

Mental Ill Health in Pregnancy and Adverse Birth Outcomes: A Case Series

Sarah Hutton^{1*}, Marie Paule Austin^{2,3} and Beth Mah^{4,5}

¹Staff Specialist, Hunter New England Mental Health, Australia

²Head Perinatal & Women's Mental Health Royal Hospital for Women, Australia

³Perinatal Mental Health Research Unit, University of NSW, Australia

⁴Perinatal Psychiatrist, Australia

⁵Conjoint Senior Lecturer, University of NSW, Australia

Article Information

Received date: Nov 28, 2018

Accepted date: Dec 17, 2018

Published date: Dec 28, 2018

*Corresponding author(s)

Sarah Hutton, Staff Specialist, Hunter New England Mental Health, Australia, Tel: +612 40335000; Email: Sarah.Hutton@hnehealth.nsw.gov.au

Distributed under Creative Commons CC-BY 4.0

Abbreviations ABO: Adverse Birth Outcome; AT: Advanced Trainee; AHS: Area Health Service; APGAR: Activity Pulse Grimace and Respiration; AROM: Artificial Rupture of Membrane; BPAD: Bipolar Affective Disorder; BPD: Borderline Personality Disorder; CFH: Child and Family Health; CMC: Clinical Midwifery Consultant; CSA: Childhood Sexual Abuse; CTG: Cardiotocography; EDC: Estimated Date of Confinement; FaCS; Family and Community Services; FDIU: Foetal Death In Utero; IOL: Induction of Labour; LSCS: Lower Segment Caesarean Section; MDT: Multidisciplinary Team; MFM: Maternal Foetal Medicine; MH: Mental Health; NAS: Neonatal Abstinence Scoring; NUM: Nurse Unit Manager; OCD: Obsessive Compulsive Disorder; PMH: Perinatal Mental Health; PSCP: Psychosocial Care Plan; PTSD: Post Traumatic Stress Disorder; SRM: Spontaneous Rupture of Membrane; VBAC: Vaginal Birth After Caesarean; VE: Vaginal Examination

Abstract

Policies and guidelines exist at the local, state, national and international levels for the identification of pregnant women with mental health issues for their care and management needs throughout the perinatal period. It is known that there is an increased rate of adverse birth outcomes in this population and this case series highlights the lack of clarity in these guidelines, particularly regarding which clinicians are required for multidisciplinary team management. This leads to a system design that allows gaps in service provision to occur for some more vulnerable women. Recommendations for future research and clinical approaches are discussed.

Introduction

Mental illness affects many pregnant women with 10-15% experiencing a depressive episode and up to 30% experiencing significant anxiety symptoms according to a clinical overview of NHMRC1 evidence level II and III-1/2 studies [2]. Whilst less common, with a lifetime prevalence of 1-2%, fertility rates of women with schizophrenia have been increasing as found in a population-based NHMRC evidence level III-2 study [3] and as such these women are being seen in our antenatal clinics more.

One meta-analysis and three retrospective cohort studies have demonstrated an increased rate of Adverse Birth Outcomes (ABOs) in women with mental illness [4-7]. The exact reasons for this are unknown however mental illness has been found to be an independent risk factor for ABOs [8-10]. People with mental illness also have higher rates of smoking, alcohol and substance abuse, hypertension, increased BMI and tend to be from a lower socio-economic background, all of which are again risk factors for ABOs [6].

SAFE START strategic policy and guidelines: Improving Mental Health Outcomes for Parents and Infants are mandated in NSW. They address the direction for the provision of coordinated Mental Health (MH) care for women identified with, or at risk of, MH issues and the appropriate pathways of care [11,12]. International and national guidelines have also been developed for the detection and management of maternal mental illness in pregnancy [13-16] however little data exists demonstrating use and effectiveness of these. A survey of Australian women's hospitals reviewing the implementation of the National Perinatal Depression Initiative (NPDI) 17 in 2013 found it to be inconsistent between facilities [17]. Many facilities had implemented screening, though not all using the same tool, several had only partially implemented screening and 15% of respondents had not implemented any screening.

