Volume 76, Number 10
OBSTETRICAL AND GYNECOLOGICAL SURVEY

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Substance Use During Pregnancy: A Comparative Review of Major Guidelines

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Importance: Substance use during pregnancy is a major health issue for both the mother and the fetus, but it also represents an important public health concern.

Objective: The aim of this review was to summarize and compare recommendations from recently published guidelines on substance use during pregnancy and especially regarding alcohol, smoking, and drug use.

Evidence Acquisition: A descriptive review of guidelines from the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, the World Health Organization (WHO), the Society of Obstetricians and Gynaecologists of Canada, and the American College of Obstetricians and Gynecologists on substance use was conducted. Regarding the term "substance use," the most recently published *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* substances were used.

Results: All the reviewed guidelines recommend appropriate counseling and screening women regarding alcohol, smoking, and drug use during the antenatal period, while the management options vary. More specifically, the prompt management of alcohol dependence is emphasized by all the guidelines except from the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, which makes no recommendation upon. The use of alcohol during breastfeeding should be avoided. Regarding smoking cessation, all guidelines recommend the use of certain psychosocial, behavioral interventions, and pharmacotherapy. All the guidelines, except the one from the WHO, suggest screening drug users for coexistent sexually transmitted infections. Brief interventions are considered beneficial, while a gradual decrease in benzodiazepines is suggested, as well as the discontinuation of marijuana and methamphetamine use. However, there is controversy regarding breastfeeding in those women as the WHO recommends in favor, whereas the Society of Obstetricians and Gynaecologists of Canada and the American College of Obstetricians and Gynecologists recommend against this practice. Finally, all the guidelines state that, following delivery, close monitoring of the neonate is needed.

Conclusions: The diversity of guidelines' recommendations concerning substance use reflects the different ways of the management of pregnant women during routine antenatal care due to absence of strong evidence. More research in the areas of dispute may allow the adoption of an international consensus, in order to early detect and appropriately manage pregnant women with harmful addictions.

Target Audience: Obstetricians and gynecologists, family physicians.

Learning Objectives: After participating in this activity, the learner should be better able to assess all the available screening methods for substance use during pregnancy; describe the management procedures for substance use in pregnancy; and plan counseling during prenatal care, and explain breastfeeding options for women with substance abuse.

All authors, faculty, and staff in a position to control the content of this CME activity have disclosed that they have no financial relationships with, or financial interests in, any commercial organizations relevant to this educational activity.

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Substance use during pregnancy represents a major health care and social burden; early identification may lead to prompt intervention and thus, combined with a healthy diet, more favorable perinatal outcomes.[1,2] The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* recognizes substance-related disorders resulting from the use of several classes of substances: alcohol, caffeine, cannabis, hallucinogens, inhalants, opioids, sedatives, hypnotics, or anxiolytics, stimulants, tobacco, and other or unknown substances.[3]

Regarding the prevalence of substance use, in the United States and Canada, up to 14% of women consume alcohol during pregnancy,[4,5] whereas data from Europe indicate that approximately 12% of highly educated nonpregnant women of childbearing age report alcohol consumption.[6] According to published data from the United States, approximately 4% of pregnant women reported binge drinking during the previous month.[5] Alcohol is classified as a teratogen, and its consumption in pregnancy is linked to fetal alcohol spectrum disorder, which is associated with neurodevelopmental, intellectual, and dysmorphic disorders[7] and cognitive impairments in early childhood.[8,9] In addition, evidence from a large epidemiologic study found an increased risk of stillbirth (approximately 1%) in cases of maternal use of alcohol during pregnancy.[10] Another study reported that alcohol use in the first trimester of pregnancy increased the risk of pregnancy loss; each week of alcohol consumption increased the risk by 8%.[11] A systematic review on the effects of small amount alcohol intake in pregnancy found no significant effect on perinatal outcome; however, major methodological weaknesses were observed in the included studies.[12]

