INTRODUCTION

Pregnancy and childbirth is a very joyful time for many families, but can also trigger or worsen mental health problems in some women. Maternal mental health problems affect 20% of women in the perinatal period, with depression and anxiety being the most common disorders. Suicide has become one of the leading causes of maternal mortality globally. Though poorly reported, there is increasing evidence that perinatal mental illnesses are more common in women in low- and middle-income countries. It was previously thought that pregnancy is protective from mental health illnesses, but we now understand that pregnant women are vulnerable to the same mental health illnesses as non-pregnant adults, and that pregnancy can increase the possibility of relapse.

Mental health problems impact the quality of life of pregnant women and contribute to maternal and perinatal outcomes. For women with underlying mental health illnesses, the underlying disease has an impact on the growth and development of the fetus. Some medications are toxic, and may affect the fetus, whilst stopping or changing medication affects both the illness and the development of the fetus. The consequences of mental health problems in pregnancy persist far beyond childbirth and the duration of breastfeeding.

Whilst all women can experience a mental health problem during pregnancy, some women have an increased risk of having mental health problems. Factors that increase the risk of developing mental health problems during pregnancy are poverty, substance abuse, prior psychiatric disorders, previous unfortunate pregnancy outcomes, medical illnesses in the current pregnancy, extremes of age, and inadequate support systems. In addition to the obstetric, medical and psychiatric history, it is important for the healthcare giver to enquire about the circumstances of the current pregnancy, how the patient responded to previous pregnancy outcomes and the socioeconomic status of the patient.
SCREENING FOR MENTAL HEALTH PROBLEMS

Mental health problems are debilitating and WHO correctly state that 'there can be no physical health without mental health'. Mental health problems adversely affect the physical needs of both the mother and the fetus, and compromise the ability for a mother to take care of the infant. It is not advisable for healthcare workers to make any assumptions about the mental health state of any pregnant woman. Some women conceive under very difficult circumstances, where they may have been sexually abused, or are unsure of the paternity of their child, or may have been under the influence of substances when they conceived. Such factors contribute to how women perceive the pregnancy, and the health-seeking behavior during pregnancy.

Psychosocial and biological factors can either aggravate or protect women from maternal mental health problems or even unmask undiagnosed illnesses. Social, cultural and economic factors contribute towards maternal well-being. Family factors including the relationship with the father of the child or the support of this pregnancy by family members contribute to maternal mental health. Genetic and hormonal factors also contribute towards the moods experienced by pregnant women. Furthermore, the demands and expectations of motherhood, and the health of the infant contribute to the mental well-being of a mother. Having a medical illness that may require medication to be altered, may cause anxiety about the pregnancy and general wellness. Women also experience anxiety and depression prior pregnancy about fertility, future pregnancy outcomes, and how a pregnancy may impact their well-being.

It is important for all pregnant women to be screened for a mental health problem, regardless of the setting. Screening alone may have clinical benefits, but initiation of treatment and referral to a mental healthcare provider provides maximum benefit. A complete assessment of mood and emotional well-being should be included in the preconception, antenatal and postnatal visits. In settings where it is not possible to provide any mental health support, routine screening may be deferred if the risk of screening outweighs the benefits.

There are various validated screening tools for use during pregnancy and in the postpartum period. The most frequently used tool is the Edinburgh Postnatal depression scale which includes both depression and anxiety symptoms. Screening alone has benefits, but should be followed by the initiation of treatment or referral perinatal mental health care team. Healthcare workers should attempt to identify women with risk factors for mental health problems and should be familiar with the relevant screening tools.

CLASSIFICATION OF MENTAL HEALTH PROBLEMS

Prenatal mental health disorders

Pre-existing mental health disorders may become worse or relapse during pregnancy or in the postnatal period. Women who desire to conceive with pre-existing mental health problems require additional support during the pregnancy, or treatment to be optimized before pregnancy.

Antenatal depression

Antenatal depression affects 12% of pregnant women. Despite a high prevalence, antenatal depression is often neglected during pregnancy. Early detection and management could prevent postnatal depression. Factors associated with antenatal depression are lack of psychological and social support, unplanned pregnancy, socioeconomic status and a traumatic event.

Psychosis and manic disorders

Schizophrenia has been reported in pregnancy. Bipolar mood disorder is common. Anxiety disorders are difficult to treat as the drugs may be terotogenic, whilst withdrawing drugs may lead to relapses.