This variability in implementation suggests that there continue to be significant barriers to appropriate care and support for pregnant women with mental health problems and perhaps lack of clarity within the guidelines themselves. Thus, to further highlight barriers to adequate perinatal mental health care, including liaison between services, this case series has been developed to follow five women through their pregnancy and births. It is anticipated that this case series will identify existing service gaps, and gaps within current guidelines, which could be rectified with alteration to service provision.

Methods

Healthcare pathways for five women identified as having past or current mental health issues during their antenatal booking appointment at a specialised women's hospital were scrutinised. All five were referred to the Perinatal Mental Health (PMH) service located within the hospital and were seen at least once during their pregnancy for a full psychiatric assessment by a psychiatry Advanced Trainee (AT). The women were also reviewed during their birth admission and a comprehensive file review was undertaken; identifying one or more ABOs. Data is collected by the hospital for the following ABOs (Table 1).

Table 1: Abbreviations.

Adverse Birth Outcomes (ABO)
Induction of Labour (IOL)
Instrumental Delivery
Conversion to Lower Segment Caesarean Section (LSCS)
Antepartum Haemorrhage
Post-partum Haemorrhage (PPH) +/- transfusion
Pre-eclampsia/eclampsia
Placental Abruption
Extended Stay for mother or infant
Premature Rupture of Membranes (PROM)
Pre-term Delivery
Large for Gestational Age (LGA)
Small for Gestational Age (SGA)
Stillbirth
Neonatal Intensive Care Unit (NICU) admission
Maternal death

Results

Claire

Claire is a 37-year-old (G2P1) married, white, tertiary educated Australian woman. She was referred for mental health assessment at 33 weeks gestation following a second elevated EDS at 30 weeks, the first being at booking. She was found to have an anxiety disorder with suicidal ideation secondary to her feeling pressured into choosing a Vaginal Birth after Caesarean Section (VBAC) by both family and her assessing midwives and voicing this anxiety during appointments. Claire has a past history of Anorexia Nervosa in and recurrent Major Depressive Disorder. Her past medical history includes hypothyroidism.

Claire found her first delivery to be extremely traumatising. She described a prolonged first stage of 36 hours during which she had a delirium secondary to nitrous oxide. She went on to have an emergency LSCS due to foetal distress with no further obstetric complications.

Claire felt no attachment to her infant during this pregnancy stating that she “didn’t think about her much”. She was advised to commence sertraline but declined though she did accept a referral for psychological intervention.

A Psychosocial Care Plan (PSCP) was developed following identification of multiple risk factors as per guidelines¹². The plan was developed at a Multidisciplinary Team (MDT) meeting at 35 weeks in conjunction with Claire. Present at the meeting were the Nurse Unit Managers (NUMs) from antenatal, delivery suite and postnatal services and from Child & Family Health (CFH). An obstetrician was not at the meeting. The team supported Claire’s desire for an LSCS and an appointment with an obstetrician was booked for 37 weeks. Her anxiety symptoms and suicidal ideation escalated prior to this appointment. A plan was made at this time for an elective LSCS at 39 weeks which improved her MH symptoms.

The PSCP also stated for her to have an extended stay of up to 5 days, or longer if medically indicated, as well as for a single room so her husband could board and she planned to breastfeed. Claire was to be reviewed at least once during the admission by the psychiatric AT and again two weeks after discharge. She was also flagged with CFH for them to be aware of her mental health issues.

Claire delivered a healthy female infant via LSCS as planned with blood loss of less than 500ml and no further ABOs. Her obstetric discharge summary noted “no obstetric indication” for LSCS.

Sophia

Sophia is a 29-year-old, single, Brazilian lady who was Medicare ineligible. At the time of assessment Sophia was 33 weeks gestation, G1P0, with an unplanned pregnancy. Her morphology scan at 17+4 weeks was normal and there was low-risk nuchal translucency. She has a past history of Major Depression with psychotic features, being non-compliant with medication at this time. Her father has an Alcohol Use Disorder and her mother likely has an untreated paranoid psychotic disorder.