Furthermore, recent studies showed that up to 13% of women smoke during pregnancy.[13–15] Following educational campaigns and public health measures, the prevalence of smoking in pregnancy has been decreased during the last decade, but it still remains high among women of reproductive age (approximately 20% in the United States).[16] Women who smoke during pregnancy may face adverse perinatal outcomes, including miscarriage, ectopic pregnancy, congenital abnormalities, prelabor rupture of membranes, preterm delivery, small-for-gestational-age newborns, and perinatal mortality.[17–22] Moreover, with regard to long-term outcomes, infants born to women who smoke during the antenatal period are at increased risk of childhood obesity, asthma, and bone fractures.[23,24]

Regarding drug use in pregnancy, in a Canadian study, 1% to 2% of pregnant women reported abuse.[25] Risk factors for substance use in pregnancy include incomplete antenatal care, history of mental health disorder, high-risk sexual behaviors or sexually transmitted infections, relationship issues, and separation from their children.[26,27] Maternal opioid use during the antenatal period has dramatically increased up to 5 times, during the last years, leading to a sharp increase in the rate of neonatal abstinence syndrome and the associated financial burden.[28] Moreover, up to 1 of 4 women reported opioid abuse during pregnancy in the United States.[29]

Regarding benzodiazepine use during pregnancy, a recent meta-analysis found no association with increased risk of congenital malformations (odds ratio [OR], 1.13; 95% confidence interval [CI], 0.99–1.30).[30] However, with regard to perinatal outcomes, a cohort study reported that benzodiazepine use in pregnancy was associated with cesarean delivery (OR, 2.45; 95% CI, 1.36–4.40), low birth weight (OR, 3.41; 95% CI, 1.61–7.26), and increased need of ventilatory support for the neonate (OR, 2.85; 95% CI, 1.2–6.9).[31]

As for the abuse of marijuana, a meta-analysis in highly educated students found that up to 1 of 3 nonpregnant women of childbearing age have used marijuana at least once in their lifetime.[32] In addition, the self-reported prevalence of marijuana use in pregnancy is estimated to be up to 3% and is probably affected by the socioeconomic status of the women.[33] Moreover, in utero exposure to marijuana may disrupt normal fetal brain development, leading to both short- and long-term neurodevelopmental abnormalities.[34]

Methamphetamine is considered as one of the most commonly used substances in Western countries, whereas women usually abuse it in combination with alcohol and marijuana.[35] The association of methamphetamines with the risk of teratogenicity has not been established.[36] However, methamphetamines' use in pregnancy has been correlated with small-for-gestational-age neonates, as well as long-term neurodevelopmental issues.[37,38]

It is clear that the role of the health care provider in screening, counseling, and appropriate management of such cases is crucial. Hence, the objective of the present study was to review and compare recommendations from influential guidelines on screening and management of pregnant women regarding alcohol, smoking, and drug use.

EVIDENCE ACQUISITION

The most recently published guidelines, statements, and committee opinions on substance use during pregnancy by (i) the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG 2014, 2018, 2020),[39–41] (ii) the World Health Organization (WHO 2013, 2014, 2016),[42–44] (iii) the Society of Obstetricians and Gynaecologists of Canada (SOGC 2017, 2020),[45,46] and (iv) the American College of Obstetricians

and Gynecologists (ACOG 2011, 2015, 2017, 2020)[47–51] were retrieved, and a descriptive review was conducted. A summary of recommendations on alcohol, smoking, and drug abuse in pregnancy is presented in Tables 1, 2, and 3, respectively. With regard to the term "substance use," the most recently published *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* substances were used.[3] As for drugs, the use of opioids, benzodiazepines, marijuana, methamphetamine, and stimulants was analyzed.

ALCOHOL USE IN PREGNANCY

All the reviewed guidelines highlight the importance of appropriate counseling on the risks of alcohol intake during pregnancy. Given that the harmless threshold of alcohol intake during pregnancy remains unknown, complete abstention is suggested as the most appropriate choice, in order to minimize the risk of birth defects and neurobehavioral problems of the infant.[52] The SOGC states that termination of pregnancy is not required in case of low alcohol consumption at the beginning of the pregnancy. Moreover, evidence from a systematic review found that 1.5 drinks per day may increase the risk of low birth weight or small-for-gestational-age neonate, indicating a dose-response relationship.[53] Regarding the appropriate health care providers that should be involved in counseling, the RANZCOG recommends the involvement of an alcohol specialist in care and, in cases of excessive alcohol consumption, the involvement of a multidisciplinary team. The WHO, the SOGC, and the ACOG make no official recommendation on this issue.

