (14.8)
Occupation	Housewife	1812 (90.6)
	Employed	188 (9.4)
Spouse age group (year)	< 25	276 (13.8)
	25-30	546 (27.3)
	≥ 31	1178 (58.9)
Spouse education	Illiterate	72 (3.6)
	Primary School	647 (32.4)
	Guidance School	380 (19.0)
	High School	555 (27.8)
	University	346 (17.3)
Spouse occupation	Government Job	400 (20.0)
	Worker	845 (42.3)
	Unemployed	371 (18.6)
	Self-employed	384 (19.2)
Income	Good	67 (3.4)
	Medium	1143 (57.2)
	Fair	790 (39.5)
History of substance abuse in family members	Yes	617 (30.9)
	No	1383 (69.1)
Gestational age (weeks)	36	1 (0.1)
	37	43 (2.2)
	38	960 (48.0)
	39	907 (45.4)
	40	48 (2.4)
	Unknown	41 (2.1)
Unwanted pregnancy	No	1399 (70.0)
	Yes	601 (30.1)
Gravid	Primigravid	434 (21.7)
	2-3	818 (40.9)
	≥ 3	748 (37.4)
	Unknown	41 (2.1)
History of abortion	No	1540 (77.0)
	Yes	460 (23.0)
History of stillbirth	No	1825 (91.3)
	Yes	175 (8.8)
Care received during pregnancy	No	301 (15.1)
	Yes	1699 (85.0)

**Table 2.** The prevalence of substance abuse among pregnant women in Zahedan, Iran, in 2018 (n = 2000)

Substance	Ever used [n (%)]	Age at start (mean ± SD)	1 year [n (%)]	1 month [n (%)]
Tobacco smoking*	619 (31.0)	-	125 (6.3)	2 (0.1)
Cigarette	96 (4.8)	20.8 ± 2.1	52 (2.6)	1 (0.1)
Hookah	585 (29.3)	20.3 ± 3.7	73 (3.7)	0 (0)
Naas	11 (0.5)	18.3 ± 2.6	43 (2.2)	0 (0)
Paan	14 (0.7)	17.1 ± 0.6	5 (0.3)	9 (0.4)
Any substance use** (self-report)	299 (15.0)	-	49 (2.5)	66 (3.3)
Any substance use** (self-report plus urine test)	-	-	-	111 (5.6)
Opium	90 (4.5)	22.7 ± 1.8	12 (0.6)	54 (2.7)
Opium Extract	91 (4.6)	23.7 ± 2.5	14 (0.7)	31 (5.2)
Heroin	9 (0.5)	23 ± 0	9 (0.4)	0 (0)
Morphine	5 (0.3)	24 ± 0	5 (0.3)	0 (0)
Tramadol	22 (1.1)	23.1 ± 1.2	9 (0.4)	0 (0)
Tranquilizers	180 (9.0)	22.9 ± 2.8	0 (0)	0 (0)
Methadone	7 (0.4)	-	-	-

\*Cigarette and hookah smoking, \*\*Using any of the 6 substances (opium, opium extract, heroin, morphine, tramadol, or tranquilizers)

SD: Standard deviation

Moreover, 30% reported substance abuse in their spouse and/or a first degree family member, 30% of the pregnancies were unwanted, 23% had a history of abortion and 8.8% reported a history of stillbirth, and 15% did not received any care during pregnancy.

The lifetime prevalence of tobacco smoking among the pregnant women was 31%, and 15% of the subjects reported they had used a variety of substances during their life course (Table 2). The proportion of the users of substances in a decreasing order were hookah (29.3%), tranquilizers (9.4%), cigarette (4.8%), opium (4.5%), and opium extract (4.6%). Around 1% or less of the pregnant women reported using heroin, morphine, methadone, or tramadol. None of the subjects were found to have used alcohol, crack, or crystal at any stages in their life. Overall, 3.3% of the participants reported using at least one substance during the

last month. When including the results from urine screening tests, which is an indicator of recent substances use, this figure increased to 5.6%. The most frequently used substance during the last month reported by pregnant women was opium extract (5.2%), followed by opium (2.7%). Only 0.1% of the subjects reported smoking cigarettes and 0.4% mentioned paan consumption.

In the present study population, 635 pregnant women (31.8%) were found to use a variety of substances as a remedy to reduce issues and complications related to pregnancy (Table 3). A total of 627 (31.4%) pregnant women reported using substances to relieve stress, including tobacco (71.6%), tranquilizers (17.7%), opiates (9.6%), and heroin (1.1%). Similarly, 233 (11.7%) individuals used illicit drugs, which comprised opiates (43.4%), tranquilizers (30.0%), and tobacco (26.6%), as painkillers.