Sophia had been seeing a psychologist for 4 weeks due to low mood whom referred her for MH assessment due to a possible psychotic process.

Sophia was admitted to the antenatal ward for threatened pre-term labour at 33 weeks, only having her MH assessment during the admission, with a positive ActimPartus though had a reassuring CTG over the next 48 hours. She had a CT brain and electro-encephalogram during the admission which were both normal. She was found to have a Major Depressive Disorder with psychotic features and was commenced on sertraline 25mg mane and aripiprazole 5mg note.

Sophia was non-compliant with medications prescribed due to vomiting though agreed to take just the sertraline 25mg upon discharge. She was seen weekly in the PMH clinic from weeks 34-37 being reluctant to increase the dose. Sophia complained of tightenings and severe gastrointestinal reflux which she attributed to the medication rather than the pregnancy and continued to insist that she was feeling mentally well.

At 35+5 weeks she was reviewed by a Maternal Foetal Medicine (MFM) registrar with no further concerns obstetrically and was discharged back to her GP and midwives. PMH was not informed that she had been discharged from MFM and it was assumed they would remain involved in Sophia’s antenatal care.

A PSCP was drawn up due to identification of multiple risk factors requiring Level 3 complex care as per guidelines¹² without direct liaison with the obstetric team. Contributors to the plan included PMH services, social work department and NUMs from antenatal, delivery suite, postnatal and CFH services.

The plan included trauma informed care throughout the delivery admission, an extended stay of a minimum of 3 days for support for Sophia and for Neonatal Abstinence Syndrome (NAS) scoring due to the sertraline. She was to have a single room to allow a support person to board and she planned to breastfeed. She was to be seen daily by PMH and then 1-2 weeks post-discharge. She was also to have a home visit by CFH services.

Sophia was seen by her GP at 37+1 with no concerns. She then presented to delivery suite at 37+3 with one day of absent foetal movements and Foetal Death In Utero (FDIU) was diagnosed. Sophia underwent an IOL with an epidural and AROM. She had a prolonged and distressing delivery of 48 hours, delivering a male infant of 2700g.

Investigations to date have noted some obstetric abnormalities however the autopsy is still pending at the time of writing.

Following the birth Sophia's mental state deteriorated significantly, becoming profoundly depressed with active suicidal ideation and command auditory hallucinations to suicide. She required a 4-week admission to a psychiatric facility and ongoing engagement with mental health services.

Jemma

Jemma is a 31-year-old, unemployed woman with a history of childhood sexual abuse (CSA) who was in residential drug and alcohol rehabilitation away from her home town and relatively new partner who also had substance abuse issues. She is Hepatitis C positive. She was pregnant with her first, unplanned but wanted baby, G2P0 (termination at 16 years old). Other significant history includes recurrent Major Depressive Episodes, being non-compliant until 12 months ago with mirtazapine, a significant substance abuse history (IV methamphetamine, tramadol, alcohol and diazepam) with increasing periods of abstinence, and, a Drug Induced Psychosis which spontaneously resolved without intervention. She used IV methamphetamine once at 21 weeks gestation. There is a family history of depression, substance abuse and Borderline Personality Disorder (BPD).

She had a MH assessment at 37 weeks and was diagnosed with a Major Depressive Disorder. Her antidepressant was changed to sertraline 50mg and she was engaging in psychotherapy through residential rehab.

A PSCP was developed in conjunction with drug and alcohol services, social work department and with NUMs from antenatal, delivery suite, postnatal and CFH services invited due to complex care needs as per SAFE START guidelines [16]. Multiple level 2 and 3 risk factors were identified as above. Attendance at the meeting is not formally recorded with it being reasonably frequent that one or more of these services to not be present.

A focus of the plan was trauma informed care, due to her history, in part so that midwives and obstetricians perform Vaginal Examinations (VE) during labour and delivery sensitively. She was to have an extended stay of a minimum of 3 days for support and NAS scoring of the infant. Meconium and urine screening for substances may be needed for Family and Community Services (FaCS) and was therefore included in the plan. Jemma planned to breastfeed

and was to have a single room, at least one review by the psychiatric AT during the admission and two weeks after discharge as well as by drug & alcohol services.

