Date of Search: 03 May 2017
Sources Searched: Medline, Embase, PsycInfo

West Middlesex University Hospital

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Substance Misuse in Pregnancy

See full search strategy

1. Is there a teratogenicity risk associated with cannabis and synthetic cannabimimetics' ('Spice') intake?

Author(s): Orsolini L; Papanti D; Corkery J; De Luca MA; Cadoni C; Di Chiara G; Schifano F

Source: CNS & neurological disorders drug targets; Apr 2017

Publication Date: Apr 2017

Publication Type(s): Journal Article

PubMedID: 28412917

Abstract:BACKGROUND: Substance use, including cannabis, has been documented amongst women both in the pre-conception period and during pregnancy, particularly during the 1st trimester, which is clearly the most critical period in the organogenesis. The recent emergence on the drug market of synthetic cannabimimetics/SC ('spice') may represent a new challenge for clinicians.OBJECTIVE: A literature overview on the teratogenicity profile of both cannabis and synthetic cannabimimetics was here carried out.METHODS: The PubMed database was searched in order to collect all relevant cases and data regarding the possible evidence of teratogenicity issues associated with cannabis and SC intake.RESULTS: The use of cannabis in pregnant women has been associated with a plethora of both obstetrical/gestational complications and neurobehavioral/neurological effects on newborns. Conversely, only few and conflicting data relate to SC misuse issues.CONCLUSION: Although cannabis use may be considered a risk factor for the occurrence of pregnancy-related morbidity issues, many studies relied on self-reports and showed inconsistent results when controlling for potential confounders, including tobacco use. Given the role of the endocannabinoid system in both pregnancy and delivery, SC potency at interacting with the endocannabinoid system may be a reason of concern. Clinicians should carefully assess each woman planning a pregnancy, or who is pregnant already, and who is at risk of persisting in her current cannabis and/or SC intake. A non-judgmental approach, aiming at collecting both a history of drug/alcohol use and at providing information regarding the risks associated with cannabis/SC intake during pregnancy is here advised.

Database: PubMed

2. Guidelines for the Management of Pregnant Women With Substance Use Disorders.

Author(s): McLafferty, Laura P; Becker, Madeleine; Dresner, Nehama; Meltzer-Brody, Samantha; Gopalan, Priya; Glance, Jody; Victor, Guitelle St; Mittal, Leena; Marshalek, Patrick; Lander, Laura; Worley, Linda L M

Source: Psychosomatics; 2016; vol. 57 (no. 2); p. 115-130

Publication Date: 2016

Publication Type(s): Journal Article Review

Available in full text at Psychosomatics - from Free Access Content

Abstract:BACKGROUND Women of reproductive potential with substance use disorders, especially those who are pregnant, present many clinical challenges to healthcare providers, including comorbid psychiatric disorders, a history of trauma and abuse, avoidance of or poor access to prenatal care, fear of legal consequences, and countertransference reactions.METHODS In November 2013, members of the Women's Mental Health Special Interest Group of the Academy of Psychosomatic Medicine presented a Workshop reviewing substance abuse in pregnancy, highlighting the specific contributions that psychosomatic medicine specialists can make in the care of these patients. The discussion focused on epidemiology; maternal and fetal risks; and screening and treatment considerations for tobacco, alcohol, cannabis, opioids, benzodiazepines, stimulants, and several other substances.OBJECTIVE Our purpose in publishing this review is to provide clinicians and educators with the most up-to-date summary in this field to better engage these patients in care and break the intergenerational cycle of abuse and addiction.

Database: Medline

3. Prenatal exposure to cannabis and maternal and child health outcomes: A systematic review and meta-analysis

Author(s): Gunn J.K.L.; Rosales C.B.; Center K.E.; Nunez A.; Gibson S.J.; Ehiri J.E.; Christ C.

Source: BMJ Open; 2016; vol. 6 (no. 4)

Publication Date: 2016

Publication Type(s): Review

Available in full text at BMJ Open - from ProQuest

Available in full text at BMJ Open - from National Library of Medicine

Abstract: Objective: To assess the effects of use of cannabis during pregnancy on maternal and fetal outcomes. Data sources: 7 electronic databases were searched from inception to 1 April 2014. Studies that investigated the effects of use of cannabis during pregnancy on maternal and fetal outcomes were included. Study selection: Case-control studies, cross-sectional and cohort studies were included. Data extraction and synthesis: Data synthesis was undertaken via systematic review and meta-analysis of available evidence. All review stages were conducted independently by 2 reviewers. Main outcomes and measures: Maternal, fetal and neonatal outcomes up to 6 weeks postpartum after exposure to cannabis. Meta-analyses were conducted on variables that had 3 or more studies that measured an outcome in a consistent manner. Outcomes for which meta-analyses were conducted included: anaemia, birth weight, low birth weight, neonatal length, placement in the neonatal intensive care unit, gestational age, head circumference and preterm birth. Results: 24 studies were included in the review. Results of the meta-analysis demonstrated that women who used cannabis during pregnancy had an increase in the odds of anaemia (pooled OR (pOR)=1.36: 95% CI 1.10 to 1.69) compared with women who did not use cannabis during pregnancy. Infants exposed to cannabis in utero had a decrease in birth weight (low birth weight pOR=1.77: 95% CI 1.04 to 3.01; pooled mean difference (pMD) for birth weight=109.42 g: 38.72 to 180.12) compared with

infants whose mothers did not use cannabis during pregnancy. Infants exposed to cannabis in utero were also more likely to need placement in the neonatal intensive care unit compared with infants whose mothers did not use cannabis during pregnancy (pOR=2.02: 1.27 to 3.21). Conclusions and relevance: Use of cannabis during pregnancy may increase adverse outcomes for women and their neonates. As use of cannabis gains social acceptance, pregnant women and their medical providers could benefit from health education on potential adverse effects of use of cannabis during pregnancy.

Database: EMBASE

4. Maternal Marijuana Use and Adverse Neonatal Outcomes: A Systematic Review and Meta-analysis

Author(s): Conner S.N.; Bedell V.; Lipsey K.; Macones G.A.; Cahill A.G.; Tuuli M.G.

Source: Obstetrics and Gynecology; Oct 2016; vol. 128 (no. 4); p. 713-723

Publication Date: Oct 2016

Publication Type(s): Review

Available in full text at Obstetrics and Gynecology - from Ovid

Abstract:OBJECTIVE: To estimate whether marijuana use in pregnancy increases risks for adverse neonatal outcomes and clarify if any increased risk is attributable to marijuana use itself or to confounding factors such as tobacco use. DATA SOURCES: Two authors performed a search of the data through August 2015 utilizing PubMed, Embase, Scopus, Cochrane reviews, ClinicalTrials.gov, and Cumulative Index to Nursing and Allied Health. METHODS OF STUDY SELECTION: We looked at observational studies that compared rates of prespecified adverse neonatal outcomes in women who used marijuana during pregnancy with women who did not. TABULATION, INTEGRATION, AND RESULTS: Two authors independently extracted data from the selected studies. Primary outcomes were low birth weight (less than 2,500 g) and preterm delivery at less than 37 weeks of gestation. Secondary outcomes were birth weight, gestational age at delivery, small for gestational age, level II or greater nursery admission, stillbirth, spontaneous abortion, low Apgar score, placental abruption, and perinatal death. DerSimonian-Laird random-effects models were used. We assessed heterogeneity using the Q test and I 2 statistic. Stratified analyses were performed for the primary outcomes and pooled adjusted estimates were calculated. We included 31 studies that assessed the effects of maternal marijuana use on adverse neonatal outcomes. Based on pooled unadjusted data, marijuana use during pregnancy was associated with an increased risk of low birth weight (15.4% compared with 10.4%, pooled relative risk [RR] 1.43, 95% confidence interval [CI] 1.27-1.62) and preterm delivery (15.3% compared with 9.6%, pooled RR 1.32, 95% CI 1.14-1.54). However, pooled data adjusted for tobacco use and other confounding factors showed no statistically significant increased risk for low birth weight (pooled RR 1.16, 95% CI 0.98-1.37) or preterm delivery (pooled RR 1.08, 95% CI 0.82-1.43). CONCLUSION: Maternal marijuana use during pregnancy is not an independent risk factor for adverse neonatal outcomes after adjusting for confounding factors. Thus, the association between maternal marijuana use and adverse outcomes appears attributable to concomitant tobacco use and other confounding factors.

Database: EMBASE

5. Intravenous drug use is associated with alloimmunization in pregnancy

Author(s): Lappen J.R.; Gibson K.S.; Bailit J.L.; Stark S.; Prasad M.

Source: American Journal of Obstetrics and Gynecology; Sep 2016; vol. 215 (no. 3); p. 344

Publication Date: Sep 2016

Publication Type(s): Conference Paper

Abstract: Background Anecdotal evidence has suggested an association of intravenous drug abuse with alloimmunization; however, published data are limited to case reports. Objective The purpose of this study was to determine whether women with a history of intravenous drug abuse have an increased risk of alloimmunization. Study Design A retrospective cohort study was performed with the use of data from a single-center blood bank and perinatal database from 2008-2014. Blood bank data were used to identify women with alloimmunization, which was defined as a positive antibody screen in pregnancy not due to naturally occurring antibodies, agglutinins, autoantibodies, or Rh immunoglobulin administration. Intravenous drug abuse was ascertained from a comprehensive database that has captured all drug abuse in pregnancy since 2008. For women who contributed >1 pregnancy to the database, only the most recent pregnancy was included. The rates of alloimmunization among women with a history of intravenous drug abuse and general obstetric populations were calculated and compared. The distribution of alloantibody types, proportion of Rh-group alloantibodies, and patient Rh status were assessed for intravenous and non-intravenous drug abuse-associated alloimmunization. Characteristics and outcomes between intravenous and non-intravenous drug abuse-associated alloimmunization were assessed for women with clinically significant alloantibodies. Results Alloimmunization was more common in women with a history of intravenous drug abuse (11/305 women; 3.6%) compared to women without a history of intravenous drug abuse (288/16,022 women; 1.8%; relative risk, 2.00; 95% confidence interval, 1.11-3.62). Needle-sharing was present in 7 and suspected in 4 women with an intravenous drug abuse history. Among women with a history of intravenous drug abuse, none had a history of transfusion or traditional risk factor for alloimmunization. The distribution of alloantibodies was different between intravenous drug abuse- and non-intravenous drug abuse-associated alloimmunization. Rh group alloantibodies and Rh-negative status were more common in women with a history of intravenous drug abuse. Among Rh-negative women with a history of intravenous drug abuse, 50% of RhD alloimmunization cases occurred in nulliparous women. The rate of multiple alloantibodies was not different between intravenous drug abuse- and non-intravenous drug abuse-associated alloimmunization. Conclusion Maternal history of intravenous drug abuse is associated with an increased risk of alloimmunization. Approximately 1 in 30 intravenous drug abuse women may be diagnosed with an alloantibody in pregnancy. Given the current US opioid epidemic, increased vigilance in screening is required. Needle-sharing represents a possible mechanism for intravenous drug abuse-associated alloimmunization; however, limited obstetric care, failure to obtain Rh immunoglobulin, or failure to identify early pregnancy loss cannot be excluded.

Database: EMBASE

6. Cocaine and crack cocaine abuse by pregnant or lactating mothers and analysis of its biomarkers in meconium and breast milk by LC-MS-A review.

Author(s): D'Avila, Felipe Bianchini; Limberger, Renata Pereira; Fröehlich, Pedro Eduardo

Source: Clinical biochemistry; Sep 2016; vol. 49 (no. 13-14); p. 1096-1103

Publication Date: Sep 2016

Publication Type(s): Journal Article Validation Studies Review

Abstract: Abusive use of drugs is a public health problem worldwide. The use of these substances by pregnant or lactating women can have many serious side effects in newborns. Among the commonest causes of addiction in drug users is cocaine in powdered form, inhaled, intravenously injected or smoked form (crack). Fast screening and a confirmation test using high specificity and sensitivity instruments such as LC-MS or GC/MS, can provide data to qualify and quantify chemical substances present in biological samples such as breast milk or meconium. Cocaine and/or crack can be detected through biomarkers or the unchanged molecule, enabling the form of cocaine use to be distinguished through the analytes. These methods must be carefully developed and validated according to internationally recognized guidelines. Thus, the study of biological matrices in which it can be detected through the development of simple and quick analytical methods can help prevent intoxication and diagnose the symptoms of dependency such as seizures, especially in babies, providing appropriate medical care.

Database: Medline

7. Toxic effects of prenatal exposure to alcohol, tobacco and other drugs

Author(s): Scott-Goodwin A.C.; Puerto M.; Moreno I.

Source: Reproductive Toxicology; Jun 2016; vol. 61 ; p. 120-130

Publication Date: Jun 2016

Publication Type(s): Review

Abstract: Tobacco, alcohol, cannabis and cocaine are the most consumed psychoactive drugs throughout the population. Prenatal exposure to these drugs could alter normal foetal development and could threaten future welfare. The main changes observed in prenatal exposure to tobacco are caused by nicotine and carbon monoxide, which can impede nutrient and oxygen exchange between mother and foetus, restricting foetal growth. Memory, learning processes, hearing and behaviour can also be affected. Alcohol may cause physical and cognitive alterations in prenatally exposed infants, fundamentally caused by altered NMDAR and GABAR activity. Tetrahydrocannabinol, the psychoactive compound of cannabis, is capable of activating CB1R, inducing connectivity deficits during the foetal brain development. This fact could be linked to behavioural and cognitive deficits. Many of the effects from prenatal cocaine exposure are caused by altered cell proliferation, migration, differentiation and dendritic growth processes. Cocaine causes long term behavioural and cognitive alterations and also affects the uteroplacental unit.