**Table 3.** Reasons for non-habitual illicit drug use of pregnant women for treatment of pregnancy related health problems in Zahedan, Iran, in 2018 (n = 2000)

Reason	Total [n (%)]	Opiates [n (%)]	Tobacco [n (%)]	Tranquilizers [n (%)]	Heroin [n (%)]
Pain relief	233 (11.7)	101 (43.4)	62 (26.6)	70 (30.0)	0 (0)
Stress	627 (31.4)	60 (9.6)	449 (71.6)	111 (17.7)	7 (1.1)
High blood pressure	85 (4.3)	68 (80.0)	17 (20.0)	0 (0)	0 (0)
High blood glucose	79 (4.0)	75 (94.9)	4 (5.1)	0 (0)	0 (0)
Bleeding	7 (0.4)	7 (100)	0 (0)	0 (0)	0 (0)
Others reasons*	23 (1.2)	2 (8.7)	16 (69.6)	5 (21.7)	0 (0)
Substance use for any reasons	635 (31.8)	-	-	-	-

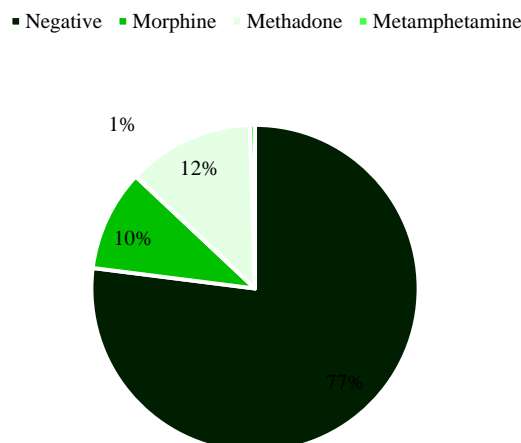
\*Other health problems such as morning sickness, grief, divorce, and other mental disorders

Approximately 4.0% of the study subjects used illicit drugs and substances to reduce high blood pressure and high blood glucose. Opiates were used in 80.0% and 94.9% of those subjects to treat high blood pressure and raised blood glucose, respectively. There were 7 (0.4%) cases of bleeding that also used opiates as a home remedy.

The results of urine samples screening for illicit drugs are illustrated in figure 1. Overall, 23% of the tests returned a positive result, of which 12% of the samples tested positive for methadone, 10% for morphine, and 1% for methamphetamine. There was poor agreement between the results of the urine toxicological screening and self-reported substance abuse [ $\kappa = 0.033$ , 95% confidence interval (CI): 0.001-0.071,  $P = 0.471$ ].

Covariates such as age, age at the first pregnancy, residence, levels of education, family income, wanted pregnancy, maternity care during pregnancy, and substance abuse in family members, with a conservative P-value of 0.25 in univariate logistic regression models, were included in the final logistic model as dichotomised variables. Factors independently associated with the likelihood of opiates use in pregnant women are shown in table 4. The final fitted model was statistically significant ( $\chi^2 = 205.71$ ,  $P < 0.0001$ ). As compared with subjects with an age at the first pregnancy of less than 20 years, pregnant women older than 20 years at the first pregnancy were significantly

less likely to use opiates.



**Figure 1.** The proportion (%) of the illicit drugs identified in the urine samples of pregnant women in Zahedan, Iran, in 2018 (n = 200)

In comparison with pregnant women living in urban areas, those living in rural areas were 12.5 times more likely to use opiates [odds ratio (OR) = 6.69, 95% CI: 3.00-14.88,  $P < 0.001$ ]. Having an unwanted pregnancy, lack of healthcare during pregnancy, and a spouse and/or first degree family member with substance abuse were, respectively, associated with a more than 4, 2, and 3 times increase in the probability of opiates use in the study population.

**Table 4.** Multivariate logistic regression model fitted to identify factors associated with opiates use in pregnant women in Zahedan, Iran, in 2018 (n = 2000)

Variables		B	SE	Wald	df	P	Adjusted OR	95% CI for OR	
								Lower	Upper
Age group (year)	≤ 30	-	-	-	-	-	1.00	-	-
	> 30	-0.622	0.332	3.506	1	0.061	0.54	0.28	1.03
Age at the first pregnancy (year)	≤ 20	-	-	-	-	-	1.00	-	-
	> 20	-2.568	0.745	11.884	1	0.001	0.08	0.02	0.33
Income	Good and medium	-	-	-	-	-	1.00	-	-
	Fair	-0.337	0.313	1.160	1	0.281	0.71	0.39	1.32
Place of residence	Urban	-	-	-	-	-	1.00	-	-
	Rural	1.900	0.408	21.675	1	< 0.001	6.69	3.00	14.88
Unwanted pregnancy	No	-	-	-	-	-	1.00	-	-
	Yes	1.500	0.390	14.812	1	< 0.001	4.48	2.09	9.62
Care received during pregnancy	Yes	-	-	-	-	-	1.00	-	-
	No	1.205	0.329	13.435	1	< 0.001	3.34	1.75	6.35
Substance abuse in the family	No	-	-	-	-	-	1.00	-	-
	Yes	1.082	0.316	11.747	1	0.001	2.95	1.59	5.48