Jemma's pregnancy progressed well with spontaneous rupture of membranes at 39 weeks. She required oxytocin during stage 1 of labour for slow progress with a total of 5 vaginal examinations which were documented as "difficult as uncomfortable" and she was noted to be restless: "mind too busy". She subsequently required an

epidural and medio-lateral episiotomy with an instrumental delivery via Neville Barnes forceps due to a 2 hour stage 2 and the foetal heart rate not recovering between contractions. She delivered a male infant, 3240g with APGARs of 6 (1min), 8 (5min) and 9 (10min).

In the immediate post-partum period she complained of coccyx pain, eventually being referred to the pain team and prescribed oxycodone and tramadol though this was revised. She was noted to be non-compliant with physiotherapy suggestions.

Amy

Amy is a 26-year-old African-American, married woman (G1P0) with a history of CSA and neglect who emigrated from Liberia to Ohio, USA at the age of 5 years old. She resigned from her well-paying employment in corporate law 3 months prior to her MH assessment due to the high-pressure environment and job dissatisfaction. She was seen at 31 weeks gestation with her planned, first baby with low mood and suicidal ideation. Amy has a history of recurrent Major Depressive Episodes which have been well managed with antidepressants and psychotherapy.

Amy was found to have a Major Depressive Episode with significant anxiety features (panic attacks, flashbacks and nightmares), probable PTSD and underlying BPD traits. She elected to stay on her escitalopram at 20mg and accepted a referral for psychological intervention.

Due to the above Amy was deemed to have complex care needs requiring coordinated team management as per SAFE START guidelines [16]. A PSCP was therefore developed by the psychiatric AT and discussed in the MDT though the NUM from delivery suite was not in attendance. Trauma informed care was emphasised and Amy's desire for an intervention-free delivery was documented. She was acutely aware of the birth experience potentially triggering flashbacks and panic attacks and believed that this could be reduced by an intervention free delivery. The plan otherwise included an extended stay of a minimum of 3 days for support and NAS scoring for the infant, a single room to allow her husband to board, at least one review by the psychiatric AT and again 1-2 weeks following discharge. Amy planned to breastfeed and requested support with this. She was offered a home visit by CFH for the 1-4 week check.

Amy presented to delivery suite at 38+4 weeks with reduced foetal movements for 3 days and was offered an IOL despite a reassuring CTG going against her plan for an intervention-free delivery. It was not clearly documented that the risks and benefits of both an IOL or expectant management were discussed with Amy. The cervidil failed so IV oxytocin was commenced at 38+6 followed by an AROM. She later requested an epidural as she became increasingly distressed by her pain. This required an indwelling catheter to be inserted.

Twelve hours after the oxytocin was commenced a third vaginal examination revealed she was only 4cm dilated and as such she consented for a conversion to LSCS for failure to progress. She delivered a male infant with APGAR of 9 & 9 at 1 and 5 minutes respectively. She experienced a post-partum haemorrhage of 900ml requiring active management.

In the immediate post-partum period Amy had two failed trial of voids, developed both a urinary tract infection and a wound haematoma with pelvic collection. This did not require operative

management however she had an extended stay of 14 days requiring IV antibiotics prior to discharge on oral antibiotics.

Anna

Anna is a 26-year-old Caucasian female, G1P0, living with her supportive partner of 3 years. She presented late in pregnancy for her booking appointment as the pregnancy was discovered at 19 weeks. She was referred for MH assessment at 37 weeks gestation due to increasing anxiety with panic attacks having previously taking venlafaxine prescribed by her GP for an undefined mood disorder which she abruptly ceased on discovering her pregnancy. Anna also has a history of Anorexia Nervosa in her teens and she was struggling to cease cigarette smoking due to severe anxiety. She has a traumatic developmental history with witnessing paternal physical and psychological domestic violence and severe bullying at school.