Database: EMBASE

8. At the Tip of an Iceberg: Prenatal Marijuana and Its Possible Relation to Neuropsychiatric Outcome in the Offspring.

Author(s): Alpár, Alán; Di Marzo, Vincenzo; Harkany, Tibor

Source: Biological psychiatry; Apr 2016; vol. 79 (no. 7); p. e33

Publication Date: Apr 2016

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Journal Article Review

Abstract: Endocannabinoids regulate brain development via modulating neural proliferation, migration, and the differentiation of lineage-committed cells. In the fetal nervous system, (endo)cannabinoid-sensing receptors and the enzymatic machinery of endocannabinoid metabolism exhibit a cellular distribution map different from that in the adult, implying distinct functions. Notably, cannabinoid receptors serve as molecular targets for the psychotropic plant-derived cannabis constituent Δ(9)-tetrahydrocannainol, as well as synthetic derivatives (designer drugs). Over 180 million people use cannabis for recreational or medical purposes globally. Recreational cannabis is recognized as a niche drug for adolescents and young adults. This review combines data from human and experimental studies to show that long-term and heavy cannabis use during pregnancy can impair brain maturation and predispose the offspring to neurodevelopmental disorders. By discussing the mechanisms of cannabinoid receptor-mediated signaling events at critical stages of fetal brain development, we organize histopathologic, biochemical, molecular, and behavioral findings into a logical hypothesis predicting neuronal vulnerability to and attenuated adaptation toward environmental challenges (stress, drug exposure, medication) in children affected by in utero cannabinoid exposure. Conversely, we suggest that endocannabinoid signaling can be an appealing druggable target to dampen neuronal activity if pre-existing pathologies associate with circuit hyperexcitability. Yet, we warn that the lack of critical data from longitudinal follow-up studies precludes valid conclusions on possible delayed and adverse side effects. Overall, our conclusion weighs in on the ongoing public debate on cannabis legalization, particularly in medical contexts.

Database: Medline

9. Neonatal abstinence syndrome: Pharmacologic strategies for the mother and infant.

Author(s): Kraft, Walter K; Stover, Megan W; Davis, Jonathan M

Source: Seminars in perinatology; Apr 2016; vol. 40 (no. 3); p. 203-212

Publication Date: Apr 2016

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

Abstract: Opioid use in pregnancy has increased dramatically over the past decade. Since prenatal opioid use is associated with numerous obstetrical and neonatal complications, this now has become a major public health problem. In particular, in utero opioid exposure can result in neonatal abstinence syndrome (NAS) which is a serious condition characterized by central nervous system hyperirritability and autonomic nervous system dysfunction. The present review seeks to define current practices regarding the approach to the pregnant mother and neonate with prenatal opiate exposure. Although the cornerstone of prenatal management of opioid dependence is opioid maintenance therapy, the ideal agent has yet to be definitively established. Pharmacologic management of NAS is also highly variable and may include an opioid, barbiturate, and/or α-agonist. Genetic factors appear to be associated with the incidence and severity of NAS. Establishing pharmacogenetic risk factors for the development of NAS has the potential for creating opportunities for "personalized genomic medicine" and novel, individualized therapeutic interventions.

Database: Medline

10. Alcohol, Methamphetamine, and Marijuana Exposure Have Distinct Effects on the Human Placenta

Author(s): Carter R.C.; Wainwright H.; Molteno C.D.; Jacobson J.L.; Jacobson S.W.; Warton F.; Meintjes E.M.; Georgieff M.K.; Dodge N.C.

Source: Alcoholism: Clinical and Experimental Research; Apr 2016; vol. 40 (no. 4); p. 753-764

Publication Date: Apr 2016

Publication Type(s): Article

Abstract: Background: Animal studies have demonstrated adverse effects of prenatal alcohol exposure on placental development, but few studies have examined these effects in humans. Little is known about effects of prenatal exposure to methamphetamine, marijuana, and cigarette smoking on placental development. Methods: Placentas were collected from 103 Cape Coloured (mixed ancestry) pregnant women recruited at their first antenatal clinic visit in Cape Town, South Africa. Sixty-six heavy drinkers and 37 nondrinkers were interviewed about their alcohol, cigarette smoking, and drug use at 3 antenatal visits. A senior pathologist, blinded to exposure status, performed comprehensive pathology examinations on each placenta using a standardized protocol. In multivariable regression models, effects of prenatal exposure were examined on placental size, structure, and presence of infections and meconium. Results: Drinkers reported a binge pattern of heavy drinking, averaging 8.0 drinks/occasion across pregnancy on 1.4 d/wk. 79.6% smoked cigarettes; 22.3% used marijuana; and 17.5% used methamphetamine. Alcohol exposure was related to decreased placental weight and a smaller placenta-to-birthweight ratio. By contrast, methamphetamine was associated with larger placental weight and a larger placenta-to-birthweight ratio. Marijuana was also associated with larger placental weight. Alcohol exposure was associated with increased risk of placental hemorrhage. Prenatal alcohol, drug, and cigarette use were not associated with chorioamnionitis, villitis, deciduitis, or maternal vascular underperfusion. Alcohol and cigarette smoking were associated with a decreased risk of intrauterine passing of meconium, a sign of acute fetal stress and/or hypoxia; methamphetamine, with an increased risk. Conclusions: This is the first human study to show that alcohol, methamphetamine, and marijuana were associated with distinct patterns of pathology, suggesting different mechanisms mediating their effects on placental development. Given the growing body of evidence linking placental abnormalities to neurodevelopmental deficits, these findings may be important in the long-term teratogenic effects of prenatal alcohol and drug exposure.

Database: EMBASE

11. Maternal cocaine abuse—An evidence review

Author(s): Fraser, Alyssa; Walker, Karen; Green, Janet

Source: Journal of Neonatal Nursing; Apr 2016; vol. 22 (no. 2); p. 56-60

Publication Date: Apr 2016

Publication Type(s): Journal Peer Reviewed Journal Journal Article

Abstract: In Australia, the use of illicit substances is on the rise, with as many as two in five people admitting to having ever used an illicit substance. As illicit drug availability is becoming ever more readily available, it has been argued that maternal substance use is increasing the demands of neonatal intensive care units and special care nurseries Australia wide. Cocaine causes miscarriage due to its vasoconstrictive effects on the blood supply of the developing foetus when used during the first trimester of pregnancy. Furthermore there is an increased risk of the foetus developing congenital anomalies and insufficient intracranial growth all due to the vasoconstrictive teratogenic effects of cocaine. Within this paper, common teratogenic effects of prenatal cocaine use are explored and further supplemented with the documented associated short and long term effects of such illicit drug use as reported in recent literature. The most common short term effect of maternal substance use on the neonate is neonatal abstinence syndrome (NAS) being one of the most common reasons and possibly unavoidable for admission to a neonatal intensive care unit (NICU). Such impacts upon NICUs are explored and discussed. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

Database: PsycINFO

12. Changes in developmental body weight as a function of toluene exposure: A meta-analysis of animal studies

Author(s): Callan S.P.; Kott J.M.; Cleary J.P.; McCarthy M.K.; Baltes B.B.; Bowen S.E.

Source: Human and Experimental Toxicology; Apr 2016; vol. 35 (no. 4); p. 341-352

Publication Date: Apr 2016

Publication Type(s): Review

Abstract: Inhalant abuse is a globally prevalent health issue with particular concerns about substance-abusing pregnant women. In both animal models and clinical case reports of toluene exposure, the primary physiological outcome measure of prenatal inhalant exposure is low birth weight (BW). However, the effect of prenatal toluene exposure on animal BW varies widely in the literature. To clarify this effect and investigate possible design moderators of pup BW, a systematic review and meta-analytic techniques were applied to the existing peer-reviewed animal literature of prenatal and postnatal exposure models to the inhaled solvent toluene. Of 288 studies screened, 24 studies satisfied the inclusion criteria. Evaluation of these studies indicated that toluene exposure was negatively associated with pup BW (d = -0.39), with external inhaled concentration, route of administration, day of weighing, and toluene exposure magnitude moderating this association. Investigators doing animal studies should be cognizant of these factors before investigating the reproductive and developmental outcomes associated with prenatal and postnatal toluene exposure.

Database: EMBASE

13. Crack abuse during pregnancy: maternal, fetal and neonatal complication.

Author(s): Aghamohammadi, Azar; Zafari, Mandana

Source: The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Mar 2016; vol. 29 (no. 5); p. 795-797

Publication Date: Mar 2016

Publication Type(s): Journal Article

Abstract:OBJECTIVEThe aim of this study was to assess the effects of crack on pregnancy outcomes.METHODSWe studied 88 crack user pregnant women in this study. These women were matched to a drug-free group (n = 90) chosen from the population of the same hospital. Maternal outcomes including preeclampsia, placenta abruption, gestational diabetes and preterm labor, and neonatal complication including low birth weight and low Apgar score in 5 min were compared in crack using and drug-free groups. Data were analyzed by SPSS software. Chi-square test and Student's t-test and Relative Risks (RRs) were used in this study.RESULTSThe results of our study showed that crack abuse during pregnancy was associated with higher rate of preeclampsia p = 0.003 (RR, 1.731; 95% CI, 1.777-2.545), placental abruption p = 0.001 (RR, 2.439; 95% CI, 1.369-4.343), preterm labor p < 0.000 (RR, 3.249; 95% CI, 2.053-5.141) and low birth weight p < 0.000 (RR, 2.179; 95% CI, 1.462-3.247).CONCLUSIONSCrack abuse had significant influence on pregnancy outcomes. Crack appears to influence the prevalence of low birth weight, preterm labor, preeclampsia and placental abruption.

Database: Medline

14. Management of psychotropic drugs during pregnancy.

Author(s): Chisolm, Margaret S; Payne, Jennifer L

Source: BMJ (Clinical research ed.); Jan 2016; vol. 532 ; p. h5918

Publication Date: Jan 2016

Publication Type(s): Journal Article Review

Available in full text at The BMJ - from Highwire Press

Abstract: Psychiatric conditions (including substance misuse disorders) are serious, potentially life threatening illnesses that can be successfully treated by psychotropic drugs, even during pregnancy. Because few rigorously designed prospective studies have examined the safety of these drugs during pregnancy, the default clinical recommendation has been to discontinue them, especially during the first trimester. However, in the past decade, as more evidence has accumulated, it seems that most psychotropic drugs are relatively safe to use in pregnancy and that not using them when indicated for serious psychiatric illness poses a greater risk to both mother and child, including tragic outcomes like suicide and infanticide. This review presents an up to date and careful examination of the most rigorous scientific studies on the effects of psychotropic drugs in pregnancy. The lack of evidence in several areas means that definite conclusions cannot be made about the risks and benefits of all psychotropic drug use in pregnancy.

Database: Medline

15. Drugs of abuse in pregnancy, poor neonatal development, and future neurodegeneration. Is oxidative stress the culprit?

Author(s): Neri, Margherita; Bello, Stefania; Turillazzi, Emanuela; Riezzo, Irene

Source: Current pharmaceutical design; 2015; vol. 21 (no. 11); p. 1358-1368

Publication Date: 2015

Publication Type(s): Journal Article Review

Abstract: The abuse of licit and illicit drugs is a worldwide issue that is a cause for concern in pregnant women. It may lead to complications in pregnancy that may affect the mother, fetus, and /or neonate. The effects of any substance on the developing embryo and fetus are dependent upon dosing, timing, duration of drug exposure, and the extent of drug distribution. Teratogenic effects have been described when exposure takes place during the embryonic stage; however drugs have subtle effects, including abnormal growth and/or maturation, alterations in neurotransmitters and their receptors, and brain organization. The mechanisms by which intrauterine exposure to many substances may result in neuronal injury have not been completely elucidated. Oxidative stress and epigenetic changes have been recently implicated in the pathogenesis of long - term adverse health sequelae, and neuro-developmental impairment in the offspring of addicted mothers. Transgenerational epigenetics may also explain the alarming datum that developmental abnormalities, impairment in learning and memory, and attention deficit can occur even in the absence of direct fetal exposure, when drugs are consumed prior to conception. There is a growing body of evidence demonstrating a link between redox state unbalance, epigenetic markers, developmental anomalies, and neurodegeneration. The reviewed literature data uphold redox homeostasis disruption as an important factor in the pathogenesis of drug of abuse- induced neurodegeneration, and highlight the potential for new therapies that could prevent neurodegeneration through antioxidant and epigenetic modulatory mechanisms. This therefore reveals important targets for novel neuroprotective strategies.

Database: Medline

16. Methadone and buprenorphine for opioid dependence during pregnancy: a retrospective cohort study.

Author(s): Meyer, Marjorie C; Johnston, Anne M; Crocker, Abigail M; Heil, Sarah H

Source: Journal of addiction medicine; 2015; vol. 9 (no. 2); p. 81-86

Publication Date: 2015

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Comparative Study Journal Article

Available in full text at Journal of Addiction Medicine - from Ovid

Abstract:OBJECTIVESTo compare maternal characteristics, prenatal care, and newborn outcomes in a cohort of opioid-dependent pregnant women treated with methadone versus buprenorphine.METHODSIn a retrospective cohort study, 609 pregnant, opioid-dependent women were treated with methadone (n = 248) or buprenorphine (n = 361) between 2000 and 2012 at a single institution.RESULTSMothers treated with buprenorphine were more likely to start medication before or earlier in pregnancy, had longer gestation, and gave birth to larger infants. Newborns of buprenorphine- versus methadone-maintained mothers required treatment for neonatal abstinence significantly less often and for a shorter duration.CONCLUSIONSThese data suggest pregnancy outcomes with buprenorphine to treat opioid dependence during pregnancy in clinical practice are as good and often better than outcomes with methadone. These results are consistent with efficacy data from randomized clinical trials and further support the use of buprenorphine for the treatment of opioid dependence during pregnancy.