Anxiety disorders

Mental health problems related to anxiety include panic disorders, generalized anxiety disorders, obsessive compulsive
disorders, tocophobia (the fear of childbirth), eating disorders and post-traumatic stress disorder. Anxiety about the pregnancy or the outcome of the pregnancy is normal in most instances, but can be debilitating and impair normal daily function.\(^4\)^9

**Postnatal blues**
Postnatal blues are characterized by irritability, crying episodes and feeling overwhelmed. This is a self-limiting condition which requires familial support and bonding.\(^9\) These feelings usually subside with rest, support and reassurance.

**Postnatal depression**
Postnatal depression is experienced by about 20% of women,\(^5\) and is most common in week 2–4 after delivery.\(^9\) Depression is characterized by a low mood, irritability, difficulty sleeping, lack of appetite, anxiety about the child, thoughts of harming self or the child, a sense of being overwhelmed, physical symptoms, and poor mother–infant bonding.\(^6\)

**Postnatal psychosis**
Postnatal psychosis is regarded a psychiatric and obstetric emergency. It has an acute and sudden onset. Some women experience postnatal psychosis following a following a pregnancy. Mothers with postnatal psychosis may experience rapid mood swings, hallucinations, delusions or paranoia.\(^10\)

### SPECIAL RISK GROUPS FOR MENTAL HEALTH PROBLEMS

**Adolescents**
Teenagers with mental health disorders experience higher rates of pregnancy, whilst pregnant teenagers appear to have a high rate of mental health disorders. Some studies have described higher rates of substance abuse, psychotic disorders, major depression and anxiety disorders 12 months prior to childbirth in teenagers and a history of traumatic events. Many pregnant teenagers have not been diagnosed or treated for mental illness prior to the pregnancy.\(^11\) In addition to the mental health risks, there may be legal concerns about sexual consent, depending on the age of the teenager, and the laws regarding sexual consent in that country. Teenagers are also high-risk group for sexual abuse, and may be victims of incest.

**Women with intellectual disabilities**
Historically there have been many misconceptions about people with intellectual disabilities, from them being asexual to being hypersexual. Women with intellectual disabilities have been exposed to sexual segregation, sexual confinement, marital prohibition, and legally sanctioned sterilizations.\(^12\) People with intellectual disabilities often experience poverty, lack of education, limited economic independence, a higher risk of abuse and sexual isolation.\(^12\) During pregnancy special attention needs to be given to the medications they are using, the circumstances around the pregnancy, child care support available for them after birth, sexual education and contraception.

**Substance abusers**
The use of alcohol, illicit substances and psychoactive substances during pregnancy is quite common. Substance abuse is associated with spontaneous miscarriages, fetal alcohol syndrome, stillbirths, preterm labor, low birth weight and birth defects. Illicit substances are addictive and can impair the functioning of the user, trigger gender-based violence or intimate partner violence. Substance abuse affects physical, mental and emotional function of the user and development of the fetus and child.\(^13\) Pregnancy provides an opportunity for substance users to change substance use patterns. The perinatal mental health team should provide support and should understand social, mental and physical complexities associated with substance abuse.

**Women who experience traumatic events**

Some women have traumatic experiences related to pregnancy or childbirth. The symptoms of post-traumatic stress disorder (PTSD) are characterized by the intrusive re-experiencing of a past traumatic event, or avoidance of stimuli. An unpleasant pregnancy event may trigger PTSD, or the diagnosis of an illness such as HIV during pregnancy, a miscarriage or stillbirth, a cesarean section hysterectomy or prolonged admission to an intensive care unit because of a pregnancy complication.

**Women who experience intimate partner violence and sexual abuse**

Intimate partner violence is a pattern of assaultive behavior that includes physical abuse, psychological abuse, sexual assault and reproductive coercion. Intimate partner violence can lead to emotional trauma, physical impairment, chronic health problems and death. Sexual violence is a continuum of sexual activity, from unwanted kissing and touching to sexual coercion and rape. Intimate partner violence may lead to unwanted pregnancies, sexually transmitted infections, including HIV, and mental health problems. Whilst 20% of women attending antenatal clinic report a history of sexual abuse and pregnancy coercion, many victims are afraid to disclose. Because intimate partner violence and sexual abuse leads to unintended pregnancy, it is important that pregnant women are appropriately screened and offered support. Special populations that are vulnerable to sexual abuse are adolescents, immigrant women, and women with disabilities.

