Substance misuse in pregnancy

Gillian Stephen
Melissa K Whitworth
Samantha Cox

Abstract

Substance misuse in pregnancy is associated with a higher risk of maternal mortality and morbidity, as well as an increased risk of poor obstetric outcomes. It is strongly linked with social deprivation and is best managed by a supportive multi-disciplinary, multi-agency team involving obstetricians, specialist midwives, specialist addiction services and social care professionals. In this article the following issues will be discussed and highlighted through two case reports: (a) the definition of addiction; (b) screening for substance misuse; (c) effects of specific substances; (d) management of substance misuse in pregnancy; (e) importance of multi-agency holistic care.

Keywords opioid; pregnancy; substance misuse

Introduction

The use, and misuse, of substances such as cannabis, heroin, benzodiazepines and a myriad of other illegal drugs is well documented to contribute to maternal and fetal morbidity and mortality. Use of a substance is deemed to be an addiction when the criteria in Box 1 are met. As substance misuse is a potentially modifiable risk factor for adverse outcome, maternity services seek out such women and offer them the opportunity to modify their lifestyle as a means of minimising risk. Illegal substances commonly misused include depressants (heroin and street methadone), stimulants (cocaine, crack, and amphetamines), ecstasy and newer 'designer drugs' and cannabis. Prescription drugs can be misused if taken for affect other than that intended by the original prescriber e.g. products containing codeine, with women more likely than men to develop addiction to prescribed medication.

Over the past three decades, substance misuse has increased substantially among women, with 2–3% of children in England and Wales having a parent with drug or alcohol problems. Almost two-thirds of drug-using women entering treatment are parents, although only half have current custody of their children. Many women will be reluctant to disclose substance misuse, fearing the involvement of the police or social services so it is difficult to be precise about the extent of the problem. However, a 2007 population survey from the United States estimated that approximately 5% of pregnant women had used drugs in the preceding month. Data from the European monitoring Centre for Drugs and Drug Addiction suggests that 12–15% of young adults (15–34) in the UK have used cannabis in the preceding 12 months, whilst the figure for both amphetamine and ecstasy is 4–5%. Cannabis remains the most commonly used illegal substance followed by cocaine.

Criteria defining addiction

- Overwhelming desire to take the substance
- Difficulty in controlling use of the substance
- Development of tolerance (i.e. greater quantities of substance is required to produce same effect)
- Withdrawal state which is relieved by further use of the substance
- Neglecting daily tasks in order to recover from use/obtain more of substance
- Continued use despite negative impact on lifestyle

Box 1

Women with a history of substance misuse are massively over-represented in the Confidential Enquiries into Maternal Death. The 2004, 2007 and 2010 Reports of the Confidential Enquiries into Maternal Deaths in the United Kingdom include 31, 57 and 53 deaths which occurred in women known have a substance misuse or alcohol problem. The causes of death of the women known to have a substance misuse problem in the 2006–2008 triennia are outlined in more detail in Table 1 which highlights the complexities encountered when caring for women with a substance misuse problem. Additionally, there is a strong link between substance misuse and mental health problems. In the general population, recent studies have estimated that 37% of people who abuse alcohol and almost half of those who abuse substances other than alcohol have a coexisting mental health problem. Of particular concern, the use of cannabis has been implicated as potential causal factor in the development of schizophrenia.

Routine questioning of all women, irrespective of socioeconomic status, should take place at booking in a sensitive, non-judgmental fashion with enquiries made about the use of legal and illegal substances. If substance misuse is disclosed, it is important to determine the substance(s) used, frequency of use, routes of administration and to identify the impact use has on her ability to function (work, partner, and housing arrangements). The routine testing of urine and hair as a screen for substance misuse has a substantial false positive rate and is not carried out in the UK. In both the cases discussed below the woman was already known to drug services.

Case 1 (booking)

CM, a primip, presented to the emergency gynaecology department with a history of abdominal pain and bleeding. An

Gillian Stephen *MBChB MRCOG is a Subspecialty Trainee in Maternal and Fetal Medicine at St Mary's Hospital, Central Manchester and Manchester Children's University Hospitals NHS Foundation Trust, Manchester, UK. Conflicts of interest: none declared.*

Melissa K Whitworth *MBChB (Hons) MD MRCOG is a Consultant Obstetrician at St Mary's Hospital, Central Manchester and Manchester Children's University Hospitals NHS Foundation Trust, Manchester, UK. Conflicts of interest: none declared.*

Samantha Cox *MBChB is an ST3 in Obstetrics and Gynaecology in the North West Deanery, St Mary's Hospital, Central Manchester and Manchester Children's University Hospitals NHS Foundation Trust, Manchester, UK. Conflicts of interest: none declared.*