OR: Odds ratio; CI: Confidence interval; SE: Standard error; df: Degree of freedom

## Discussion

In this study, higher rates of substance abuse were observed in pregnant women, as compared with the average national figures for the general population, and the prevalence of substance abuse in our study population was much higher than the figures reported in similar studies. Non-habitual use of illicit drugs during pregnancy to alleviate ailments and symptoms was quiet common. The proportion of positive results for toxicological screening of urine samples for substances in pregnant women was much higher than the figure for self-reported substance use.

The prevalence of substance abuse during pregnancy in the Iranian population has been found to range from less than 0.5% to 5%.<sup>16-20</sup> Real differences in the prevalence of substance abuse among the different study subjects may result in a wide range of prevalence estimates. Moreover, the type of questionnaires and the screening methods used in different settings, such as urine toxicological screening versus self-reports of substance use, with the inherent biases in each of those methods could partly explain the variations observed in the reported prevalence of substance abuse in pregnant women.

Substance abuse during pregnancy is associated with a profound stigma, and as a result some pregnant women refrain from disclosing their illicit drug and medically relevant information about their substance use during pregnancy.<sup>28</sup> Given the fact that the validity of substance abuse data collected through questionnaires is usually low, using questionnaires as the only tool for assessment of substance abuse may result in underestimation of the real prevalence of substance abuse. Therefore, alternative techniques and biomarkers should always complement questionnaires to improve the validity of data collected on substance abuse.<sup>29</sup>

A positive urine toxicology test for illicit drugs is strongly associated with maternal historical drug use.<sup>30</sup> Nevertheless, one of the limitations of the toxicological screening of urine samples is that a positive result is an indication of the current use of substances used within a specific period of time, but not the habitual use of a particular substance in terms of the frequency or amount of use.<sup>31</sup>

In the present study, an immunoassay method was used for the detection of morphine, amphetamine, methamphetamine, and

methadone in the urine samples. Antibody-based immunoassays are the methods commonly used in toxicology screening for detection of drugs in urine samples. These tests are quick and relatively easy to use at a low cost. Purely synthetic opiates (such as methadone, and tramadol) and semisynthetic opiates (such as oxycodone, hydromorphone, oxymorphone, levorphanol, and buprenorphine) have their own specifically designed antibody-based immunoassay tests, with an excellent sensitivity. However, the cross-reactivity to the antibody in these tests can result in false-positive results that limits the specificity of the tests.<sup>32</sup> Therefore, caution should be taken when interpreting the positive test results of the one-step urine screening test for illicit drug use. A detailed history of medications consumption and use of more accurate confirmatory tests such as a thin-layer chromatography (TLC) test could be used to rule out suspected false-positive results.<sup>33</sup>

A positive traditional attitude is a major factor that contributes to the widespread use of illicit drugs, particularly opiates, in Iran.<sup>34</sup> The prevalence of opium consumption is rising in patients with chronic diseases, as there is a traditional common belief among people of the country regarding the beneficial effects of opium on diabetes, cardiovascular diseases (CVDs), hypertension, and dyslipidemia, and many patients use opiates as a pain killer.<sup>35</sup> There are some reports that patients sometimes start using illicit drugs after developing chronic diseases.<sup>34</sup> Although many studies that have investigated the effects of opium in the control and management of chronic diseases, such as diabetes, hypertension, and CVDs, have found no beneficial effects for these substances, the use of illicit drugs, especially opiates as a traditional medicine, poses a major challenge in drug control programs in Iran.<sup>35,36</sup> In this study, approximately one third of the study subjects reported using substances such as opium and opium extract as a folk medicine for treating a wide range of complication and issues during pregnancy, such as high blood pressure, high blood glucose, and also for relieving pain and stress. This is a reflection of the common beliefs that prevail in traditional societies and must be addressed in drug control activities.