Database: Medline

17. Methadone versus buprenorphine for the treatment of opioid abuse in pregnancy: science and stigma.

Author(s): Holbrook, Amber M

Source: The American journal of drug and alcohol abuse; 2015; vol. 41 (no. 5); p. 371-373

Publication Date: 2015

Publication Type(s): Journal Article

Abstract: The past decade has seen an increase in rates of opioid abuse during pregnancy. This clinical challenge has been met with debate regarding whether or not illicit and prescription opioid-dependent individuals require different treatment approaches; whether detoxification is preferable to maintenance; and the efficacy of methadone versus buprenorphine as treatment options during pregnancy. The clinical recommendations resulting from these discussions are frequently influenced by the comparative stigma attached to heroin abuse and methadone maintenance versus prescription opioid abuse and maintenance treatment with buprenorphine. While some studies have suggested that a subset of individuals who abuse prescription opioids may have different characteristics than heroin users, there is currently no evidence to suggest that buprenorphine is better suited to treatment of prescription opioid abuse than methadone. Similarly, despite its perennial popularity, there is no evidence to recommend detoxification as an efficacious approach to treatment of opioid dependence during pregnancy. While increased access to treatment is important, particularly in rural areas, there are multiple medical and psychosocial reasons to recommend comprehensive substance abuse treatment for pregnant women suffering from substance use disorders rather than office-based provision of maintenance medication. Both methadone and buprenorphine are important treatment options for opioid abuse during pregnancy. Methadone may still remain the preferred treatment choice for some women who require higher doses for stabilization, have a higher risk of treatment discontinuation, or who have had unsuccessful treatment attempts with buprenorphine. As treatment providers, we should advocate to expand available treatment options for pregnant women in all States.

Database: Medline

18. Alcohol use disorders in pregnancy.

Author(s): DeVido, Jeffrey; Bogunovic, Olivera; Weiss, Roger D

Source: Harvard review of psychiatry; 2015; vol. 23 (no. 2); p. 112-121

Publication Date: 2015

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

Available in full text at Harvard Review of Psychiatry - from Ovid

Abstract: Alcohol use disorders (AUDs) are less prevalent in pregnant women than in nonpregnant women, but these disorders can create a host of clinical challenges when encountered. Unfortunately, little evidence is available to guide clinical decision making in this population. Drinking alcohol during pregnancy can have negative consequences on both fetus and mother, but it remains controversial as to the volume of alcohol consumption that correlates with these consequences. Likewise, little evidence is available to support the use of particular pharmacologic interventions for AUDs during pregnancy or to guide the management of alcohol detoxification in pregnant women. The use of benzodiazepines (the mainstay of most alcohol detoxification protocols) in pregnant women is controversial. Nevertheless, despite the lack of robust data to guide management of AUDs in pregnancy, clinicians need to make management decisions when

confronted with these challenging situations. In that context, this article reviews the epidemiology of AUDs in pregnancy and the pharmacologic management of both AUDs and alcohol withdrawal in pregnant women, with the goal of informing clinicians about what is known about managing these co-occurring conditions.

Database: Medline

19. Methamphetamines and pregnancy outcomes

Author(s): Wright T.E.; Sauvage L.; Schuetter R.; Tellei J.

Source: Journal of Addiction Medicine; Dec 2015; vol. 9 (no. 2); p. 111-117

Publication Date: Dec 2015

Publication Type(s): Article

Available in full text at Journal of Addiction Medicine - from Ovid

Abstract: Introduction: Methamphetamine (MA) is one of the most commonly used illicit drugs in pregnancy, yet studies on MA-exposed pregnancy outcomes have been limited because of retrospective measures of drug use; lack of control for confounding factors; other drug use, including tobacco; poverty; poor diet; and lack of prenatal care. This study presents prospective collected data on MA use and birth outcomes, controlling for most confounders. Materials and Methods: This is a retrospective cohort study of women obtaining prenatal care from a clinic treating women with substance use disorders, on whom there are prospectively obtained data on MA and other drug use, including tobacco. Methamphetamine-exposed pregnancies were compared with non-MA exposed pregnancies and non-drug-exposed pregnancies, using univariate and multivariate analysis to control for confounders. Results: One hundred forty-four infants were exposed to MA during pregnancy, 50 had first trimester exposure only, 45 had continuous use until the second trimester, 29 had continuous use until the third trimester, but were negative at delivery, and 20 had positive toxicology at delivery. There were 107 non-MA-exposed infants and 59 infants with no drug exposure. Mean birth weights were the same for MA-exposed and nonexposed infants (3159 g vs 3168 g; P = 0.9), although smaller than those without any drug exposure (3159 vs 3321; P = 0.04), infants with positive toxicology at birth (meconium or urine) were smaller than infants with first trimester exposure only (2932 g vs 3300 g; P = 0.01). Gestation was significantly shorter among the MA-exposed infants than that among nonexposed infants (38.5 vs 39.1 weeks; P = 0.045), and those with no drug exposure (38.5 vs 39.5; P = 0.0011), the infants with positive toxicology at birth had a clinically relevant shortening of gestation (37.3 weeks vs 39.1; P = 0.0002). Conclusions: Methamphetamine use during pregnancy is associated with shorter gestational ages and lower birth weight, especially if used continuously during pregnancy. Stopping MA use at any time during pregnancy improves birth outcomes, thus resources should be directed toward providing treatment and prenatal care.

Database: EMBASE

20. Marijuana use in pregnancy and lactation: a review of the evidence.

Author(s): Metz, Torri D; Stickrath, Elaine H

Source: American journal of obstetrics and gynecology; Dec 2015; vol. 213 (no. 6); p. 761-778

Publication Date: Dec 2015

Publication Type(s): Journal Article Review

Abstract: With the legalization of recreational marijuana in many states, we anticipate more women will be using and self-reporting marijuana use in pregnancy. Marijuana is the most common illicit drug used in pregnancy, with a prevalence of use ranging from 3% to 30% in various populations. Marijuana freely crosses the placenta and is found in breast milk. It may have adverse effects on both perinatal outcomes and fetal neurodevelopment. Specifically, marijuana may be associated with fetal growth restriction, stillbirth, and preterm birth. However, data are far from uniform regarding adverse perinatal outcomes. Existing studies are plagued by confounding by tobacco and other drug exposures as well as sociodemographic factors. In addition, there is a lack of quantification of marijuana exposure by the trimester of use and a lack of corroboration of maternal self-report with biological sampling, which contributes to the heterogeneity of study results. There is an emerging body of evidence indicating that marijuana may cause problems with neurological development, resulting in hyperactivity, poor cognitive function, and changes in dopaminergic receptors. In addition, contemporary marijuana products have higher quantities of delta-9-tetrahydrocannabinol than in the 1980s when much of the marijuana research was completed. The effects on the pregnancy and fetus may therefore be different than those previously seen. Further research is needed to provide evidence-based counseling of women regarding the anticipated outcomes of marijuana use in pregnancy. In the meantime, women should be advised not to use marijuana in pregnancy or while lactating.

Database: Medline

21. Caring for Opioid-dependent Pregnant Women: Prenatal and Postpartum Care Considerations

Author(s): Krans E.E.; Bogen D.L.; Cochran G.

Source: Clinical Obstetrics and Gynecology; Dec 2015; vol. 58 (no. 2); p. 370-379

Publication Date: Dec 2015

Publication Type(s): Article

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: Pregnancy is an opportune time to identify opioid dependence, facilitate conversion to opioid maintenance treatment, and coordinate care with specialists in addiction medicine, behavioral health, and social services. Comprehensive prenatal care for opioid-dependent women involves the evaluation and the management of co-occurring psychiatric disorders, polysubstance use, infectious diseases, social stressors, and counseling regarding the importance of breastfeeding, contraception, and neonatal abstinence syndrome. Although the complex psychiatric, social, and environmental factors faced by this population pose significant challenges to obstetric care providers, the development of strong patient-provider relationships can facilitate the ability to deliver efficient and effective health care during pregnancy.

Database: EMBASE

22. Opioids in pregnancy and neonatal abstinence syndrome.

Author(s): Stover, Megan W; Davis, Jonathan M

Source: Seminars in perinatology; Nov 2015; vol. 39 (no. 7); p. 561-565

Publication Date: Nov 2015

Publication Type(s): Journal Article Review

Abstract: Opiate use in pregnancy has increased dramatically over the past decade and now represents a major public health problem. More women are using prescription opioids, illegal opioids, and opioid-substitution therapy. These drugs have been associated with numerous obstetrical complications including intrauterine growth restriction, placental abruption, preterm delivery, oligohydramnios, stillbirth, and maternal death. Neonatal complications are also significant, such as an increased risk of mortality as well as neonatal abstinence syndrome (NAS). NAS is a serious and highly variable condition characterized by central nervous system hyperirritability and autonomic nervous system dysfunction. The present review seeks to define current practices regarding the management of opiate dependence in pregnancy and care of the neonate with prenatal opiate exposure. Since genetic factors appear to be associated with the incidence and severity of NAS, opportunities for "personalized genomic medicine" and unique therapeutic interventions could be developed in the future.

Database: Medline

23. Maternal use of methadone and risk of sudden neonatal death.

Author(s): Cohen, Marta C; Morley, Stephen R; Coombs, Robert C

Source: Acta paediatrica (Oslo, Norway : 1992); Sep 2015; vol. 104 (no. 9); p. 883-887

Publication Date: Sep 2015

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

Abstract:AIMTo identify and describe infant deaths presenting suddenly and unexpectedly in whom there was a history of maternal methadone consumption or misuse of drugs during pregnancy.METHODSRetrospective review of neonatal postmortem examinations between 2004 and 2011.RESULTSA total of 138 autopsies were performed in infants up to 28 days. Thirty-two cases (23%) presented suddenly and unexpectedly. In 12 of 32 (37.5%), in whom the cause of death remained unexplained after a thorough postmortem, there was a history of methadone use and/or other drugs of abuse during pregnancy. Their mean age at death was 11 days (range 1-28 days). Multiple risk factors for sudden infant death syndrome were present in these 12 cases: smoking (10), prematurity (7), and inappropriate sleeping place (8). Five mothers were positive for hepatitis C. The history was inconsistent with the findings in only one case.CONCLUSIONAn unexpectedly high proportion of infants dying suddenly and unexpectedly in the first month had a history of maternal substance misuse. All had multiple risk factors, for sudden infant death syndrome many avoidable. We would stress the need to emphasise the 'Safe Sleep' message with these families at every contact with health professionals.

Database: Medline

24. Pharmacological management of opioid use disorder in pregnant women

Author(s): Wilder, Christine M.; Winhusen, Theresa

Source: CNS Drugs; Aug 2015; vol. 29 (no. 8); p. 625-636

Publication Date: Aug 2015

Publication Type(s): Journal Peer Reviewed Journal Journal Article

Available in full text at CNS Drugs - from ProQuest

Abstract: Opioid misuse during pregnancy is associated with negative outcomes for both mother and fetus due not only to the physiological effects of the drug but also to the associated social, medical and mental health problems that accompany illicit drug use. An interdisciplinary approach to the treatment of opioid use disorder during pregnancy is most effective. Ideally, obstetric and substance use treatment are co-located and ancillary support services are readily available. Medication-assisted treatment with methadone or buprenorphine is intrinsic to evidence-based care for the opioid-using pregnant woman. Women who are not stabilized on an opioid maintenance medication experience high rates of relapse and worse outcomes. Methadone has been the mainstay of maintenance treatment for nearly 50 years, but recent research has found that both methadone and buprenorphine maintenance treatments significantly improve maternal, fetal and neonatal outcomes. Although methadone remains the current standard of care, the field is beginning to move towards buprenorphine maintenance as a first-line treatment for pregnant women with opioid use disorder, because of its greater availability and evidence of better neonatal outcomes than methadone. However, there is some evidence that treatment dropout may be greater with buprenorphine relative to methadone. (PsycINFO Database Record (c) 2016 APA, all rights reserved) (Source: journal abstract)

Database: PsycINFO

25. Committee Opinion No. 637: Marijuana Use During Pregnancy and Lactation

Author(s): anonymous

Source: Obstetrics and Gynecology; Jul 2015; vol. 126 (no. 1); p. 234-238

Publication Date: Jul 2015

Publication Type(s): Review

Available in full text at Obstetrics and Gynecology - from Ovid

Abstract: Cannabis sativa (marijuana) is the illicit drug most commonly used during pregnancy. The self-reported prevalence of marijuana use during pregnancy ranges from 2% to 5% in most studies. A growing number of states are legalizing marijuana for medicinal or recreational purposes, and its use by pregnant women could increase even further as a result. Because of concerns regarding impaired neurodevelopment, as well as maternal and fetal exposure to the adverse effects of smoking, women who are pregnant or contemplating pregnancy should be encouraged to discontinue marijuana use. Obstetrician-gynecologists should be discouraged from prescribing or suggesting the use of marijuana for medicinal purposes during preconception, pregnancy, and lactation. Pregnant women or women contemplating pregnancy should be encouraged to discontinue use of marijuana for medicinal purposes in favor of an alternative therapy for which there are better pregnancy-specific safety data. There are insufficient data to evaluate the effects of marijuana use on infants during lactation and breastfeeding, and in the absence of such data, marijuana use is discouraged.

Database: EMBASE

26. Exposure to prescription opioid analgesics in utero and risk of neonatal abstinence syndrome: population based cohort study.

Author(s): Desai, Rishi J; Huybrechts, Krista F; Hernandez-Diaz, Sonia; Mogun, Helen; Patorno, Elisabetta; Kaltenbach, Karol; Kerzner, Leslie S; Bateman, Brian T

Source: BMJ (Clinical research ed.); May 2015; vol. 350 ; p. h2102

Publication Date: May 2015

Publication Type(s): Research Support, N.i.h., Extramural Multicenter Study Journal Article Observational Study Research Support, U.s. Gov't, P.h.s.