Cause of death of women with a substance misuse problem reported in the Confidential Enquiry into Maternal Death 2011

Cause of death	Number (%)	
Suicide	9 (26)	Five had child protection case conferences and in three the suicide occurred shortly after a decision to remove the child
Accidental overdose of drugs of addiction	10 (29)	Only three of these women had any specialised drug team involvement during maternity care
Medical conditions caused by or attributed to substance misuse	13 (37)	The medical issues were mainly cardiac or respiratory. There were three deaths due to bacterial endocarditis associated with intravenous substance misuse, two from cardiomyopathy and one from myocardial infarction
Road traffic accidents and house fire	3 (9)	

Table 1

ultrasound scan showed a viable pregnancy of 6 weeks gestation. CM gave a history of intravenous drug use and reported that she was currently on a methadone-substitution programme. CM presented to her GP at 14 weeks gestation requesting referral for a termination of pregnancy. Her GP referred her to local gynaecology services. CM subsequently failed to attend the practice drug-service clinic and it was presumed that CM had moved house. CM's GP was surprised when CM attended visibly pregnant, at an estimated 36 weeks gestation, having had no antenatal care. An urgent referral was made to the maternity service.

Despite early contact with healthcare professionals CM did not have any antenatal care. There are many barriers to seeking healthcare for a woman who misuses substances. Like CM, many women who misuse drugs have a chaotic lifestyle. This means they are unlikely, like CM, to book early appointments and may not keep appointments at all. These women often lose out on accurate pregnancy dating, first trimester screening, general health promotion and the opportunity to minimise risk taking behaviours.

Recent guidance from the National Institute of Clinical Excellence (NICE) provides a model for the services that should be provided for the pregnant substance user in England and Wales. Ideally, these women should be cared for by a specially trained, named doctor and midwife who have a thorough understanding of the medical and social issues that can be faced when substances are misused in pregnancy. NICE advises that antenatal care providers should work closely with drug/alcohol teams and social services. Unfortunately, in this case, the close liaison and information sharing which is recommended between community and hospital medicine, drug services and social services did not occur, resulting in CM receiving no antenatal care at all.

Midwifery and drug service appointments at the same location and on the same day increase the likelihood of regular attendance and prevent the woman from feeling overwhelmed by the multi-agency involvement. Novel approaches to appointment reminders, such as text messages, and support with transportation are also recommended by NICE as ways to improve engagement. Those caring for the pregnant drug user should be mindful of the fact the she may feel nervous and under scrutiny when attending clinic, and as such every effort should be made to treat her with respect and dignity to encourage continued engagement with services.

Case 2 (booking)

MB was referred for a midwife booking appointment at 12 weeks gestation after she disclosed to her drugs worker that she thought she was pregnant. She had a past obstetric history of three spontaneous term vaginal deliveries of babies weighing <10th centile. MB had been under the care of the community drugs team for 6 months and was on methadone maintenance therapy (MMT) (35 mls per day) although there had been issues with attendance at appointments. She reported no recent health issues and stated that she had not used any illicit substances over the past two weeks. Prior to this she reported using heroin (iv), street methadone and occasional crack cocaine. She was referred to the specialist midwifery service for women with drug problems and arrangements made for a dating scan. MB declined screening for Down's syndrome and following counselling about the risk of blood borne infections she consented to screening for hepatitis B/C and HIV.

Ideally, any substance-misusing woman should meet members of the team who will be caring for her as early as possible during the pregnancy journey, and be given an outline of the care she will receive. Emphasis should be put on the fact that the relationship between the drug user and the service providers is a partnership and will take her particular needs into consideration. As in this case, routine antenatal options should be given e.g. dating scan, Down's syndrome screening, infection screening. However, once a substance misuse problem has been disclosed, the associated risks must be discussed. The impacts of commonly used substances are shown in Table 2.

At booking, additional consideration should be given to screening for Hepatitis C (HCV) if there is a history of intravenous substance misuse or unprotected sexual intercourse with a partner known to inject drugs. HCV remains a major public health problem in the UK. The 2005 prevalence in antenatal clinics in London and Yorkshire (0.31% and 0.32% respectively) was around the same level as observed in 1995/6. However, in England, of those cases of HCV in which risk factors for acquisition are known, more than 90% of cases are related to injecting drug use. Screening for sexually transmitted infections should also be considered, depending on individual circumstances as should HBV immunisation. The latter is safe in pregnancy and should be considered in the setting of on-going injecting drug use or high risk sexual behaviour.

A detailed medical history must be taken as women with a substance misuse problem often develop a range of medical