All the reviewed guidelines recommend universal screening for alcohol consumption before or in early pregnancy and at every antenatal visit. Of note, published data indicate that health care professionals often present with an unpleasant feeling when they have to discuss the issue of alcohol consumption.[54] However, these questions have been proven an efficient screening method for pregnant women who consume alcohol.[55] There is a variety of available screening tools for women who report alcohol consumption; the most widely used questionnaires are AUDIT-C (The Alcohol Use Disorders Identification Test-Consumption: 95% sensitivity, 85% specificity), T-ACE (Tolerance, Annoyed, Cut down, Eye-opener: 69%–88% sensitivity, 71%–89% specificity), and TWEAK (Tolerance, Worry, Eye-opener, Amnesia, Cut down: 71%–91% sensitivity, 73%–83% specificity).[56] The use of biomarkers has been proposed as an adjunct for research and clinical assessment of antenatal alcohol exposure.[57]

Regarding the management of alcohol-dependent pregnant women, all the guidelines include recommendations except from the RANZCOG. Hence, according to the WHO, the SOGC, and the ACOG, health professionals should be trained and ready to offer appropriate interventions to women with alcohol dependence. It has been shown that the combination of appropriate management of alcohol abuse with prenatal care can lead to positive perinatal outcomes.[58]

Brief interventions are therapeutic methods of short duration (5–30 minutes), which aim to support individuals in discontinuing psychotropic substance use.[59] Brief interventions during the preconception period may reduce the consumption of alcohol for a period of up to 4 years.[60] Moreover, intervening via multiple contacts can lead to a further reduction of risk compared with single-contact interventions, whereas brief interventions can help women to maintain their abstinence from alcohol.[61,62] Of note, collaborative brief interventional approaches by health professionals have gained increased notice.[63] According to the SOGC, priority access should be given to pregnant women with withdrawal symptoms, whereas the WHO states that, in such cases, a long-acting benzodiazepine for a short-term period may be useful. Regarding pharmacological treatment, the WHO states that the safety and efficacy of medications have yet to be established, whereas the other guidelines make no relevant recommendation.

In addition, the SOGC states that for women with alcohol dependence in pregnancy, strategies that aim to reduce or cure the harmful effects should be developed. Reduction of harms linked to alcohol consumption helps pregnant women to minimize or cease their alcohol intake by setting achievable targets.[64] Importantly, women often encounter with significant resistance from their social environment when they show interest in treatment.[65] For those cases, the SOGC states that alcohol-dependent pregnant women should have access to an intense intervention program addressing family, gender, and cultural issues.

Regarding breastfeeding, all the guidelines (except from the RANZCOG) state that women should be encouraged to cease alcohol after an extensive consultation on its harmful effects through breastfeeding. The WHO states that phenobarbital may be used in cases with neonatal withdrawal syndrome. Moreover, according to the SOGC, maternal alcohol dependence should be recorded in the neonate's medical history, whereas the WHO suggests an assessment of those infants for possible fetal alcohol syndrome, which is detected in approximately 1:2000 live births.[66]

SMOKING IN PREGNANCY

All the guidelines highlight the need of screening for tobacco exposure in pregnancy and that health professionals should be prepared to advise women and their