On assessment she was found to have an Obsessive-Compulsive Disorder (OCD) on a background of BPD traits. Her obsessions were fears that her infant would be stillborn and that she was responsible for this, often leading to panic attacks despite her compulsive mantras and checking. These fears were compounded by her mother frequently telling her that she nearly died during her own birth and that she “almost killed” her mother. Anna requested several times to have an early IOL or LSCS with the belief that this would be the only way to ensure her infant’s safety. Anna declined to restart the venlafaxine until after the delivery though accepted a referral to the PMH outreach service.

A PSCP was developed in conjunction with PMH outreach and delivery suite NUM following identification of multiple psychosocial risk factors as per guidelines [11,12]. The plan entailed Anna presenting to delivery suite early in labour to reduce her anxiety surrounding the birth. The likelihood of high levels of distress were highlighted for the midwives and obstetricians to be mindful of (though an obstetrician was not present at the MDT). Following the delivery she was to stay for a minimum of 3 days for support and assistance with establishing breastfeeding, she was to have a single room so her partner could board and she was to be reviewed at least once by the psychiatric AT with a view to recommencing venlafaxine. Post-discharge she was to follow-up with CFH and PMH outreach with psychiatric review after 2 weeks.

Anna went over her EDC (Estimated date of confinement) and was booked for an IOL at 40+4 due to worsening of her anxiety symptoms after further liaison with obstetric services. Unfortunately, on the day of presentation she was told this could not happen due to delivery suite not having capacity. Attempted liaison from PMH with the treating obstetrician regarding the necessity of an IOL that day did not bring this forward. Her allocated senior midwife on the antenatal ward saw Anna’s level of anxiety and spoke to the obstetrician a few hours later and only then was the induction granted. She was given prostaglandin followed by an AROM and IV oxytocin.

Her birth experience was distressing as a rapid response needed to be called on 4 separate occasions for foetal bradycardia. A conversion to an emergency LSCS was decided 3 hours after the first call. Anna was noticed to be highly distressed and difficult to communicate with throughout the labour. She delivered a female infant with APGAR of 9 and 9 at 1 and 5 minutes respectively. There were no further complications and she was discharged into the care of the midwives with PMH outreach follow-up.

Discussion

The PMH service each of the five women were engaged with is co-located with the maternity service and there is a well-utilised screening process and referral pathway for women with mental illness in pregnancy. Unfortunately, as highlighted in the case reports, this continues to be a token liaison service. At present women are able to have a comprehensive mental health assessment and have their care discussed at a complex care multidisciplinary meeting, however without the obstetricians in attendance.

Each of the women were identified as having multiple level 2 and/or level 3 risk factors as per SAFE START guidelines [12,16] and were appropriately discussed with a coordinated team management and review at the MDT as per the above mentioned guidelines. These guidelines however do not specify that obstetricians themselves are to be part of this team stating “clinicians from the following services... maternity” with the onus being on the Area Health Service (AHS) to determine who this might entail. In this particular service the clinicians are the respective NUMs (or delegate) from antenatal, delivery suite and postnatal units as previously described. This may be sufficient for many women’s care however there are clear examples as to when this is not and obstetricians are also required to be present in the MDT forum for discussion rather than approached separately after the fact.

In Claire’s case for example; she had experienced an extremely traumatising delivery with her first pregnancy and it was evident during her MH assessment that a discussion with an obstetrician about having an elective LSCS was required. Had Claire been identified and referred to PMH earlier in her pregnancy, and had an obstetrician been more readily available during the MDT, her anxiety and suicidal ideation could have been markedly improved much earlier than 37 weeks. Claire was not referred for MH assessment until 33 weeks despite a clear history of increasing anxiety throughout the pregnancy regarding a VBAC following a previous traumatic birth, which she had voiced multiple times during antenatal appointments. The referral to PMH occurred following an elevated EDS at 30 weeks (standard practice) with a positive to question 10 (self-harm ideation). It is possible to suggest that earlier referral to PMH together with appropriate discussion with an obstetrician at the MDT may have supported Claire better through a VBAC; thus potentially avoiding the LSCS and spending less weeks of her pregnancy anxious.