Available in full text at The BMJ - from Highwire Press

Abstract:OBJECTIVETo provide absolute and relative risk estimates of neonatal abstinence syndrome (NAS) based on duration and timing of prescription opioid use during pregnancy in the presence or absence of additional NAS risk factors of history of opioid misuse or dependence, misuse of other substances, non-opioid psychotropic drug use, and smoking.DESIGNObservational cohort study.SETTINGMedicaid data from 46 US states.PARTICIPANTSPregnant women filling at least one prescription for an opioid analgesic at any time during pregnancy for whom opioid exposure characteristics including duration of therapy: short term (<30 days) or long term (≥ 30 days); timing of use: early use (only in the first two trimesters) or late use (extending into the third trimester); and cumulative dose (in morphine equivalent milligrams) were assessed.MAIN OUTCOME MEASUREDiagnosis of NAS in liveborn infants.RESULTS1705 cases of NAS were identified among 290,605 pregnant women filling opioid prescriptions, corresponding to an absolute risk of 5.9 per 1000 deliveries (95% confidence interval 5.6 to 6.2). Long term opioid use during pregnancy resulted in higher absolute risk of NAS per 1000 deliveries in the presence of additional risk factors of known opioid misuse (220.2 (200.8 to 241.0)), alcohol or other drug misuse (30.8 (26.1 to 36.0)), exposure to other psychotropic medications (13.1 (10.6 to 16.1)), and smoking (6.6 (4.3 to 9.6)) than in the absence of any of these risk factors (4.2 (3.3 to 5.4)). The corresponding risk estimates for short term use were 192.0 (175.8 to 209.3), 7.0 (6.0 to 8.2), 2.0 (1.5 to 2.6), 1.5 (1.0 to 2.0), and 0.7 (0.6 to 0.8) per 1000 deliveries, respectively. In propensity score matched analyses, long term prescription opioid use compared with short term use and late use compared with early use in pregnancy demonstrated greater risk of NAS (risk ratios 2.05 (95% confidence interval 1.81 to 2.33) and 1.24 (1.12 to 1.38), respectively).CONCLUSIONSUse of prescription opioids during pregnancy is associated with a low absolute risk of NAS in the absence of additional risk factors. Long term use compared with short term use and late use compared with early use of prescription opioids are associated with increased NAS risk independent of additional risk factors.

Database: Medline

27. Treating tobacco use disorder in pregnant women in medication-assisted treatment for an opioid use disorder: a systematic review.

Author(s): Akerman, Sarah C; Brunette, Mary F; Green, Alan I; Goodman, Daisy J; Blunt, Heather B; Heil, Sarah H

Source: Journal of substance abuse treatment; May 2015; vol. 52 ; p. 40-47

Publication Date: May 2015

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

Abstract: Smoking is associated with adverse effects on pregnancy and fetal development, yet 88-95% of pregnant women in medication-assisted treatment for an opioid use disorder smoke cigarettes. This review summarizes existing knowledge about smoking cessation treatments for pregnant women on buprenorphine or methadone, the two forms of medication-assisted treatment for opioid use disorder indicated for prenatal use. We performed a systematic review of the

literature using indexed terms and key words to capture the concepts of smoking, pregnancy, and opioid substitution and found that only three studies met search criteria. Contingency management, an incentive based treatment, was the most promising intervention: 31% of participants achieved abstinence within the 12-week study period, compared to 0% in a non-contingent behavior incentive group and a group receiving usual care. Two studies of brief behavioral interventions resulted in reductions in smoking but not cessation. Given the growing number of pregnant women in medication-assisted treatment for an opioid use disorder and the negative consequences of smoking on pregnancy, further research is needed to develop and test effective cessation strategies for this group.

Database: Medline

28. Psychosocial interventions for pregnant women in outpatient illicit drug treatment programs compared to other interventions.

Author(s): Terplan, Mishka; Ramanadhan, Shaalini; Locke, Abigail; Longinaker, Nyaradzo; Lui, Steve

Source: The Cochrane database of systematic reviews; Apr 2015 (no. 4); p. CD006037

Publication Date: Apr 2015

Publication Type(s): Meta-analysis Journal Article Review

Available in full text at Cochrane Library, The - from John Wiley and Sons

Abstract:BACKGROUNDIllicit drug use in pregnancy is a complex social and public health problem. The consequences of drug use in pregnancy are high for both the woman and her child. Therefore, it is important to develop and evaluate effective treatments. There is evidence for the effectiveness of psychosocial interventions in drug treatment but it is unclear whether they are effective in pregnant women. This is an update of a Cochrane review originally published in 2007.OBJECTIVESTo evaluate the effectiveness of psychosocial interventions in pregnant women enrolled in illicit drug treatment programmes on birth and neonatal outcomes, on attendance and retention in treatment, as well as on maternal and neonatal drug abstinence. In short, do psychosocial interventions translate into less illicit drug use, greater abstinence, better birth outcomes, or greater clinic attendance?SEARCH METHODSWe conducted the original literature search in May 2006 and performed the search update up to January 2015. For both review stages (original and update), we searched the Cochrane Drugs and Alcohol Group Trial's register (May 2006 and January 2015); the Cochrane Central Register of Trials (CENTRAL; the Cochrane Library 2015, Issue 1); PubMed (1996 to January 2015); EMBASE (1996 to January 2015); and CINAHL (1982 to January 2015).SELECTION CRITERIAWe included randomized controlled trials comparing any psychosocial intervention vs. a control intervention that could include pharmacological treatment, such as methadone maintenance, a different psychosocial intervention, counselling, prenatal care, STD counselling and testing, transportation, or childcare.DATA COLLECTION AND ANALYSISWe used standard methodological procedures expected by the Cochrane Collaboration. We performed analyses based on three comparisons: any psychosocial intervention vs. control, contingency management (CM) interventions vs. control, and motivational interviewing based (MIB) interventions vs.MAIN RESULTSIn total, we included 14 studies with 1298 participants: nine studies (704 participants) compared CM vs. control, and five studies (594 participants) compared MIB interventions vs.CONTROLWe did not find any studies that assessed other types of psychosocial interventions. For the most part, it was unclear if included studies adequately controlled for biases within their studies as such information was not often reported. We assessed risk of bias in the included studies relating to participant selection, allocation concealment, personnel and outcome assessor blinding, and attrition.The included trials rarely captured maternal and neonatal outcomes. For studies that did measure such outcomes, no difference was observed in pre-term birth rates (RR 0.71, 95% confidence interval (CI) 0.34 to 1.51; three trials, 264 participants, moderate quality evidence), maternal toxicity at delivery (RR 1.18, 95%

CI 0.52 to 2.65; two trials, 217 participants, moderate quality evidence), or low birth weight (RR 0.72, 95% CI 0.36 to 1.43; one trial, 160 participants, moderate quality evidence). However, the results did show that neonates remained in hospital for fewer days after delivery in CM intervention groups (RR -1.27, 95% CI -2.52 to -0.03; two trials, 103 participants, moderate quality evidence). There were no differences observed at the end of studies in retention or abstinence (as assessed by positive drug test at the end of treatment) in any psychosocial intervention group compared to control (Retention: RR 0.99, 95% CI 0.93 to 1.06, nine trials, 743 participants, low quality evidence; and Abstinence: RR 1.14, 95% CI 0.75 to 1.73, three trials, 367 participants, low quality evidence). These results held for both CM and MIB combined. Overall, the quality of the evidence was low to moderate.AUTHORS' CONCLUSIONSThe present evidence suggests that there is no difference in treatment outcomes to address drug use in pregnant women with use of psychosocial interventions, when taken in the presence of other comprehensive care options. However, few studies evaluated obstetrical or neonatal outcomes and rarely did so in a systematic way, making it difficult to assess the effect of psychosocial interventions on these clinically important outcomes. It is important to develop a better evidence base to evaluate psychosocial modalities of treatment in this important population.

Database: Medline

29. Fetal anomalies and long-term effects associated with substance abuse in pregnancy: a literature review.

Author(s): Viteri, Oscar A; Soto, Eleazar E; Bahado-Singh, Ray O; Christensen, Carl W; Chauhan, Suneet P; Sibai, Baha M

Source: American journal of perinatology; Apr 2015; vol. 32 (no. 5); p. 405-416

Publication Date: Apr 2015

Publication Type(s): Journal Article Review

Abstract:OBJECTIVESSubstance abuse in pregnancy remains a major public health problem. Fetal teratogenicity results from the effect of these substances during fetal development, particularly when used in combination. This review will focus on and attempt to clarify the existing literature regarding the association of substance abuse on the development of congenital anomalies and the long-term implications in exposed offspring.METHODSSystematic review of available English literature using the PubMed database of all peer-reviewed articles on the subject.RESULTSA total of 128 articles were included in this review. Alcohol was the most common substance associated with fetal anomalies, particularly facial dysmorphisms and alterations in the central nervous system development. Adverse maternal environments associated with risky behaviors and lack of adequate prenatal care precludes the timely detection of fetal anomalies, confounding most studies linking causality. In addition, although methodological differences and limited availability of well-designed trials exist, substance abuse in pregnancy has been associated with adverse long-term outcomes in infant growth, behavior, cognition, language and achievement.CONCLUSIONThe literature summarized in this review suggests that drug exposure during pregnancy may increase the risk of congenital anomalies and long-term adverse effects in exposed children and adolescents. These conclusions must be tempered by the many confounders associated with drug use. A multidisciplinary approach is paramount for appropriate counseling regarding the known immediate and long-term risks of substance abuse in pregnancy.

Database: Medline

30. What has research over the past two decades revealed about the adverse health effects of recreational cannabis use?

Author(s): Hall, Wayne

Source: Addiction (Abingdon, England); Jan 2015; vol. 110 (no. 1); p. 19-35

Publication Date: Jan 2015

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review

Available in full text at Addiction - from John Wiley and Sons

Available in full text at Addiction - from EBSCOhost

Abstract:AIMSTo examine changes in the evidence on the adverse health effects of cannabis since 1993.METHODSA comparison of the evidence in 1993 with the evidence and interpretation of the same health outcomes in 2013.RESULTSResearch in the past 20 years has shown that driving while cannabis-impaired approximately doubles car crash risk and that around one in 10 regular cannabis users develop dependence. Regular cannabis use in adolescence approximately doubles the risks of early school-leaving and of cognitive impairment and psychoses in adulthood. Regular cannabis use in adolescence is also associated strongly with the use of other illicit drugs. These associations persist after controlling for plausible confounding variables in longitudinal studies. This suggests that cannabis use is a contributory cause of these outcomes but some researchers still argue that these relationships are explained by shared causes or risk factors. Cannabis smoking probably increases cardiovascular disease risk in middle-aged adults but its effects on respiratory function and respiratory cancer remain unclear, because most cannabis smokers have smoked or still smoke tobacco.CONCLUSIONSThe epidemiological literature in the past 20 years shows that cannabis use increases the risk of accidents and can produce dependence, and that there are consistent associations between regular cannabis use and poor psychosocial outcomes and mental health in adulthood.

Database: Medline

31. Prescription Opioids in Pregnancy and Birth Outcomes: A Review of the Literature

Author(s): Yazdy M.M.; Desai R.J.; Brogly S.B.

Source: Journal of Pediatric Genetics; Jan 2015; vol. 4 (no. 2); p. 56-70

Publication Date: Jan 2015

Publication Type(s): Review

Available in full text at Journal of Pediatric Genetics - from National Library of Medicine

Abstract: Prescription opioids are used prenatally for the management of pain, as well as for opiate dependency. Opioids are known to cross the placenta and despite the evidence of possible adverse effects on fetal development, studies have consistently shown prescription opioids are among the most commonly prescribed medications and the prevalence of use is increasing among pregnant women. This article summarizes the available literature documenting potential harms associated with prescription opioid use during pregnancy, including poor fetal growth, preterm birth, birth defects, and neonatal abstinence syndrome.

Database: EMBASE

32. Implications of psychoactive 'bath salts' use during pregnancy.

Author(s): Gray, Bobbe Ann; Holland, Cindra

Source: Nursing for women's health; 2014; vol. 18 (no. 3); p. 220-230

Publication Date: 2014

Publication Type(s): Journal Article Review

Abstract: Psychoactive bath salts (PABS) comprise a group of highly dangerous designer drugs showing a sharp escalation in reported U.S. exposures from 2010 through 2012, following rapid spread of the drug in Europe. Since a federal ban on the major ingredients in October 2011, numbers have declined. However, evidence from the United Kingdom shows an initial decline after the UK ban in 2010 with a 400 percent increase in reports by 2012. Actual information about the effect of PABS use on pregnant women and fetuses is almost nonexistent. Clinicians should be aware of the potential maternal, fetal and neonatal effects of PABS.

Database: Medline

33. Identifying maternal risk factors associated with Fetal Alcohol Spectrum Disorders: a systematic review

Author(s): Esper L.H.; Furtado E.F.

Source: European Child and Adolescent Psychiatry; 2014; vol. 23 (no. 10); p. 877-889

Publication Date: 2014

Publication Type(s): Review

Available in full text at European Child & Adolescent Psychiatry - from EBSCOhost

Available in full text at European Child and Adolescent Psychiatry - from ProQuest

Available in full text at European Child and Adolescent Psychiatry - from Springer Link Journals

Abstract: To identify the demographic, psychological, and social maternal risk factors associated with the development of Fetal Alcohol Spectrum Disorders (FASD). A bibliographic search was conducted in PubMed, SciELO, Lilacs, Web of Knowledge, and PsycINFO. The Newcastle-Ottawa Quality Assessment Scale (NOS) was used to evaluate the quality of the studies with case-control design. Articles were selected based on their relevance and presentation of data related to statistical comparisons of at least one or more demographic, psychological, or social maternal risk factors for FASD. 738 references were identified, of which 15 met the criteria to be included in the present review. Mothers of FASD children tend to: be older at the time of birth of the affected child, present lower educational level, have other family relatives with alcohol abuse, have other children with FASD, present a pattern of little prenatal care and a distinguishing pattern of alcohol consumption (alcohol use before and during pregnancy, failure to reduce alcohol use during pregnancy, and frequent episodes of binge drinking). Application of the NOS scale of methodological quality indicated that 8 studies (53 %) met the criterion for selection, 4 (27 %) were suitable for the criterion for comparability and only 4 studies were suitable for the exposition criterion. Mothers of FASD children have a distinctive pattern of drinking and accumulate several social risk factors. Maternal age at birth of the child seems to accentuate the risk. There are, however, few controlled studies that are adequate according to the NOS requirements for methodological quality. Fewer are based on the verification of a theoretical model. Clinicians should be aware of the relevance of preventive assessment of FASD risk mothers.