The current study showed that lack of healthcare services during pregnancy and having

an unwanted pregnancy are strongly associated with substance abuse. It has been well established that substance-using women utilize different strategies, including isolating themselves from other people, missing out treatment appointments, or abstaining from receiving treatment services, in order to prevent being identified by healthcare workers.<sup>37</sup> Some pregnant women do not have access to appropriate treatment services and they might face problems in enrolling in treatment programs for substance abuse. Therefore, public health authorities need to emphasize the expansion of the treatment and social support services for substance abuse in order to address the unmet needs of drug using pregnant women.<sup>37</sup>

The results of this study showed that living with a spouse and/or first-degree family member with substance abuse significantly increases the risk of drug addiction in pregnant women. Women with substance abuse are more likely to have been raised in a disrupted family environment by parents who were illicit drug users.<sup>38</sup> Substance abuse and its associated problematic parenting behavior appear to have an intergenerational transmission, which could be partly explained by the poor roles of parent discipline practices and inhibitory control.<sup>39</sup> Women with substance abuse are commonly involved with men who are also users of drugs, and these men play an important role in introducing them to substance abuse and the continuation of illicit drug use.<sup>14</sup> These findings are of great concern, and have highly important implications for policy makers involved in substance abuse control programs for pregnant women, as they highlight the importance of intra-household exposure to substances as a major risk factor for illicit drug use.

Routine screening for substance abuse using self-report and/or urine toxicological tests or other biomarkers and the education of women of childbearing age have been proposed as the most important ways to tackle substance abuse during pregnancy.<sup>3</sup> In this study population, opioid use disorders were found to pose a greater risk of complications in pregnancy. The Iranian Health Care System can provide quality care for pregnant women with substance use by integrating comprehensive treatment services and improving access to care at both primary healthcare and hospital settings. Training healthcare providers who receive specialized education and are well versed in substance abuse therapy, along with providing resources of the implementation of the interventions can improve access to care for pregnant women with substance abuse.

### Conclusion

This study highlighted the extent of the problem of illicit drug use in the study population and identified some of the factors that are likely to result in substance abuse in pregnant women. Greater attention should be paid to education and screening of pregnant women for substance abuse during routine pregnancy care and maternity services.

### Conflict of Interests

The Authors have no conflict of interest.

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## بررسی سوء مصرف مواد در زنان باردار و عوامل مرتبط با آن: یک مطالعه مقطعی در جنوب شرق ایران

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### مقاله پژوهشی

### چکیده

**مقدمه:** اطلاعات در زمینه شیوع سوء مصرف مواد در زنان باردار ایرانی در متون موجود بسیار اندک است. پژوهش حاضر با هدف بررسی میزان شیوع و عوامل مرتبط با سوء مصرف مواد در زنان باردار انجام شد و گزارش خوداظهاری سوء مصرف مواد را با نتایج تست ادراری مقایسه نمود.

**روش‌ها:** در این مطالعه مقطعی، داده‌های ۲۰۰۰ زن باردار در یک بیمارستان فوق تخصصی در جنوب شرق ایران مورد بررسی قرار گرفت. داده‌های جمع‌آوری شده شامل مشخصات دموگرافیک و الگوهای سوء مصرف مواد بود. جهت تعیین عوامل مرتبط با سوء مصرف مواد مخدر، از تجزیه و تحلیل Logistic regression چند متغیره استفاده گردید. زیرنمونه‌ای شامل ۲۰۰ زن باردار به صورت تصادفی از جمعیت مورد بررسی جهت اخذ نمونه ادرار و غربالگری سم‌شناسی انتخاب شدند.

**یافته‌ها:** میزان شیوع مصرف مواد مخدر و سیگار کشیدن در طول دوران زندگی نمونه‌ها به ترتیب ۱۵ و ۳۱ درصد بود. به طور کلی، ۳/۳ درصد از شرکت‌کنندگان اظهار داشتند که در طی ماه گذشته از حداقل یک ماده مخدر استفاده نموده‌اند. یک سوم از زنان باردار از مواد به عنوان درمان خانگی برای درمان مشکلات مربوط به دوران بارداری استفاده می‌کردند. در مجموع، ۲۳ درصد از آزمایش‌های غربالگری ادرار مثبت بود. توافق میان سوء مصرف مواد بر اساس خوداظهاری و نتایج آزمایش‌های ادرار پایین بود. عوامل مرتبط با سوء مصرف مواد در زنان باردار شامل سن کمتر از ۲۰ سال در اولین بارداری، سکونت در مناطق روستایی، بارداری ناخواسته، عدم دریافت مراقبت‌های بهداشتی در دوران بارداری و داشتن شوهر یا همسر و یا عضو خانواده درجه اول وابسته به مواد بود.

**نتیجه‌گیری:** نتایج به دست آمده شیوع بالای سوء مصرف مواد در زنان باردار را نشان می‌دهد. یک رویکرد چند رشته‌ای برای ارایه برنامه‌های آموزشی پیشگیرانه در دوران بارداری و نیز مصاحبه و آزمایش ادرار همه زنان باردار از نظر سوء مصرف مواد مخدر توصیه می‌شود.

**واژگان کلیدی:** بارداری، سوء مصرف مواد، اختلالات مرتبط با سوء مصرف مواد، اوبیوئیدها، خوداظهاری، ایران

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