TABLE 1
Summary of Recommendations for Alcohol Use During Pregnancy

	RANZCOG	WHO	SOGC	ACOG
Country	Australia	International	Canada	United States
Issued	2014	2014/2016	2020	2015
Title	"Alcohol in Pregnancy"	"Guidelines for the Identification and Management of Substance Use and Substance Use Disorders in Pregnancy/WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience"	"Screening and Counseling for Alcohol Consumption During Pregnancy"	"Alcohol Abuse and Other Substance Use Disorders: Ethical Issues in Obstetric and Gynecologic Practice"
Pages	6	224/154	17	9
Counseling on avoidance of alcohol during pregnancy	Recommended	Recommended	Recommended	Recommended
Alcohol use as an indication for termination of early pregnancy	Not mentioned	Not mentioned	Not recommended	Not mentioned
Health care providers for counseling	Alcohol specialist or multidisciplinary team	Not mentioned	Not mentioned	Not mentioned
Screening for alcohol abuse	Recommended	Recommended	Recommended	Recommended
Management of alcohol-dependent women by trained health care providers	Not mentioned	Recommended	Recommended	Recommended
Brief interventions	Not mentioned	Recommended	Recommended	Recommended
Withdrawal symptoms	Not mentioned	Short-term use of a long-acting benzodiazepine	Priority access should be given	Not mentioned
Pharmacological treatment	Not mentioned	The safety and efficacy of medications has not been established	Not mentioned	Not mentioned
Harm reduction/ treatment strategies and intensive interventions in certain cases	Not mentioned	Not mentioned	Recommended	Not mentioned
Breastfeeding	Not mentioned	Women should be urged to cease alcohol use during breastfeeding	Women should be urged to cease alcohol use during breastfeeding	Health care providers should accurately advise the parents on the harmful effects of breastfeeding
Assessment of infants	Not mentioned	-For cases of neonatal withdrawal syndrome, phenobarbital may be used -All infants born from mothers with alcohol disorders should be evaluated for fetal alcohol syndrome	Maternal alcohol use during pregnancy should be recorded in infants' medical record	Not mentioned

partners for the harmful effects of smoking. Apart from the already mentioned perinatal complications of smoking, several long-term adverse outcomes have been linked to tobacco exposure; they include sudden infant death syndrome, respiratory disease and cancer in childhood.[67,68]

Importantly, there is universal consensus that all pregnant women should cease smoking during pregnancy.

TABLE 2
Summary of Recommendations for Smoking During Pregnancy

	RANZCOG	WHO	SOGC	ACOG
Country	Australia	International	Canada	United States
Issued	2020	2013/2016	2017	2020
Title	"Smoking and pregnancy"	"WHO Recommendations for the Prevention and Management of Tobacco Use and Second-Hand Smoke Exposure in Pregnancy/WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience"	"Substance Use in Pregnancy"	"Tobacco and Nicotine Cessation During Pregnancy"
Pages	14	104/154	18	9
Screening for smoking in pregnancy	Recommended	Recommended	Recommended	Recommended
Cessation of smoking in pregnancy	Recommended	Recommended	Recommended	Recommended
Advise partner to cease smoking	Recommended	Recommended	Not mentioned	Not mentioned
Psychosocial, behavioral, and pharmacotherapy interventions for smoking cessation	Recommended	Recommended	Recommended	Recommended
Varenicline and bupropion for smoking cessation	Not mentioned	Not recommended	Additional research is needed	May be used
Nicotine replacement therapy	Risk and benefits should be discussed	Cannot make a recommendation	Can be considered	Risk and benefits should be discussed
Puerperium	Continuous support to ensure cessation success	Not mentioned	Not mentioned	Continuous support to ensure cessation success

Pregnancy represents an independent positive factor for smoking cessation as an almost 4-fold increase in cessation rate has been observed following the diagnosis of pregnancy.[69] Appropriate counseling has been found to be effective in reducing the number of cigarettes, regardless of the type of intervention provided (eg, telephone counseling).[70] Regarding e-cigarettes, their use is also discouraged in pregnancy because of the absence of evidence on their safety.[71]

The RANZCOG and the WHO also recommend screening and smoking cessation advice for the partner, whereas the other guidelines make no recommendation on this issue. It has been shown that a partner who smokes is a significant negative influence for pregnant women who smoke.[72]