Database: EMBASE

34. Outcomes in pregnancies complicated by methamphetamine use.

Author(s): Gorman, Margaret C; Orme, Kaebah S; Nguyen, Nancy T; Kent, Edward J; Caughey, Aaron B

Source: American journal of obstetrics and gynecology; Oct 2014; vol. 211 (no. 4); p. 429

Publication Date: Oct 2014

Publication Type(s): Journal Article

Abstract:OBJECTIVE Methamphetamine use is widespread. Our goal was to examine the effects of methamphetamine use on various maternal and neonatal outcomes.STUDY DESIGN We conducted a retrospective cohort study looking at all pregnancies between 2005 and 2008 in the state of California that were associated with a diagnosis of methamphetamine use. Outcomes examined included gestational hypertension, preeclampsia, preterm birth, small for gestational age, birthweight, abruption, intrauterine fetal death, neonatal death, infant death, jaundice, and gestational diabetes mellitus. Statistical analysis included chi-squared tests and multivariable logistic regression analyses.RESULTSAfter adjustment for multiple confounding variables on multivariable regression analysis, results indicated that compared with control subjects, methamphetamine users had greater odds of gestational hypertension (odds ratio [OR], 1.8; 95% confidence interval [CI], 1.6-2.0), preeclampsia (OR, 2.7; 95% CI, 2.4-3.0), intrauterine fetal death (OR, 5.1; 95% CI, 3.7-7.2), and abruption (OR, 5.5; 95% CI, 4.9-6.3). Additionally, these patients had higher odds of preterm birth (OR, 2.9; 95% CI, 2.7-3.1), neonatal death (OR, 3.1; 95% CI, 2.3-4.2), and infant death (OR, 2.5; 95% CI, 1.7-3.7).CONCLUSIONMethamphetamine use in pregnancy was found to be associated with specific patterns of increased maternal and fetal morbidity and death. With these results in mind, further work can be done to improve the care of pregnancies that are complicated by methamphetamine use in hopes of reducing these complications.

Database: Medline

35. Neuronal substrates and functional consequences of prenatal cannabis exposure.

Author(s): Calvigioni, Daniela; Hurd, Yasmin L; Harkany, Tibor; Keimpema, Erik

Source: European child & adolescent psychiatry; Oct 2014; vol. 23 (no. 10); p. 931-941

Publication Date: Oct 2014

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Journal Article Review

Abstract: Cannabis remains one of the world's most widely used substance of abuse amongst pregnant women. Trends of the last 50 years show an increase in popularity in child-bearing women together with a constant increase in cannabis potency. In addition, potent herbal "legal" highs containing synthetic cannabinoids that mimic the effects of cannabis with unknown pharmacological and toxicological effects have gained rapid popularity amongst young adults. Despite the surge in cannabis use during pregnancy, little is known about the neurobiological and psychological consequences in the exposed offspring. In this review, we emphasize the importance of maternal programming, defined as the intrauterine presentation of maternal stimuli to the foetus, in neurodevelopment. In particular, we focus on cannabis-mediated maternal adverse effects, resulting in direct central nervous system alteration or sensitization to late-onset chronic and neuropsychiatric disorders. We compare clinical and preclinical experimental studies on the effects of foetal cannabis exposure until early adulthood, to stress the importance of animal models that

permit the fine control of environmental variables and allow the dissection of cannabis-mediated molecular cascades in the developing central nervous system. In sum, we conclude that preclinical experimental models confirm clinical studies and that cannabis exposure evokes significant molecular modifications to neurodevelopmental programs leading to neurophysiological and behavioural abnormalities.

Database: Medline

36. Prenatal cannabis exposure and infant outcomes: Overview of studies

Author(s): Huizink A.C.

Source: Progress in Neuro-Psychopharmacology and Biological Psychiatry; Jul 2014; vol. 52 ; p. 45-52

Publication Date: Jul 2014

Publication Type(s): Article

Abstract: Accumulating evidence from both human and preclinical studies indicates maternal substance use during pregnancy can affect fetal development, birth weight and infant outcomes. Thus, the prenatal period can be regarded as an important and potentially sensitive period of development. In this manuscript, an updated overview of studies on prenatal cannabis exposure in humans is presented, including recent studies conducted within the Generation R study. Findings on fetal growth, birth outcomes, early neonatal behavior and infant behavior and cognitive development are discussed in detail. Preclinical evidence and potential mechanisms are described as well, and recommendations for future studies are provided. It is concluded that evidence seems to suggest that fetal development is affected by prenatal maternal cannabis use, while findings on effects on infant behavior or cognition are inconsistent. Beyond infancy, subtle differences may be found in specific cognitive or behavioral outcomes, although replication studies in which pregnant women and their fetuses are exposed to current and probably higher levels of delta9-tetrahydrocannabinol and novel designs are needed to come to firm conclusions.

Database: EMBASE

37. Teratogenic risks from exposure to illicit drugs.

Author(s): Holbrook, Bradley D; Rayburn, William F

Source: Obstetrics and gynecology clinics of North America; Jun 2014; vol. 41 (no. 2); p. 229-239

Publication Date: Jun 2014

Publication Type(s): Journal Article Review

Abstract: Substance use is prevalent in the United States, especially in the reproductive age population. Even though a reduction in substance use may occur during pregnancy, some women may not alter their drug use patterns until at least pregnancy is confirmed. For these reasons, a large number of fetuses are exposed to illicit substances, including during critical stages of organogenesis. Associating illicit drug use with eventual pregnancy outcome is difficult. This article presents issues pertaining to limitations with published investigations about fetal risks and describes the most current information in humans about fetal effects from specific illicit substances.

Database: Medline

38. Cannabis, the pregnant woman and her child: weeding out the myths.

Author(s): Jaques, S C; Kingsbury, A; Henshcke, P; Chomchai, C; Clews, S; Falconer, J; Abdel-Latif, M E; Feller, J M; Oei, J L

Source: Journal of perinatology : official journal of the California Perinatal Association; Jun 2014; vol. 34 (no. 6); p. 417-424

Publication Date: Jun 2014

Publication Type(s): Journal Article Review

Available in full text at Journal of Perinatology - from ProQuest

Abstract: To review and summarise the literature reporting on cannabis use within western communities with specific reference to patterns of use, the pharmacology of its major psychoactive compounds, including placental and fetal transfer, and the impact of maternal cannabis use on pregnancy, the newborn infant and the developing child. Review of published articles, governmental guidelines and data and book chapters. Although cannabis is one of the most widely used illegal drugs, there is limited data about the prevalence of cannabis use in pregnant women, and it is likely that reported rates of exposure are significantly underestimated. With much of the available literature focusing on the impact of other illicit drugs such as opioids and stimulants, the effects of cannabis use in pregnancy on the developing fetus remain uncertain. Current evidence indicates that cannabis use both during pregnancy and lactation, may adversely affect neurodevelopment, especially during periods of critical brain growth both in the developing fetal brain and during adolescent maturation, with impacts on neuropsychiatric, behavioural and executive functioning. These reported effects may influence future adult productivity and lifetime outcomes. Despite the widespread use of cannabis by young women, there is limited information available about the impact perinatal cannabis use on the developing fetus and child, particularly the effects of cannabis use while breast feeding. Women who are using cannabis while pregnant and breast feeding should be advised of what is known about the potential adverse effects on fetal growth and development and encouraged to either stop using or decrease their use. Long-term follow-up of exposed children is crucial as neurocognitive and behavioural problems may benefit from early intervention aimed to reduce future problems such as delinquency, depression and substance use.

Database: Medline

39. Clinical care for opioid-using pregnant and postpartum women: the role of obstetric providers.

Author(s): Jones, Hendrée E; Deppen, Krisanna; Hudak, Mark L; Leffert, Lisa; McClelland, Carol; Sahin, Leyla; Starer, Jacquelyn; Terplan, Mishka; Thorp, John M; Walsh, James; Creanga, Andreea A

Source: American journal of obstetrics and gynecology; Apr 2014; vol. 210 (no. 4); p. 302-310

Publication Date: Apr 2014

Publication Type(s): Journal Article

Abstract: We review clinical care issues that are related to illicit and therapeutic opioid use among pregnant women and women in the postpartum period and outline the major responsibilities of obstetrics providers who care for these patients during the antepartum, intrapartum, and postpartum periods. Selected patient treatment issues are highlighted, and case examples are provided. Securing a strong rapport and trust with these patients is crucial for success in delivering high-quality obstetric care and in coordinating services with other specialists as needed. Obstetrics providers have an ethical obligation to screen, assess, and provide brief interventions and referral to specialized treatment for patients with drug use disorders. Opioid-dependent pregnant women often can be treated effectively with methadone or buprenorphine. These medications are classified as pregnancy category C medications by the Food and Drug Administration, and their use in the treatment of opioid-dependent pregnant patients should not be considered "off-label." Except in

rare special circumstances, medication-assisted withdrawal during pregnancy should be discouraged because of a high relapse rate. Acute pain management in this population deserves special consideration because patients who use opioids can be hypersensitive to pain and because the use of mixed opioid-agonist/antagonists can precipitate opioid withdrawal. In the absence of other indications, pregnant women who use opioids do not require more intense medical care than other pregnant patients to ensure adequate treatment and the best possible outcomes. Together with specialists in pain and addiction medicine, obstetricians can coordinate comprehensive care for pregnant women who use opioids and women who use opioids in the postpartum period.

Database: Medline

40. Managing benzodiazepine withdrawal during pregnancy: Case-based guidelines

Author(s): Gopalan P.; Glance J.B.; Azzam P.N.

Source: Archives of Women's Mental Health; Apr 2014; vol. 17 (no. 2); p. 167-170

Publication Date: Apr 2014

Publication Type(s): Article

Available in full text at Archives of Women's Mental Health - from Springer Link Journals

Available in full text at Archives of Women's Mental Health - from ProQuest

Abstract: Substance use disorders during pregnancy pose serious risks for both the mother and the fetus, demanding careful monitoring by the patient's medical providers. Sedative-hypnotic use, in particular, is common but remains poorly studied. Management of withdrawal from chronic benzodiazepine use during pregnancy presents unique challenges to the treating physician. We present two pregnant patients with dependence on sedative-hypnotic agents, outline principles of benzodiazepine withdrawal, and suggest guidelines for detoxification during pregnancy. © 2013 Springer-Verlag.

Database: EMBASE

41. Care of drug-addicted pregnant women: current concepts and future strategies - an overview.

Author(s): Goettler, Simone M; Tschudin, Sibil

Source: Women's health (London, England); Mar 2014; vol. 10 (no. 2); p. 167-177

Publication Date: Mar 2014

Publication Type(s): Journal Article Review

Available in full text at Women's Health - from ProQuest

Abstract: This review focuses on drug use during pregnancy and the perinatal period, a constellation that is seen more often. Drug use in pregnant women poses an increased risk for adverse health outcomes both for the mother and child. Care is often complicated by social and environmental factors, as well as psychiatric comorbidities. It is, therefore, very important to provide drug-using pregnant women with optimal ante-, peri- and post-natal care. Health professionals should approach them in a nonjudgmental and supportive way, and provide them with the same care and attention as nondrug-using women. Adequate care requires interdisciplinary teams. Ideally, healthcare providers should be specialized in the care of drug-using pregnant women.

Database: Medline

42. MDMA and heightened cortisol: a neurohormonal perspective on the pregnancy outcomes of mothers used 'Ecstasy' during pregnancy.

Author(s): Parrott, Andrew C; Moore, Derek G; Turner, John J D; Goodwin, Julia; Min, Meeyoung O; Singer, Lynn T

Source: Human psychopharmacology; Jan 2014; vol. 29 (no. 1); p. 1-7

Publication Date: Jan 2014

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

Available in full text at Human Psychopharmacology: Clinical and Experimental - from John Wiley and Sons

Abstract:OBJECTIVEThe illicit recreational drug 3,4-methylenedioxymethamphetamine (MDMA) or Ecstasy has strong neurohormonal effects. When taken by recreational users at dance clubs and raves, it can generate an 800% increase in the stress hormone cortisol, whereas drug-free users show chronically raised levels of cortisol. The aim here is to critically debate this neurohormonal influence for the children of pregnant MDMA-using mothers.METHODSHigh levels of cortisol are known to be damaging for neuropsychobiological well-being in adult humans. MDMA can damage foetal development in laboratory animals, and the prospective Drugs and Infancy Study was established to monitor the effects of MDMA taken recreationally by pregnant women.RESULTSThe Drugs and Infancy Study revealed that young mothers, who took MDMA during the first trimester of pregnancy, gave birth to babies with significant gross psychomotor retardation. These mothers would have experienced high levels of cortisol due to Ecstasy/MDMA use, and since cortisol can cross the placenta, this is likely to have also occurred in the foetus.CONCLUSIONSIn terms of causation, the developmental problems may reflect a combination of neurotransmitter and neurohormonal effects on the hypothalamic-pituitary-adrenal axis, with serotonergic activity being influenced by the high levels of cortisol.

Database: Medline

43. The impact of exposure to addictive drugs on future generations: Physiological and behavioral effects.

Author(s): Vassoler, F M; Byrnes, E M; Pierce, R C

Source: Neuropharmacology; Jan 2014; vol. 76

Publication Date: Jan 2014

Publication Type(s): Journal Article Review

Abstract: It is clear that both genetic and environmental factors contribute to drug addiction. Recent evidence indicating trans-generational influences of drug abuse highlight potential epigenetic factors as well. Specifically, mounting evidence suggests that parental ingestion of abused drugs influence the physiology and behavior of future generations even in the absence of prenatal exposure. The goal of this review is to describe the trans-generational consequences of preconception exposure to drugs of abuse for five major classes of drugs: alcohol, nicotine, marijuana, opioids, and cocaine. The potential epigenetic mechanisms underlying the transmission of these phenotypes across generations also are detailed. This article is part of a Special Issue entitled 'NIDA 40th Anniversary Issue'.