Sophia’s case further highlights the need for closer liaison between PMH and obstetric services with the most extreme of ABOs; stillbirth. It is of course impossible to predict in which pregnancies this will occur, however with Sophia she had a number of risk factors including a significant and complicated MH history. It was believed by PMH that she remained under the care of MFM. The discharge from their services was only learned about after the stillbirth.

The liaison here was inadequate from both PMH and MFM with neither service being fully aware of the management plans of the other. Had this occurred, ideally during the MDT including an obstetrician (from MFM or otherwise), Sophia may not have been discharged back into the care of her GP for ongoing antenatal care remaining under the care of MFM with closer monitoring of her progress and foetal development. Her compliance with her psychotropic medications may have also been improved with both services involved. It is also

worth noting that coordinating a MH assessment was more difficult for Sophia due to her Medicare status and her being unable to fund this in the outpatient setting, delaying her assessment. Ultimately it is impossible to know if this would have changed the outcome but it most definitely would not have caused further harm.

With Jemma there was a need for clinicians from multiple different services to be involved in her care due to the complex and sensitive nature of her current situation and history of CSA. This together with her substance use and MH history were risk factors for experiencing ABOs. In women with a history of sexual abuse there is an increased use of analgesia, particularly epidural blocks, and increased hospitalisation during pregnancy with complications as well as increased distress during delivery as found in review articles and cohort studies [18-20]. Recommendations from these studies include identifying these women as early as possible in pregnancy and utilisation of adequate multidisciplinary care models though what is meant by “adequate” and “multidisciplinary” is not specified. The risk factors were appropriately identified upon psychosocial screening as per Safe Start guidelines¹² with referrals to relevant services were made however a further issue for Jemma was her late presentation to antenatal services due to her relocation for rehabilitation.

It has been previously suggested that women with a complex history such as Jemma have a planned IOL to reduce anxiety and coordinate staff to help manage potential difficulties that may arise during delivery⁵ however this carries its own risk. There was a missed opportunity for liaison between obstetric and PMH services and with the absence of members of the MDT to discuss the above difficulties, most notably expected levels of distress, and potential options regarding Jemma’s delivery. Trauma informed care is to ensure all services be more cohesively coordinated and to be mindful of women’s abuse histories. This should minimise the use of VEs unless absolutely necessary with the process being explained and performed as sensitively as possible, reducing the woman’s distress, and potentially having a less complicated delivery.

This is also the case for Amy with her history of sexual abuse though she has fewer compounding risk factors than Jemma. The main aspect of Amy’s plan aside from the trauma informed care was her strong desire to have as minimal intervention as possible. Again there was missed liaison with obstetric services as the delivery suite NUM was absent, and thereby not adhering with mandated guidelines [11,12,16] with intervention being suggested almost immediately upon her presentation to delivery suite.

It is well-documented in Cochrane reviews and retrospective cohort studies that with IOL there is increased use of epidural analgesia and higher rates of ABOs such as conversion to LSCS [21,22]. It is likely that had discussions occurred with an obstetrician during the MDT meeting that expectant management may have been reinforced. This may have avoided the ABOs that occurred following the IOL and leaving Amy feeling more in charge of her birth experience, reducing her distress.

Anna’s story differs somewhat to the other four cases. The PSCP was followed with the delivery suite NUM being happy to ensure her early presentation at the onset of labour, recognising Anna’s distress regarding the safety of her infant. Unfortunately the PSCP did not entail a plan should she go over her EDC. There was discussion with

an obstetrician at this point who agreed that an IOL was indicated due to Anna’s increasing anxiety though this was unfortunately a different obstetrician to whom she was admitted under on the day of induction. It was clear that Anna’s MH history had not been fully discussed with this second obstetrician and her anxiety symptoms were dismissed with the IOL delayed for that day. Even with liaison by the psychiatric AT Anna’s level of distress was not acknowledged, and the antenatal midwife’s discussion with the obstetrician was given more weight. Anna then went on to have four rapid response calls before having the conversion to an emergency LSCS, each one creating more and more distress.