On the issue of management, all the guidelines recommend the implementation of psychological, behavioral, and pharmacotherapy interventions for smoking cessation. The most frequently used instrument is the 5 A's algorithm: ask, advise, assess, assist, arrange.[73] All the interventions should be individualized, while all the available cessation services (including the digital ones) should be assessed regularly during the antenatal care.[74] With regard to pharmacotherapy for smoking cessation, according to the ACOG, the use of varenicline and bupropion may be a reasonable option, whereas the WHO and the SOGC state against the use of these medications, until more evidence is available. Of note, a systematic review of varenicline and bupropion in pregnancy could not demonstrate an increased risk for congenital anomalies or preterm delivery.[75] All the reviewed guidelines, except from the one by the WHO, report that for cases where consultation fails, treatment with nicotine replacements constitutes an acceptable option. Published data have shown that nicotine replacement therapy has been associated with higher rates of smoking cessation.[76] A Cochrane review concluded that there is weak evidence to support the fact that nicotine replacement therapy with behavioral support is effective for smoking cessation in pregnancy, but there is no evidence that this therapy has any negative impact on maternal or infant outcomes.[77]

Following delivery, the RANZCOG and the ACOG recommend continuous support to women to ensure that smoking cessation was successful.

TABLE 3
Summary of Recommendations for the Drug Abuse During Pregnancy

	RANZCOG	WHO	SOGC	ACOG
Country	Australia	International	Canada	United States
Issued	2018	2014/2016	2017	2011/2015/2017
Title	"Substance Use in Pregnancy"	"Guidelines for the Identification and Management of Substance Use and Substance Use Disorders in Pregnancy/WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience"	"Substance Use in Pregnancy"	"Methamphetamine Abuse in Women of Reproductive Age/Alcohol Abuse and Other Substance Use Disorders: Ethical Issues in Obstetric and Gynecologic Practice/Opioid Use and Opioid Use Disorder in Pregnancy/Marijuana Use During Pregnancy and Lactation"
Pages	17	224/154	18	5/9/14/5
Counseling	Recommended	Recommended	Recommended	Recommended
Screening for drug use	Recommended	Recommended	Recommended	Recommended
Biologic testing of drug use	Not mentioned	Not mentioned	Not routinely recommended	Not routinely recommended
Screening for coexistent infections	Recommended	Not mentioned	Recommended	Recommended
Brief interventions	Recommended	Recommended	Recommended	Recommended
Opioid use during pregnancy	Psychosocial interventions, opioid maintenance treatment (methadone or buprenorphine)	Psychosocial interventions, opioid maintenance treatment (methadone or buprenorphine)	Psychosocial interventions, opioid maintenance treatment (methadone or buprenorphine)	Psychosocial interventions, opioid maintenance treatment (methadone or buprenorphine)
Benzodiazepine use during pregnancy	May be used to manage anxiety	Gradual dose reduction	Gradual dose reduction	Not mentioned
Marijuana use	Marijuana (even for medical purposes) should be discontinued in pregnancy	Marijuana (even for medical purposes) should be discontinued in pregnancy	Marijuana (even for medical purposes) should be discontinued in pregnancy	Marijuana (even for medical purposes) should be discontinued in pregnancy
Methamphetamine use	Should be discontinued in pregnancy	Should be discontinued in pregnancy	Not mentioned	Should be discontinued in pregnancy Regular fetal sonography for fetal growth assessment
Stimulants' dependence	Appropriate consultation or referral is recommended	Psychopharmacological medications may be used	Not mentioned	Not mentioned
Skin-to-skin contact	Not mentioned	Recommended	Not mentioned	Not mentioned
Breastfeeding	Not mentioned	Recommended	Not recommended Recommended while on opioid antagonist	Not recommended Recommended while on opioid antagonist
Separation of parents with substance use disorder from their children	Not mentioned	Not mentioned	Not mentioned	Should be discouraged
Neonatal care	Monitoring of the neonates is recommended	Monitoring of the neonates is recommended An opioid could be used in neonates with opioid withdrawal syndrome	Monitoring of the neonates is recommended An opioid could be used in neonates with opioid withdrawal syndrome	Monitoring of the neonates is recommended