Database: Medline

44. The effect on pregnancy outcome of drug (substance) abuse during pregnancy

Author(s): Kashanian M.; Hatami H.; Baradaran H.R.

Source: European Psychiatry; 2013; vol. 28

Publication Date: 2013

Publication Type(s): Conference Abstract

Abstract: Introduction: Substance abuse during pregnancy is one of the most important problems in maternal and neonatal health. Being familiar with the risk of poor pregnancy outcome in these individuals may help them to reduce that risk. Objective: The purpose of the present study is to evaluate the effects on Pregnancy outcome of substance abuse during pregnancy. Method: The study was conducted as a historical cohort study between two groups of pregnant women with or without substance abuse. Both groups were Iranian housewives, with the same socio economical status, singleton and without any known medical systemic disorder. Results: 1268 women were evaluated in total. 317 women were drug abusers and 951 women were not. The woman in both groups had no significant differences according to neonates' gender, gestational age, pregnancy-induced hypertension, intra uterine fetal death (IUFD), and ruptured membranes. Maternal age (P=0.000), maternal weight (P=0.000), neonatal weight (P=0.000) were found to be lower in drug abusers. History of previous abortion (p=0.000) and gravidity (P=0.000) were higher in drug abusers. Also cesarean delivery [(P=0.049, RR=1.1 (1.02-1.12)], placental abruption [(P=0.000, RR=2.7 (1.8-4.1)], meconium passage [P=0.000, RR=2.6 (2.3-2.8)], neonatal weight of less than 2500 gram [P=0.000, RR=1.9 (1.8-2)], Apgar score of less than 7 in minute 5 [P=0. 001, RR= 1.7 (1.5-1.7)], NICU admission [P=0.000, RR= 3.7 (3.5-3.8)] and neonatal death [P=0.009, RR= 2.1 (1.8-2.5)] were all higher in drug abusers. Conclusion: Substance abuse causes poor outcomes in pregnancy, and with control, patients may improve these poor conditions.

Database: EMBASE

45. Maintenance agonist treatments for opiate-dependent pregnant women.

Author(s): Minozzi, Silvia; Amato, Laura; Bellisario, Cristina; Ferri, Marica; Davoli, Marina

Source: The Cochrane database of systematic reviews; Dec 2013 (no. 12); p. CD006318

Publication Date: Dec 2013

Publication Type(s): Meta-analysis Journal Article Review

Available in full text at Cochrane Library, The - from John Wiley and Sons

Abstract:BACKGROUNDThe prevalence of opiate use among pregnant women can range from 1% to 2% to as high as 21%. Heroin crosses the placenta and pregnant, opiate-dependent women experience a six-fold increase in maternal obstetric complications such as low birth weight, toxaemia, third trimester bleeding, malpresentation, puerperal morbidity, fetal distress and meconium aspiration. Neonatal complications include narcotic withdrawal, postnatal growth deficiency, microcephaly, neuro-behavioural problems, increased neonatal mortality and a 74-fold increase in sudden infant death syndrome.OBJECTIVESTo assess the effectiveness of any maintenance treatment alone or in combination with psychosocial intervention compared to no intervention, other pharmacological intervention or psychosocial interventions for child health status, neonatal mortality, retaining pregnant women in treatment and reducing the use of substances.SEARCH METHODSWe searched the Cochrane Drugs and Alcohol Group Trials Register (September 2013), PubMed (1966 to September 2013), CINAHL (1982 to September 2013), reference lists of relevant papers, sources of ongoing trials, conference proceedings and national focal points for drug research. We contacted authors of included studies and experts in the field.SELECTION CRITERIARandomised controlled trials assessing the efficacy of any maintenance pharmacological treatment for opiate-dependent pregnant women.DATA COLLECTION AND

ANALYSISWe used the standard methodological procedures expected by The Cochrane Collaboration.MAIN RESULTSWe found four trials with 271 pregnant women. Three compared methadone with buprenorphine and one methadone with oral slow-release morphine. Three out of four studies had adequate allocation concealment and were double-blind. The major flaw in the included studies was attrition bias: three out of four had a high drop-out rate (30% to 40%) and this was unbalanced between groups.Methadone versus buprenorphine: the drop-out rate from treatment was lower in the methadone group (risk ratio (RR) 0.64, 95% confidence interval (CI) 0.41 to 1.01, three studies, 223 participants). There was no statistically significant difference in the use of primary substance between methadone and buprenorphine (RR 1.81, 95% CI 0.70 to 4.69, two studies, 151 participants). For both, we judged the quality of evidence as low. Birth weight was higher in the buprenorphine group in the two trials that could be pooled (mean difference (MD) -365.45 g (95% CI -673.84 to -57.07), two studies, 150 participants). The third study reported that there was no statistically significant difference. For APGAR score neither of the studies which compared methadone with buprenorphine found a significant difference. For both, we judged the quality of evidence as low. Many measures were used in the studies to assess neonatal abstinence syndrome. The number of newborns treated for neonatal abstinence syndrome, which is the most critical outcome, did not differ significantly between groups. We judged the quality of evidence as very low.Methadone versus slow-release morphine: there was no drop-out in either treatment group. Oral slow-release morphine seemed superior to methadone for abstinence from heroin use during pregnancy (RR 2.40, 95% CI 1.00 to 5.77, one study, 48 participants). We judged the quality of evidence as moderate.Only one study which compared methadone with buprenorphine reported side effects. For the mother there was no statistically significant difference; for the newborns in the buprenorphine group there were significantly fewer serious side effects.In the comparison between methadone and slow-release morphine no side effects were reported for the mother, whereas one child in the methadone group had central apnoea and one child in the morphine group had obstructive apnoea.AUTHORS' CONCLUSIONSWe did not find sufficient significant differences between methadone and buprenorphine or slow-release morphineto allow us to conclude that one treatment is superior to another for all relevant outcomes. While methadone seems superior in terms of retaining patients in treatment, buprenorphine seems to lead to less severe neonatal abstinence syndrome. Additionally, even though a multi-centre, international trial with 175 pregnant women has recently been completed and its results published and included in this review, the body of evidence is still too small to draw firm conclusions about the equivalence of the treatments compared. There is still a need for randomised controlled trials of adequate sample size comparing different maintenance treatments.

Database: Medline

46. Pregnancy, breast-feeding, and marijuana: A review article

Author(s): Hill M.; Reed K.

Source: Obstetrical and Gynecological Survey; Oct 2013; vol. 68 (no. 10); p. 710-718

Publication Date: Oct 2013

Publication Type(s): Review

Available in full text at Obstetrical and Gynecological Survey - from Ovid

Abstract: Marijuana is a commonly used drug. At present, it remains an illegal substance in most areas of the United States. Recent controversy regarding the perceived harms of this drug has resulted in debate in both legal and medical circles. : This review examines evidence regarding the effects of marijuana exposure during pregnancy and breast-feeding. We examined studies pertaining to fetal growth, pregnancy outcomes, neonatal findings, and continued development of fetuses and neonates exposed to marijuana through adolescence. In addition, the legal implications for women using marijuana in pregnancy are discussed with recommendations for the care of these patients. : The current evidence suggests subtle effects of heavy marijuana use on developmental outcomes of children. However, these effects are not sufficient to warrant concerns above those associated with tobacco use. : Marijuana is the most commonly used illicit substance in the United States. It is predominantly used for its pleasurable physical and psychotropic effects. With the recent changes to legislature in Colorado and Washington State making the recreational use of marijuana legal, marijuana has gained national attention. This raises the question: If it is legal for a woman to consume marijuana, what is the safety of this activity in pregnancy and breast-feeding? Moreover, do the harms of marijuana use on the fetus or infant justify the mandatory reporting laws in some states? TARGET AUDIENCE: Obstetricians and gynecologists, family physicians LEARNING OBJECTIVES: After completing this CME activity, physicians should be better able to assess the prevalence of marijuana use in the general obstetric population, evaluate the fetal, neonatal and childhood outcomes associated with marijuana use during pregnancy and breastfeeding, and care for pregnant women who are faced with the possible legal implications of screening for drug use.

Database: EMBASE

47. Chronic opioid use during pregnancy: maternal and fetal implications.

Author(s): Stanhope, Todd J; Gill, Lisa A; Rose, Carl

Source: Clinics in perinatology; Sep 2013; vol. 40 (no. 3); p. 337-350

Publication Date: Sep 2013

Publication Type(s): Journal Article Review

Abstract: Current trends in the United States suggest that chronic narcotic use has increased in reproductive aged women over the past 10 years. Regular exposure to such substances during pregnancy has maternal and fetal implications. Appropriate prenatal care is critical to optimizing outcomes. Management options for narcotic dependence should be patient-specific and may include discontinuation of narcotics with careful observation, limitation of prescription dispensing, or substitution therapy with methadone or buprenorphine. A multidisciplinary, collaborative approach is highly recommended. This review discusses usage of narcotic medications, associated maternal and fetal risks, and management strategies for the antepartum, intrapartum, and postpartum periods.

Database: Medline

48. Buprenorphine use in pregnant opioid users: a critical review.

Author(s): Soyka, Michael

Source: CNS drugs; Aug 2013; vol. 27 (no. 8); p. 653-662

Publication Date: Aug 2013

Publication Type(s): Comparative Study Journal Article Review

Available in full text at CNS Drugs - from ProQuest

Abstract: Pregnancy in opioid users poses a number of problems to treating physicians. Most guidelines recommend maintenance treatment to manage opioid addiction in pregnancy, with methadone being the gold standard. More recently, buprenorphine has been discussed as an alternate medication. The use and efficacy of buprenorphine in pregnancy is still controversial. This article reviews the current database on the basis of a detailed and critical literature search performed in MEDLINE (206 counts). Most of the relevant studies (randomised clinical trials and one national cohort sample) were published in the last 2 years and mainly compared buprenorphine with methadone. Some studies are related to maternal outcomes, others to foetal, neonatal or older child outcomes. With respect to maternal outcomes, most studies suggest that buprenorphine has similar effects to methadone. Very few data from small studies discuss an effect of buprenorphine on neurodevelopment of the foetus. Neonatal abstinence syndrome is common in infants of both buprenorphine- and methadone-maintained mothers. As regards neonatal outcomes, buprenorphine has the same clinical outcome as methadone, although some newer studies suggest that it causes fewer withdrawal symptoms. Since hardly any studies have investigated the combination of buprenorphine with naloxone (which has been suggested to possibly have teratogenic effects) in pregnant women, a switch to buprenorphine monotherapy is recommended in women who become pregnant while receiving the combination product. These novel findings indicate that buprenorphine is emerging as a first-line treatment for pregnant opioid users.

Database: Medline

49. Prenatal exposure to substance of abuse: a worldwide problem.

Author(s): Narkowicz, Sylwia; Płotka, Justyna; Polkowska, Żaneta; Biziuk, Marek; Namieśnik, Jacek

Source: Environment international; Apr 2013; vol. 54 ; p. 141-163

Publication Date: Apr 2013

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review

Abstract: Substance abuse during pregnancy is an important public health issue affecting the mother and the growing infant. Preterm labor, miscarriage, abruption and postpartum hemorrhage are obstetric complications which have been associated with women who are dependent on abused substances. Moreover, women are also at an increased risk of medical problems such as poor nutrition, anemia, urinary tract infections as well as sexually transmitted infections, hepatitis, HIV and problems related to infection. Intrauterine growth restriction, prematurity, stillbirth, neonatal abstinence syndrome, and Sudden Infant Death Syndrome represent only some of fetal effects. Later on, during childhood, it has been shown that in utero exposure to substances of abuse is associated with increased rates of respiratory infections, asthma, ear and sinus infections. Moreover, these children are more irritable, have difficulty focusing their attention, and have more behavioral problems. Therefore, the assessment of in utero exposure to abused substance is extremely necessary and is relevant for the care of the mother and the offspring. In this sense, several approaches are possible; however, recently the evaluation of in utero exposure to abused drugs has been achieved by testing biological specimens coming from fetus or newborn, pregnant or nursing mother, or from both the fetus and the mother. Maternal and neonatal biological materials reflect exposure in a specific time period and each of them has different advantages and disadvantages in

terms of accuracy, time window of exposure and cost/benefit ratio. The methodology for identification and determination of abused substances in biological materials are of great importance. Consequently, sensitive and specific bioanalytical methods are necessary to accurately measure biomarkers. Different immunoassays methods are used as screening methods for drug testing in the above reported specimens, however, the results from immunoassays should be carefully interpreted and confirmed by a more specific and sensitive chromatographic methods such as GC-MS or LC-MS. The interest in the development and optimization of analytical techniques to detect abused substances in different specimens is explained by the several possibilities and information that they can provide.

Database: Medline

50. Prenatal substance abuse: short- and long-term effects on the exposed fetus.

Author(s): Behnke, Marylou; Smith, Vincent C; Committee on Substance Abuse; Committee on Fetus and Newborn

Source: Pediatrics; Mar 2013; vol. 131 (no. 3); p. e1009

Publication Date: Mar 2013

Publication Type(s): Journal Article Review

Available in full text at Pediatrics - from Highwire Press

Available in full text at Pediatrics - from Free Access Content

Abstract: Prenatal substance abuse continues to be a significant problem in this country and poses important health risks for the developing fetus. The primary care pediatrician's role in addressing prenatal substance exposure includes prevention, identification of exposure, recognition of medical issues for the exposed newborn infant, protection of the infant, and follow-up of the exposed infant. This report will provide information for the most common drugs involved in prenatal exposure: nicotine, alcohol, marijuana, opiates, cocaine, and methamphetamine.

Database: Medline

51. Neonatal abstinence syndrome: treatment and pediatric outcomes.

Author(s): Logan, Beth A; Brown, Mark S; Hayes, Marie J

Source: Clinical obstetrics and gynecology; Mar 2013; vol. 56 (no. 1); p. 186-192

Publication Date: Mar 2013

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: Recent rise in rates of opiate replacement therapy among pregnant women have resulted in increasing number of infants requiring treatment for neonatal abstinence syndrome (NAS). Short-term and long-term developmental outcomes associated with prenatal opiate exposure are discussed, including symptoms and severity of NAS, and early cognitive and motor delays. Maternal and infant risk factors are discussed, and include patterns of maternal substance use during pregnancy, genetic risk, polysubstance exposure pharmacological treatment for NAS and breastfeeding. The importance of characterizing corollary environmental risk factors is also considered.