**Disrespectful maternal care and obstetric violence**

Common acts such as disrespect and abuse of women in maternity care settings are a barrier to quality maternal care and reduce utilization of healthcare services. Disrespectful maternal care may contribute to maternal mental health problems. Acts that violate the rights of women include physical abuse, verbal abuse, discrimination, lack of privacy, detention and denial of care by healthcare workers. Respectful maternal care includes respect for autonomy, dignity, feelings, choices and feelings. Disrespectful maternal care can trigger PTSD, anxiety, depression, or noncompliance, compromising the health of both the mother and fetus in pregnancy.

**THE PERINATAL MENTAL HEALTH TEAM**

The reason for screening women for mental health illnesses is to provide support and to treat mental illnesses. An understanding of the available facilities and resources in an institution make it easier to facilitate the most appropriate care. Depending on the nature or severity of disease, some women may benefit just from expressing difficulties or anxiety about the pregnancy, whilst some women need the expertise of a psychiatrist throughout the pregnancy.

**Midwife**

The midwife is the primary caregiver in many instances. In many countries where there is a limited number of specialists, the midwife provides antenatal, intrapartum and postnatal care. The midwife plays an important role in identifying women who need mental health support, and every visit or contact with patients should be used as an opportunity to identify and refer women in need of maternal mental health support.

**Obstetrician and gynecologist**

The obstetrician and gynecologist screens and diagnoses mental health problems, and may treat certain mental health illnesses. It is important for the obstetrician to identify women with pre-existing medical illnesses, to identify risk factors for mental illness and to diagnose and refer women with mental health illnesses. An understanding of the effect of the disease and the medications on the pregnancy, and the effect of the pregnancy on the medications is best provided by the obstetrician and gynecologist.

**Social worker**

Social workers are responsible for helping individuals, families or groups to cope with problems. They teach skills and coping mechanism, they counsel, and act as liaisons between patients, healthcare workers, and institutions. They also address legal problems. It is appropriate to refer a patient to a social worker, if unsure about the diagnosis, or treatment.
They need.

Psychologist
Psychologists assess, diagnose, treat psychological problems and behavioral dysfunctions. Psychologists use various forms of therapy, including psychotherapy, which is a talking therapy used to eliminate disabling symptoms to improve the mental function.

Psychiatrist
A psychiatrist is a specialist in mental health. Psychiatrists are able to assess both mental and psychological effects of mental illnesses. In addition to diagnosing mental problems, a psychiatrist can use psychotherapy, medications, psychosocial interventions and other treatments. Any woman with a pre-existing mental illness should referred to a psychiatrist, or women who require medical treatment.

Pediatrician
The pediatrician should be included in the care of women with mental health problems, especially closer to the time of delivery. The mental health illness may affect the growth and development of the fetus, and the medication may also have an effect on the fetus and newborn. The pediatrician should be consulted in high-risk cases prior to and after delivery to assess the newborn.

Mental Support Before, During and After Pregnancy

Preconception Support
Risks and benefits of different medications should be discussed with patients including those used during pregnancy and breastfeeding. Women should be informed about the risks of untreated psychiatric illnesses during pregnancy and the postpartum period. The decision-making around treatments for psychiatric disorders in pregnancy should consider what is known about the medications during pregnancy, the disorder being treated, and exposures to the baby of both untreated maternal illness and of medication. The mother's well-being is paramount to the health of a pregnancy.

Support during pregnancy
Healthcare workers should create a trust relationship with women and use every opportunity to detect and treat mental health disorders. The course of major depressive disorder across pregnancy and the postpartum period demonstrate higher rates of relapse when antidepressants are discontinued for pregnancy versus if continued. Women need to be screened and referred appropriately within the perinatal mental health team. Fetal growth and development should be monitored, and fetal anomaly screening should be performed especially on women using medications that are teratogenic.

Support after pregnancy
Women should be informed about the hormonal and emotional changes they may experience following pregnancy. Leading risk factors for postpartum depression include depression during the pregnancy, anxiety during the pregnancy, and history of depressive episodes. A past episode of postpartum depression is associated with an increased risk of postpartum depression. Risk factors for postpartum depression include history of postpartum depression, history of depression, depression and anxiety during the pregnancy, and family history of postpartum depression. All women should be screened at least once in the 6 weeks after birth for postnatal mental health problems. Admission should be considered if a woman displays rapidly changing mental state, suicidal ideation, pervasive guilt or hopelessness, significant estrangement from the infant and evidence of psychosis.