Notably, almost half of the women who cease smoking in pregnancy return to smoking during the first year postpartum.[72] Potential risk factors for postpartum relapse to smoking include abstinence from breastfeeding, family environment of smokers, and original intention to cease only during pregnancy.[78]

DRUG ABUSE IN PREGNANCY

All the guidelines recommend effective counseling for the adverse effects of drug abuse during the periconceptional, antenatal, and postnatal period. Accordingly, pregnant women should be strongly advised by health professionals to abstain from drug abuse. This consensus is based on the prevalence of drug abuse in the general population, the associated risks, and available evidence that appropriate interventions may improve the perinatal outcome.[1,79]

Therefore, all the guidelines recommend the adoption of a regular screening method for drug abuse during pregnancy. A strategy of universal screening and an associated intervention has been proven to be cost-effective,[80] whereas repeated screening may also be offered, because drug abuse may become apparent later in pregnancy.[81] Despite the fact that there is no consensus on the optimum tool for substance use screening in pregnant women, the WHO suggests that either the SURP-P (Substance Use Risk Profile–Pregnancy Scale), the proprietary 4 P's Plus, or the National Institute on Drug Abuse (NIDA) Quick Screen Modified ASSIST (Alcohol, Smoking, and Substance Involved Screening Test) may be used. The SURP-P evaluates the need of the individual to reduce alcohol or drug abuse[82]; the NIDA Quick Screen has a reported sensitivity and specificity of 80% and 82%, respectively.[83] Moreover, the SOGC states that several affirmed instruments (the T-ACE questionnaire, the AntenataL Psychosocial Health Assessment tool) for pregnant populations can be used, while the ACOG advises universal screening for all pregnant individuals, including the 4P's, NIDA Quick Screen or the Car, Relax, Alone, Forget, Friends, Trouble.

Moreover, the SOGC and the ACOG state that drug toxicity testing should not be routinely recommended, but it should be considered if there is a clinical indication, whereas the RANZCOG and the WHO make no relevant recommendation. It should be noted that the pregnant women's consent is required before conducting any kind of toxicological testing. Furthermore, the SOGC emphasizes that health care providers need to be informed about the different jurisdiction and local legal framework on drug testing before asking their patients to proceed. Research has shown that urine drug testing during pregnancy is a valid method for identifying substance abuse.[84] However, because of the limitations of laboratory testing, there is no universal agreement on the best method for assessing biological samples (eg, blood, saliva, or urine).[85]

In addition, the RANZOCG and the SOGC recommend that pregnant women who report substance use should be further screened for morbid infectious diseases including the sexually transmitted gonorrhea, hepatitis, chlamydia, and HIV. Published studies reported that up to 20% of heroin- or cocaine-dependent pregnant women under treatment have 1 or more sexually transmitted infections that coexist with their pregnancy and may contribute to the risk of several pregnancy complications and also contracting HIV.[86]

Regarding appropriate management, according to all the reviewed guidelines, brief interventions can be helpful to pregnant women with intensive drug use. In these short-duration interventions, women should be informed about the harms of drug abuse to themselves and to their fetus. The health care professionals should adopt a personalized approach to women with drug dependence during pregnancy; this comprehensive care may also establish health care professionals' constant communication and collaboration with a view to planning a safe environment for parturition and the postnatal period.[87] Brief interventions have been proven to be effective and may reduce drug abuse, thus improving maternal health and reduce the associated social burden.[88]

Based on the reviewed guidelines, the management of opioid-dependent pregnant women includes psychosocial interventions and opioid maintenance treatment with either methadone or buprenorphine. A Cochrane review assessed the effectiveness of any maintenance treatment alone or in combination with psychosocial intervention compared with no intervention and concluded that there were no sufficiently significant differences between methadone and buprenorphine or slow-release morphine to state that one treatment is superior to another for any of the study outcomes.[89]

Regarding benzodiazepine use during pregnancy, the RANZCOG states that it is often used as a stress relief medication, whereas the WHO and the SOGC mention that a gradual dose reduction would be reasonable. Moreover, pregnant women on high dose of benzodiazepines would require detoxification under close surveillance by an expert.[90]