Database: Medline

52. Management of the patient in labor who has abused substances.

Author(s): Geary, Franklyn H; Turnquest Wells, Mureena A

Source: Clinical obstetrics and gynecology; Mar 2013; vol. 56 (no. 1); p. 166-172

Publication Date: Mar 2013

Publication Type(s): Journal Article Review

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: The drug abusing patient can provide a management dilemma for health care providers including nurses, obstetrician, anesthesiologist, and pediatrician. Certain illicit drugs may mimic other diseases of pregnancy and result in inappropriate treatment for the mother and child. Pain management may be challenging in such patients because of increasing drug tolerance and increased sensitivity to pain. This article highlights the clinical presentation in a pregnant patient who may have recently used some of the more commonly abused drugs. The ability to identify such a patient is crucial so that the appropriate screening and treatment can occur.

Database: Medline

53. Fetal abnormal growth associated with substance abuse.

Author(s): Soto, Eleazar; Bahado-Singh, Ray

Source: Clinical obstetrics and gynecology; Mar 2013; vol. 56 (no. 1); p. 142-153

Publication Date: Mar 2013

Publication Type(s): Journal Article Review

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: Substance abuse remains a major concern in pregnancy. The current review summarizes the best available literature on the subject. The findings of most studies are confounded by multiple drug use and environmental and social factors that by themselves are known to adversely affect the pregnancy outcomes of interest. Overall, however, substance abuse during pregnancy was associated with negative effects on birth weight and head circumference.

Database: Medline

54. Management of the pregnant substance abusing woman.

Author(s): Sheehan, Michael; Sheehan, Mary G

Source: Clinical obstetrics and gynecology; Mar 2013; vol. 56 (no. 1); p. 97-106

Publication Date: Mar 2013

Publication Type(s): Journal Article

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: Operation PAR has been involved in prevention and treatment service development for drug-dependent women for nearly 40 years. Management starts with prevention programs. For opiate-addicted pregnant women, methadone is the treatment of choice and should be maintained throughout pregnancy, despite the manageable problem of neonatal opiate withdrawal. Women are actively engaged in innovative educational and therapeutic activities to help moms build skills to enhance their personal health and develop recovery orientation and drug refusal skills. Specific parenting skills are modeled and taught both on an outpatient and inpatient basis as appropriate.

Database: Medline

55. Substance abuse in pregnancy: Compassionate and competent care for the patient in labor

Author(s): French E.

Source: Clinical Obstetrics and Gynecology; Mar 2013; vol. 56 (no. 1); p. 173-177

Publication Date: Mar 2013

Publication Type(s): Conference Paper

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: Unfortunately, substance abuse is increasing in the patients that we see in labor and delivery. Many women who are abusing drugs are of childbearing age and frequently present first for care in labor. It can then be a challenge to manage them. From caring for them, we have learned much about the drug-addicted patient and how to more completely care for them. The care provided by the whole team must not only be competent but with compassion. We have also learned about our own and our colleagues' biases and how we can best manage our feelings and theirs as well. The goal of all the clinicians managing these patients has to be excellence in managing their labor physically, clinically, pharmacologically, and psychologically. © 2013, Lippincott Williams &Wilkins.

Database: EMBASE

56. The use of narcotics and street drugs during pregnancy

Author(s): Lindsay M.K.; Burnett E.

Source: Clinical Obstetrics and Gynecology; Mar 2013; vol. 56 (no. 1); p. 133-141

Publication Date: Mar 2013

Publication Type(s): Conference Paper

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: All prenatal care providers should offer routine voluntary substance use screening to all patients. Parturients who screen positive for illicit substances require a multidisciplinary team approach to drug rehabilitation and prenatal care. This review will examine the pharmacological properties and the neonatal consequences of the use of opioids and amphetamines. Substance-abusing parturients typically abuse multiple substances simultaneously and have other comorbidities including psychosocial instability and mental illness. These comorbidities must be effectively addressed to achieve optimal health outcomes for both mother and infant. © 2013, Lippincott Williams &Wilkins.

Database: EMBASE

57. The maternal, fetal, and neonatal effects of cocaine exposure in pregnancy

Author(s): Cain M.A.; Bornick P.; Whiteman V.

Source: Clinical Obstetrics and Gynecology; Mar 2013; vol. 56 (no. 1); p. 124-132

Publication Date: Mar 2013

Publication Type(s): Conference Paper

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: Despite multiple efforts to reduce the use of illicit drugs, the epidemic of addiction continues to be a significant public health issue. Through its easy availability, the number of people afflicted with this addiction continues to rise, including women of childbearing age. Secondarily, any health care crisis that occurs in this age group of women will have potential implications in

pregnancy, infancy, and childhood. The use of cocaine alone or in conjunction with other illicit drugs, combined with the normal physiological cardiovascular changes in pregnancy, leads to a myriad of pathophysiological changes, thereby placing the life of the pregnant cocaine user, as well as the health status of their unborn fetus and neonate at risk for adverse outcomes. As more data are available, the long-term physical, mental, and developmental sequelae for children exposed to cocaine in utero prove that this public health crisis has serious implications. The pregnancy-specific maternal, fetal, and neonatal risks of cocaine use during the antepartum period are reviewed. © 2013, Lippincott Williams &Wilkins.

Database: EMBASE

58. Smoking and marijuana use in pregnancy

Author(s): Brown H.L.; Graves C.R.

Source: Clinical Obstetrics and Gynecology; Mar 2013; vol. 56 (no. 1); p. 107-113

Publication Date: Mar 2013

Publication Type(s): Conference Paper

Available in full text at Clinical Obstetrics and Gynecology - from Ovid

Abstract: The obstetrical, neonatal, and childhood risk associated with prenatal smoking are well known. Prenatal smoking has been implicated in up to 25% of low birth weight infants primarily from preterm birth and fetal growth restriction and up to 10% of all infant mortality. The relationship between prenatal marijuana smoking and obstetrical and infant outcomes is less clear. Marijuana is the most commonly used illicit drug during pregnancy. Neither exposure to cigarette nor marijuana smoke has evidence for teratogenicity, but both have been implicated in developmental and hyperactivity disorders in children. Pregnant women should be counseled on the risk of both cigarette and marijuana smoking. © 2013, Lippincott Williams &Wilkins.

Database: EMBASE

59. Naltrexone in the treatment of opioid-dependent pregnant women: the case for a considered and measured approach to research.

Author(s): Jones, Hendrée E; Chisolm, Margaret S; Jansson, Lauren M; Terplan, Mishka

Source: Addiction (Abingdon, England); Feb 2013; vol. 108 (no. 2); p. 233-247

Publication Date: Feb 2013

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review

Available in full text at Addiction - from John Wiley and Sons

Available in full text at Addiction - from EBSCOhost

Abstract: The present paper considers naltrexone to treat opioid dependence during pregnancy. The public health problem of opioid dependence and its treatment during pregnancy is reviewed first. Next, the naltrexone and opioid dependence treatment literature is summarized, with overviews of the pre-clinical and clinical research on prenatal naltrexone exposure. Finally, considerations and recommendations for future medication research for the treatment of opioid dependence in pregnant women are provided. The efficacy of long-acting injectable naltrexone relative to placebo, its blockade of opioid agonist euphoric effects, its lack of abuse and tolerance development and its modest adverse effect profile make it a potential medication for opioid-dependent pregnant women. However, it is not without seriously concerning potential drawbacks, including the difficulty surrounding medication induction that may lead to vulnerability with regard to relapse, physical dependence re-establishment, increased risk behaviors, treatment dropout and resulting opioid

overdose. Before embarking on future research with this medication, the benefits and risks for the mother-embryo/fetus/child dyad should be weighed carefully. Should future research be conducted, a multi-level commitment to proactive ethical research is needed to reach the ultimate goal of improving the lives of women and children affected by opioid dependence.

Database: Medline

60. Outcomes of pregnancy in women using illegal drugs and in women who smoke cigarettes

Author(s): Black M.; Campbell D.M.; Bhattacharya S.; Fairley T.; Shetty A.

Source: Acta Obstetricia et Gynecologica Scandinavica; Jan 2013; vol. 92 (no. 1); p. 47-52

Publication Date: Jan 2013

Publication Type(s): Article

Available in full text at Acta Obstetricia et Gynecologica Scandinavica - from John Wiley and Sons

Abstract: Objective To compare obstetric outcomes in women using illegal drugs with women who smoke cigarettes. Design Retrospective cohort study. Setting Aberdeen, UK. Population All deliveries in Aberdeen in women using illegal drugs and women who smoked cigarettes during 1997-2007. Material and methods The women who used illegal drugs were identified from a database of affected pregnant women in Aberdeen. The Aberdeen Maternity and Neonatal Databank was used to identify women who smoke cigarettes and to obtain pregnancy outcome information. Sociodemographic characteristics, maternal and perinatal outcomes were compared using chi-squared test, independent sample t-test and logistic regression analysis. Main outcome measures Preterm delivery, low birthweight (standardized birthweight score <-2) and admission to the neonatal unit. Results Of the 561 illegal drug users, 96% were also cigarette smokers. Compared with women who smoke cigarettes with no reported illegal drug use, they were significantly more likely to have a preterm delivery [adjusted odds ratio (aOR) 1.6 (95% confidence interval (CI) 1.3-2.1)], low birthweight baby [aOR 1.9 (95%CI 1.4-2.6)], baby admitted to the neonatal unit [aOR 13.3 (95%CI 10.9-16.3)], deep vein thrombosis [aOR (95%CI 8.8-50.8)] and antepartum hemorrhage [aOR (95%CI 1.2-2.1)]. They were less likely to be at the extremes of age, or to develop pregnancy-induced hypertension [aOR 0.3 (95%CI 0.2-0.4)]. Conclusion Illegal drug use in pregnancy appears to increase the risk of adverse outcomes, over and above that related to cigarette smoking, but appears to be associated with lower prevalence of gestational hypertension. © 2013 The Authors © 2013 Nordic Federation of Societies of Obstetrics and Gynecology.

Database: EMBASE

61. Marijuana, Spice 'herbal high', and early neural development: implications for rescheduling and legalization.

Author(s): Psychoyos, Delphine; Vinod, K Yaragudri

Source: Drug testing and analysis; Jan 2013; vol. 5 (no. 1); p. 27-45

Publication Date: Jan 2013

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

Abstract: Marijuana is the most widely used illicit drug by pregnant women in the world. In utero exposure to Δ^9-tetrahydrocannabinol (Δ^9-THC), a major psychoactive component of marijuana, is associated with an increased risk for anencephaly and neurobehavioural deficiencies in the offspring, including attention deficit hyperactivity disorder (ADHD), learning disabilities, and memory impairment. Recent studies demonstrate that the developing central nervous system (CNS) is susceptible to the effects of Δ^9-THC and other cannabimimetics, including the psychoactive

ingredients of the branded product 'Spice' branded products. These exocannabinoids interfere with the function of an endocannabinoid (eCB) system, present in the developing CNS from E12.5 (week 5 of gestation in humans), and required for proliferation, migration, and differentiation of neurons. Until recently, it was not known whether the eCB system is also present in the developing CNS during the initial stages of its ontogeny, i.e. from E7.0 onwards (week 2 of gestation in humans), and if so, whether this system is also susceptible to the action of exocannabinoids. Here, we review current data, in which the presence of an eCB system during the initial stage of development of the CNS is demonstrated. Furthermore, we focus on recent advances on the effect of canabimimetics on early gestation. The relevance of these findings and potential adverse developmental consequences of in utero exposure to 'high potency' marijuana, Spice branded products and/or cannabinoid research chemicals during this period is discussed. Finally, we address the implication of these findings in terms of the potential dangers of synthetic cannabinoid use during pregnancy, and the ongoing debate over legalization of marijuana.

Database: Medline

62. Neurobehavioral outcomes of infants exposed to MDMA (Ecstasy) and other recreational drugs during pregnancy.

Author(s): Singer, Lynn T; Moore, Derek G; Fulton, Sarah; Goodwin, Julia; Turner, John J D; Min, Meeyoung O; Parrott, Andrew C

Source: Neurotoxicology and teratology; 2012; vol. 34 (no. 3); p. 303-310

Publication Date: 2012

Publication Type(s): Research Support, N.i.h., Extramural Journal Article

Abstract:3,4-methylenedioxymethamphetamine (MDMA) or "Ecstasy" is one of the most widely used illicit recreational drugs among young adults. MDMA is an indirect monoaminergic agonist and reuptake inhibitor that primarily affects the serotonin system. Preclinical studies in animals have found prenatal exposure related to neonatal tremors and long-term learning and memory impairments. To date, there are no prospective studies of the sequelae of prenatal exposure to MDMA in humans, despite concerns about its potential for harmful effects to the fetus. The present study is the first to prospectively identify MDMA-using women during pregnancy and to document patterns and correlates of use with neonatal and early infancy outcomes of offspring. All mothers and infants were prospectively recruited through the Case Western Reserve University (CWRU) and University of East London (UEL) Drugs and Infancy Study (DAISY) that focused on recreational drug use in pregnant women. Women were interviewed about substance use prior to and during pregnancy and infants were seen at 1 and 4 months using standardized, normative assessments of neonatal behavior, and cognitive and motor development, including the NICU Network Neurobehavioral Scale (NNNS), the Bayley Mental and Motor Development Scales (MDI, PDI), and the Alberta Infant Motor Scales (AIMS). The sample was primarily middle class with some university education and in stable partner relationships. The majority of women recruited had taken a number of illicit drugs prior to or during pregnancy. Group differences between those polydrug using women who had specifically used MDMA during pregnancy (n=28) and those who had not (n=68) were assessed using chi-square and t-tests. MDMA and other drug effects were assessed through multiple regression analyses controlling for confounding variables. Women who used MDMA during pregnancy had fewer prior births and more negative sequelae associated with their drug use, including more health, work, and social problems. MDMA exposed infants differed in sex ratio (more male births) and had poorer motor quality and lower milestone attainment at 4 months, with a dose-response relationship to amount of MDMA exposure. These findings suggest risk to the developing infant related to MDMA exposure and warrant continued follow-up to determine whether early motor delays persist or resolve.