Medication
The use of drugs during pregnancy and breastfeeding always carries risks to the developing fetus and baby. Whilst some antidepressants are considered safe, some others along with antipsychotics, and mood stabilizers are teratogenic, with...
drugs such as lithium having a 60/1000 risk rate of fetal heart defects. Most studies do not show an increased risk of birth defects; however, the literature on some antidepressants includes some studies that have shown rare and inconsistent reports of some malformations. Later in pregnancy the main concerns that must be considered in late pregnancy include neonatal “adaptation” or withdrawal with late pregnancy use, as well as persistent pulmonary hypertension of the newborn, a rare condition which has been reported as having an increased association with selective serotonin reuptake inhibitor (SSRI) use in late pregnancy. Anecdotal reports that attribute these syndromes to drug exposure must be cautiously interpreted, and larger samples must be studied to establish a causal link between exposure to a particular medication and a perinatal syndrome.

**Omega-3 fatty acids**

Omega-3 fatty acids are nutritional compounds with well-established benefits for human health, and benefits for fetal and infant development. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are two important omega-3 fatty acids found in fish and most fish oil or omega-3 supplements. The majority of randomized controlled trials demonstrate a significant antidepressant benefit of omega-3 fatty acids in mood disorders overall, although they are best studied as an augmentation treatment rather than a stand alone therapy. The benefits of maternal omega-3 fatty acid intake have been established for infant outcomes, although women are often afraid to eat fish during pregnancy since the US FDA mercury advisories. Fish oil capsules/supplements are made in a way that removes contaminants such as mercury. Higher fish intake appears to protect against depression during pregnancy and postpartum depression in some population studies. Only a few treatment studies have specifically looked at omega-3 fatty acids as a primary treatment for depression during pregnancy and postpartum depression, and they have been small studies with mixed outcomes. Omega-3 fatty acid supplements have been well tolerated by pregnant and postpartum women. Individual brands vary in terms of taste and capsule size. The exact dose still needs to be determined for optimal benefits for depression, but 1–2 g/day of a supplement of EPA and DHA is a reasonable dose for general health benefits, infant outcomes benefits, and as an add-on treatment for depression.**

**CONCLUSION**

Mental health disorders affect more women than any other conditions during pregnancy. Some women have biological and mental health factors that increase the risk of them developing a mental health disorder during or after pregnancy. Mental health problems affect the quality of life of pregnant women, and maternal and fetal outcomes. Pregnancy creates an opportunity to diagnose and treat mental health disorders which had not previously been detected. Perinatal mental health teams are important in ensuring that women who desire to be pregnant or are pregnant are optimized on treatments that will ensure maximum benefit for both mother and the expected baby.

**Current Practice**

The **American College of Obstetricians and Gynecologists** recommend that obstetricians and gynecologists and other obstetric care providers screen patients at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool. The **National Institute of Clinical Excellence** makes recommendations for prediction, detection and treatment of mental disorders in women during pregnancy and in the postnatal period up to the first year after delivery. The **World Health Organization** emphasizes that attention be given to mental health problems of pregnant women and mothers, and the integration of care in the existing maternal health programs and activities contribute to improving maternal health. The **World Psychiatry Association** calls for all care providers in contact with women in the perinatal period to be trained to be equipped with knowledge and skills to identify and treat, or refer for treatment, women with perinatal mental disorders.
PRACTICE RECOMMENDATIONS

- All women need to be screened for risk factors for mental health problems and for underlying and possible maternal mental health disorders before conception and during antenatal visits.
- In addition to a comprehensive medical and obstetric assessment, enquire about the circumstances in the current pregnancy, the socioeconomic factors, and any anxiety about the pregnancy.
- Women who require mental health support should be referred to a maternal mental health team, or a mental health professional such as a social worker, psychologist or psychiatrist for further management.
- Women on SSRIs should continue using the same treatment at the same dose that was therapeutic prior to pregnancy. Consider increasing the dose during pregnancy if symptoms worsen, and consult the psychiatrist.
- Strongly recommend cognitive behavioral therapy throughout pregnancy in women with pre-existing mental health disorders.
- Discuss the risk for postpartum depression based on history and consider increasing the dose of antidepressants immediately after delivery if not done so in the third trimester.
- Discuss the safety profile of current medications for breastfeeding.
- Consider omega-3 – recommend augmentation with an EPA/DHA combination for both fetal neurodevelopment and maternal mood treatment.

CONFLICTS OF INTEREST

The authors of this chapter declare that they have no interests that conflict with the contents of the chapter.
REFERENCES