As for the use of marijuana in pregnancy, there is universal consensus that it should be discontinued, even if it is administered for medical purpose. Animal studies have shown that marijuana crosses the placenta and leads to fetal plasma concentrations equal to 10% of maternal levels, whereas repetitive exposures to the drug may lead to higher fetal concentrations.[91]

All the reviewed guidelines state that methamphetamine should be discontinued in pregnancy (the SOGC makes no relevant recommendation), whereas the WHO recommends regular sonographic assessment for those cases, in order to early detect possible fetal growth restriction. For pregnant women with stimulants' dependence, the RANZCOG recommends appropriate consultation or referral to an expert, whereas the WHO states that psychopharmacological medications may be used.

Following delivery, the WHO recommends skin-to-skin contact between the mother and the fetus, in order to establish a short- and long-term bonding. According to the SOGC and the ACOG, pregnant women should be motivated by health care providers to start or continue breastfeeding when they are under opioid agonist therapy, as this may prevent neonatal abstinence syndrome.[92] However, based on these 2 guidelines, women who are drug dependent in their breastfeeding period should not adopt breastfeeding, unless they cease the drugs. On the contrary, the WHO states that breastfeeding should be encouraged in all women, because substance use is not an absolute contraindication. The ACOG highlights the ethical responsibility of physicians to discourage pregnant women and parenting patients to separate from their offspring because of their drug abuse, whereas the other guidelines make no relevant recommendation. Removing children from their home violates the individual welfare purposes; it has also been proven that effective management of substance use disorders is more cost-effective than a restrictive approach.[93]

All the guidelines recommend that a policy of close monitoring of the neonates should be adopted to early detect neonatal abstinence syndrome. Moreover, the WHO and the SOGC state that an opioid could be used in neonates with opioid withdrawal syndrome. The Finnegan assessment instrument is the most common tool for the evaluation of neonatal abstinence syndrome.[94] Despite the fact that nonpharmacological treatment is often used in opioid-exposed infants, pharmacotherapy may be used in a subset of them to treat severe symptoms.[95,96]

CONCLUSIONS

A significant percentage of women use substances during pregnancy. Health care providers should be adequately trained and prepared to manage these women, in order to protect them and their fetuses. All the reviewed guidelines recommend universal screening for alcohol use during pregnancy, as well as appropriate counseling. Prompt management of alcohol dependence is deemed necessary by all the guidelines except from the RANZCOG. The simultaneous use of alcohol with breastfeeding should be avoided, whereas the assessment of the newborns is supported by the WHO and the SOGC.

The harmful effects of smoking in pregnancy have been extensively studied; there is a universal consensus on regular screening for smoking as well as smoking cessation strategies for the woman and her partner. Several interventions have been used for this purpose, including psychosocial, behavioral, and pharmacotherapy. Moreover, a continuous support of these women in order to ensure the success of cessation would be valuable.

All the guidelines recommend counseling and screening for drug abuse in pregnancy; all except from the WHO also suggest screening for coexistent sexually transmitted infections in these women. Brief interventions are usually beneficial, whereas a gradual decrease in benzodiazepines is suggested, as well as discontinuation of marijuana and methamphetamine use. There is controversy regarding breastfeeding in these women; the WHO supports breastfeeding for drug users, whereas the SOGC and the ACOG recommend against this practice. Finally, all the guidelines state that close monitoring of the neonates is recommended following delivery.

More studies are needed in the issue of smoking, especially regarding nicotine replacements, secondhand smoking, and electronic cigarette (vaping). Moreover, further clinical investigation is required to clarify the safe (if any) limits of alcohol and other substances that still remain unknown.

To summarize, substance abuse in pregnancy may have detrimental effects on both pregnant women and their fetuses. More research is needed in areas of dispute so that a universal consensus on the substance use among pregnant women is achieved. Appropriately trained health care providers should early identify pregnant women with addictions, manage them accordingly, and thus contribute to more favorable perinatal outcomes.

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