Database: Medline

63. Buprenorphine treatment of opioid-dependent pregnant women: a comprehensive review.

Author(s): Jones, Hendrée E; Heil, Sarah H; Baewert, Andjela; Arria, Amelia M; Kaltenbach, Karol; Martin, Peter R; Coyle, Mara G; Selby, Peter; Stine, Susan M; Fischer, Gabriele

Source: Addiction (Abingdon, England); Nov 2012; vol. 107

Publication Date: Nov 2012

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

Available in full text at Addiction - from John Wiley and Sons

Available in full text at Addiction - from EBSCOhost

Abstract:AIMSThis paper reviews the published literature regarding outcomes following maternal treatment with buprenorphine in five areas: maternal efficacy, fetal effects, neonatal effects, effects on breast milk and longer-term developmental effects.METHODSWithin each outcome area, findings are summarized first for the three randomized clinical trials and then for the 44 non-randomized studies (i.e. prospective studies, case reports and series and retrospective chart reviews), only 28 of which involve independent samples.RESULTSResults indicate that maternal treatment with buprenorphine has comparable efficacy to methadone, although difficulties may exist with current buprenorphine induction methods. The available fetal data suggest buprenorphine results in less physiological suppression of fetal heart rate and movements than methadone. Regarding neonatal effects, perhaps the single definitive conclusion is that prenatal buprenorphine treatment results in a clinically significant less severe neonatal abstinence syndrome (NAS) than treatment with methadone. The limited research suggests that, like methadone, buprenorphine is compatible with breastfeeding. Data available thus far suggest that there are no deleterious effects of in utero buprenorphine exposure on infant development.CONCLUSIONSWhile buprenorphine produces a less severe neonatal abstinence syndrome than methadone, both methadone and buprenorphine are important parts of a complete comprehensive treatment approach for opioid-dependent pregnant women.

Database: Medline

64. The treatment of alcohol and opioid dependence in pregnant women.

Author(s): Heberlein, Annemarie; Leggio, Lorenzo; Stichtenoth, Dirk; Hillemacher, Thomas

Source: Current opinion in psychiatry; Nov 2012; vol. 25 (no. 6); p. 559-564

Publication Date: Nov 2012

Publication Type(s): Journal Article Review

Available in full text at Current Opinion in Psychiatry - from Ovid

Abstract:PURPOSE OF REVIEWThis article addresses the question of 'best treatment options', which clinicians face when treating pregnant women with alcohol and opioid dependence.RECENT FINDINGSStudies show that alcohol consumption is associated with fetal abnormalities and long-term cognitive problems depending on the amount consumed, drinking pattern, and time of gestation. Screening and evaluation of specific interventions are important to reduce alcohol consumption during pregnancy and associated problems in infants. Opioid detoxification is only recommended beyond the first trimester and only in those pregnant women who refuse opioid maintenance therapy. Methadone is the most established treatment of pregnant opioid-dependent women, though recent results indicate some advantages of buprenorphine, slow-release oral methadone and diamorphine compared with methadone.SUMMARYBenzodiazepines seem to be the most recommendable option for managing alcohol withdrawal, and psychosocial interventions

succeed in reducing alcohol consumption or in maintaining abstinence in alcohol-dependent pregnant women. Regarding opioid dependence, current results suggest that factors like the health status of the mother, the need for additional medications (e.g. treatment for HIV), comorbid drug dependence, and concurrent drug use need to be considered in order to find the 'best opioid substitute'.

Database: Medline

65. Maternal cocaine use during breastfeeding

Author(s): Cressman A.M.; Koren G.; Pupco A.; Kim E.; Ito S.; Bozzo P.

Source: Canadian Family Physician; Nov 2012; vol. 58 (no. 11); p. 1218-1219

Publication Date: Nov 2012

Publication Type(s): Review

Available in full text at Canadian Family Physician - from National Library of Medicine

Available in full text at Canadian Family Physician - from Highwire Press

Abstract: Question: In my practice several patients have struggled with cocaine abuse during their pregnancies. One woman, now postpartum, wants to breastfeed her infant. Despite being abstinent for the final few months of her pregnancy, I am concerned about the potential adverse effects on her child if she happens to relapse. What is the current evidence about the risks of cocaine exposure during breastfeeding? Answer: Given the substantial benefits of breastfeeding for infant health and development, there is no reason for mothers who previously abused cocaine to avoid breastfeeding. It is important for the health care team to counsel patients both on the serious potential risks of cocaine exposure for babies and on the benefits of breastfeeding, to allow for an informed choice. Additionally, attempts should be made to estimate maternal commitment to breastfeeding and discontinuation of cocaine use, and to offer addiction counseling to mitigate the potential risks of infant cocaine exposure. It is paramount to minimize the risk to the infant, which would certainly include mothers ceasing use of cocaine while breastfeeding. For mothers who elect to breastfeed and use cocaine intermittently, breastfeeding should be delayed sufficiently after cocaine use to allow for drug elimination (approximately 24 hours).

Database: EMBASE

66. Amphetamines, the pregnant woman and her children: a review.

Author(s): Oei, J L; Kingsbury, A; Dhawan, A; Burns, L; Feller, J M; Clews, S; Falconer, J; Abdel-Latif, M E

Source: Journal of perinatology : official journal of the California Perinatal Association; Oct 2012; vol. 32 (no. 10); p. 737-747

Publication Date: Oct 2012

Publication Type(s): Journal Article Review

Available in full text at Journal of Perinatology - from ProQuest

Abstract: The objective of this study is to review and summarize available evidence regarding the impact of amphetamines on pregnancy, the newborn infant and the child. Amphetamines are neurostimulants and neurotoxins that are some of the most widely abused illicit drugs in the world. Users are at high risk of psychiatric co-morbidities, and evidence suggests that perinatal amphetamine exposure is associated with poor pregnancy outcomes, but data is confounded by other adverse factors associated with drug-dependency. Data sources are Government data, published articles, conference abstracts and book chapters. The global incidence of perinatal

amphetamine exposure is most likely severely underestimated but acknowledged to be increasing rapidly, whereas exposure to other drugs, for example, heroin, is decreasing. Mothers known to be using amphetamines are at high risk of psychiatric co-morbidity and poorer obstetric outcomes, but their infants may escape detection, because the signs of withdrawal are usually less pronounced than opiate-exposed infants. There is little evidence of amphetamine-induced neurotoxicity and long-term neurodevelopmental impact, as data is scarce and difficult to extricate from the influence of other factors associated with children living in households where one or more parent uses drugs in terms of poverty and neglect. Perinatal amphetamine-exposure is an increasing worldwide concern, but robust research, especially for childhood outcomes, remains scarce. We suggest that exposed children may be at risk of ongoing developmental and behavioral impediment, and recommend that efforts be made to improve early detection of perinatal exposure and to increase provision of early-intervention services for affected children and their families.

Database: Medline

67. Safety concerns regarding binge drinking in pregnancy: a review.

Author(s): Conover, Elizabeth Ann; Jones, Kenneth Lyons

Source: Birth defects research. Part A, Clinical and molecular teratology; Aug 2012; vol. 94 (no. 8); p. 570-575

Publication Date: Aug 2012

Publication Type(s): Journal Article Review

Abstract:BACKGROUNDThere is ongoing debate about the risks to the fetus associated with maternal binge drinking. This makes it difficult to counsel patients about the potential risks associated with their use of alcohol during pregnancy.METHODSThis article reviews the literature on animal and human studies regarding binge drinking (four to five drinks at one time in humans, or the equivalent in laboratory animals).RESULTSAnimal studies provide evidence that high doses of alcohol over a short period of time can be more damaging than lower doses over a long period of time. Human data are more inconsistent, especially in terms of the association with malformations. Although neurobehavioral effects are the most commonly reported adverse outcome, some studies do not find such an association. Conclusions are confounded by the design of many studies, which fail to document pattern and total amount of alcohol consumption at one time. In addition, it has been suggested there is a bias against the null effect in publications.CONCLUSIONAlthough the evidence in humans is not conclusive, the incidence of binge exposures in pregnancy is high, and it appears prudent to counsel patients to avoid this exposure whenever possible. Women inadvertently exposed to a single binge episode of alcohol early in the first trimester before pregnancy recognition can be reassured that the risks for adverse effects in their baby are likely low if they are able to discontinue use for the duration of the pregnancy. Unfortunately, there may be some residual fetal risk.

Database: Medline

68. Committee opinion no. 524: Opioid abuse, dependence, and addiction in pregnancy

Author(s): anonymous

Source: Obstetrics and Gynecology; May 2012; vol. 119 (no. 5); p. 1070-1076

Publication Date: May 2012

Publication Type(s): Review

Abstract: Opioid use in pregnancy is not uncommon, and the use of illicit opioids during pregnancy is associated with an increased risk of adverse outcomes. The current standard of care for pregnant women with opioid dependence is referral for opioid-assisted therapy with methadone, but emerging evidence suggests that buprenorphine also should be considered. Medically supervised tapered doses of opioids during pregnancy often result in relapse to former use. Abrupt discontinuation of opioids in an opioid-dependent pregnant woman can result in preterm labor, fetal distress, or fetal demise. During the intrapartum and postpartum period, special considerations are needed for women who are opioid dependent to ensure appropriate pain management, to prevent postpartum relapse and a risk of overdose, and to ensure adequate contraception to prevent unintended pregnancies. Patient stabilization with opioid-assisted therapy is compatible with breastfeeding. Neonatal abstinence syndrome is an expected and treatable condition that follows prenatal exposure to opioid agonists. Copyright © 2012 American College of Obstetricians and Gynecologists.

Database: EMBASE

Strategy 192784

#	Database	Search term	Results
1	Medline	("substance abuse" OR "drug abuse").ti	10319
2	Medline	exp "SUBSTANCE-RELATED DISORDERS"/	247395
3	Medline	(1 OR 2)	248524
4	Medline	(maternal OR pregn*).ti	245738
5	Medline	exp PREGNANCY/	806906
6	Medline	(4 OR 5)	846829
7	Medline	(3 AND 6)	11329
8	Medline	exp "STREET DRUGS"/	10507
9	Medline	(6 AND 8)	452
10	Medline	exp "MATERNAL EXPOSURE"/ OR exp "PRENATAL EXPOSURE DELAYED EFFECTS"/	28307
11	Medline	(8 AND 10)	155
12	Medline	exp "OPIOID-RELATED DISORDERS"/	21364
13	Medline	(10 AND 12)	183
14	Medline	(6 AND 12)	1043
15	Medline	exp "DESIGNER DRUGS"/	1239
16	Medline	(10 AND 15)	4
17	Medline	(6 AND 15)	9
18	Medline	("legal high*").ti,ab	330

19	Medline	(10 AND 18)	2
20	Medline	(6 AND 18)	2
21	EMBASE	(maternal OR pregn*).ti	294918
22	EMBASE	*"PRENATAL EXPOSURE"/	8851
23	EMBASE	*PREGNANCY/	133413
24	EMBASE	(21 OR 22 OR 23)	340283
25	EMBASE	exp "STREET DRUG"/	3114
26	EMBASE	exp "RECREATIONAL DRUG"/	1843
27	EMBASE	exp "ILLICIT DRUG"/	12328
28	EMBASE	exp "DRUG ABUSE"/ OR exp "DRUG MISUSE"/	95740
29	EMBASE	(25 OR 26 OR 27 OR 28)	107235
30	EMBASE	(24 AND 29)	2014
31	EMBASE	30 [DT FROM 2012] [English language]	543
32	PsycINFO	(maternal OR pregn*).ti	27576
33	PsycINFO	exp PREGNANCY/	21777
34	PsycINFO	(32 OR 33)	37188
35	PsycINFO	exp "DRUG ADDICTION"/	12938
36	PsycINFO	exp "DRUG ABUSE"/	100871
37	PsycINFO	("legal high*").ti,ab	113
38	PsycINFO	(35 OR 36 OR 37)	100947
39	PsycINFO	(34 AND 38)	1280

40	Medline	exp "MARIJUANA ABUSE"/	5172
41	Medline	(6 AND 40)	201
42	Medline	(spice).ti,ab	2535
43	Medline	(6 AND 42)	17
44	Medline	(2 AND 4)	3316
45	Medline	44 [Document type Review] [Languages English]	371
46	EMBASE	exp "PSYCHEDELIC AGENT"/	68305
47	EMBASE	(24 AND 46)	1031
48	EMBASE	exp "CANNABIS SMOKING"/	2573
49	EMBASE	(24 AND 48)	53
50	EMBASE	exp "PSYCHEDELIC AGENT"/	68305
51	EMBASE	(24 AND 50)	1031
52	EMBASE	51 [Publication types Review] [English language]	130
53	EMBASE	exp "PRESCRIPTION DRUG"/	6688
54	EMBASE	(24 AND 29 AND 53)	7
55	EMBASE	(spice).ti,ab	3582
56	EMBASE	(24 AND 55)	5
57	EMBASE	(K2).ti,ab	7508
58	EMBASE	(24 AND 57)	36
59	EMBASE	exp "INHALANT ABUSE"/	458
60	EMBASE	(24 AND 59)	4

61	PubMed	(spice OR "legal high").ti,ab	5065
62	PubMed	(pregnan* OR maternal OR prenatal*).ti,ab	1055868
63	PubMed	(61 AND 62)	63
64	EMBASE	exp "DRUG DEPENDENCE"/	201692
65	EMBASE	(24 AND 64)	2945
66	EMBASE	65 [DT FROM 2012] [Publication types Review] [English language]	81