Had an obstetrician been present during the MDT the issue of going over her EDC may have been raised as a significant possibility and a contingency plan could have been made at this point. Anna’s MH history could have been more widely discussed with obstetric services with all being aware of the plan and need for not delaying an IOL. If her MH issues had been better recognised would the decision for conversion to a LSCS have been made earlier?

Anna’s case also highlights the issue of stigma experienced by pregnant women with MH difficulties and potentially around the value placed in PMH being part of a comprehensive maternity service. It appeared that there was no value placed on the opinion of the psychiatric AT when discussing the IOL being necessary on that particular day. Claire’s discharge summary noted “no obstetric indication” when referring to her planned LSCS. This appears to add to the stigma surrounding mental ill health in pregnancy, perhaps suggesting that mental illness is not of value when discussing labour and delivery or again when describing the course of these after the fact.

Discharge summaries are usually auto-populated from data already in the woman’s record with drop-down selection boxes to inform the rest. There is no option for “mental health reasons” or similar when completing indications for IOL, LSCS or otherwise.

Mental health has been recognised as an important aspect of women’s care during pregnancy, delivery and in the post-partum period with a large body of research detailing MH being associated with multiple ABOs as previously documented. Women in this population are more vulnerable than the general population with higher rates of poor nutrition, substance abuse, cigarette smoking, have a lower socioeconomic status and have lower attendance to antenatal care appointments. To this end guidelines have been produced internationally, nationally, state wide and more specifically within each AHS. Unfortunately the implementation of these varies between facilities with access to resources being a major barrier [17].

It is appreciated that obstetricians are extremely busy with a large work-load and very little time to attend potentially lengthy MDT meetings. A suggestion may be to incorporate these discussions within other complex care meetings that are held regarding medical/obstetric complications following a triage and selecting the more severe of cases.

The case series was used to highlight the issue of gaps in service provision for women with complex needs and lack of clarity in current guidelines, the methodology being of low cost, requiring minimal resources and being done in a timely manner. Limitations are that anecdotal evidence with very low sample size and lack of ability for

a control population is presented. This therefore limits the ability to draw firm conclusions regarding the impact of unclear guidelines or the quality liaison between services and the consequent effect on ABOs, however this study does identify the need for ongoing research in this area.

Further research could investigate if there is a significant improvement in the rate of ABOs following implementation of more clear and concise guidelines with inclusive and comprehensive perinatal mental health liaison service within maternity services, potentially closing the above-mentioned gap in service provision and care for these women. This could then go on to inform and update future state government health care policy directives.

Conclusion

Whilst there are guidelines and policies in place regarding the identification of women with MH issues in pregnancy and their care and management there remain gaps in service provision. This suggests an ongoing barrier, or stigma, between obstetrics and mental health and until the two services can work in a more integrated manner with further transparency in these guidelines the rate of ABOs will continue to be increased in these more vulnerable women. We need to find a way to better engage obstetric services in discussions regarding care of women with mental illness and the impact this can have on their pregnancy, birth experience and in the postnatal period. Perinatal psychiatrists and their colleagues need to facilitate these discussions with obstetric services to place more value in and perhaps to not be scared of, mental health.

References

- NHMRC additional levels of evidence and grades for recommendations for developers of guidelines 2009.
- Larsen ER, Damkier P, Pedersen LH, Fenger-Gron J, Mikkelsen RL, Nielsen RE, et al. Use of psychotropic drugs during pregnancy and breast-feeding. *Acta Psychiatr Scand*. 2015; 132: 1-28.
- Vigod SN, Seeman MV, Ray JG, Anderson GM, Dennis CL, Grigoriadis S, et al. Temporal trends in general and age-specific fertility rates among women with schizophrenia (1996-2009): A population-based study in Ontario, Canada. *Schizophr Res*. 2012; 139: 169-175.
- Vigod SN, Kurdyak PA, Dennis CL, Gruneir A, Newman A, Seeman M V., et al. Maternal and newborn outcomes among women with schizophrenia: A retrospective population-based cohort study. *BJOG An Int J Obstet Gynaecol*. 2014; 121: 566-574.
- Frayne J, Lewis L, Allen S, Hauck Y, Nguyen T. Severe mental illness and induction of labour: outcomes for women at a specialist antenatal clinic in Western Australia. *Aust N Z J Obstet Gynaecol*. 2014; 54: 132-137.
- Judd F, Komiti A, Sheehan P, Newman L, Castle D, Everall I. Adverse obstetric and neonatal outcomes in women with severe mental illness: To what extent can they be prevented? *Schizophr Res*. 2014; 157: 305-309.
- Grote NK, Bridge JA, Gavin AR, Melville JL, Iyengar S, Katon WJ. A meta-analysis of depression during pregnancy and the risk of preterm birth, low birth weight, and intrauterine growth restriction. *Arch Gen Psychiatry* [Internet]. 2010; 67: 1012-1024.
- Malm H, Sourander A, Gissler M, Gyllenberg D, Hinkka-Yli-Salomäki S, McKeague IW, et al. Pregnancy complications following prenatal exposure to SSRIs or maternal psychiatric disorders: Results from population-based national register data. *Am J Psychiatry*. 2015; 172: 1224-1232.
- Meltzer-Brody S, Jones I. Optimizing the treatment of mood disorders in the perinatal period. *Dialogues Clin Neurosci*. 2015; 17: 207-218.
- Kitai T, Komoto Y, Kakubari R, Konishi H, Tanaka E, Nakajima S, et al. A comparison of maternal and neonatal outcomes of pregnancy with mental disorders: results of an analysis using propensity score-based weighting. *Arch Gynecol Obstet*. 2014; 290: 883-809.
- Mental Health and Drug and Alcohol Office. Policy Directive SAFE START Strategic Policy. NSW Heal [Internet]. 2010.
- Mental Health and Drug and Alcohol Office. SAFE START Guidelines: Improving Mental Health Outcomes for Parents and Infants. NSW Heal [Internet]. 2010.
- National Institute for Health and Clinical Excellence (NICE). Antenatal And Postnatal Mental Health: Clinical Management and Service Guidance. NICE Clin Guidel [Internet]. 2015; 4-51.
- Austin MP V, Middleton P, Reilly NM, Highet NJ. Detection and management of mood disorders in the maternity setting: The Australian clinical practice guidelines. *Women and Birth*. 2013; 26: 2-9.
- Austin, M-P, Highet N GEAC. Clinical practice guidelines for depression and related disorders - anxiety, bipolar disorder and puerperal psychosis - in the perinatal period. A guideline for primary health care professionals. [Internet]. Melbourne: beyondblue: the national depression initiative. 2011.
- Health ND of. Maternal and Child Health Primary Health Care Policy [Internet]. Vol. NSW Kids a, NSW Health. 2009.
- Fisher J, Chatham E, Haseler S, Beth M, Thompson J. Uneven implementation of the National Perinatal depression initiative: Findings from a survey of Australian women's hospitals. *Aust New Zeal J Obstet Gynaecol*. 2012; 52: 559-564.
- Leeners B, Stiller R, Block E, Gorres G, Rath W. Pregnancy complications in women with childhood sexual abuse experiences. *J Psychosom Res* [Internet]. 2010; 69: 503-510.
- Leeners B, Richter-Appelt H, Imthurn B, Rath W. Influence of childhood sexual abuse on pregnancy, delivery, and the early postpartum period in adult women. *J Psychosom Res* [Internet]. 2006; 61:139-151.
- Leeners B, Block E, Gorres G, Hengartner MP. Birth experiences in adult women with a history of childhood sexual abuse. *J Psychosom Res* [Internet]. 2016; 83: 27-32.
- Anim-Somuah M, Smyth R, Jones L. Epidural versus non-epidural or no analgesia in labour. *Cochrane Libr*. 2011.
- Boulvain M, Marcoux S, Bureau M, Fortier M, Fraser W. Risks of induction of labour in uncomplicated term pregnancies. *Paediatr Perinat Epidemiol*. 2001; 15: 131-137.