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REVIEW ARTICLE

Consensus statement on Singapore Perinatal Mental Health Guidelines on Depression and Anxiety

Helen Chen[1,2] *MMed(Psy)*, Tze-Ern Chua[1,2] *MMed(Psy)*, Theresa Mei Ying Lee[1,2] *MMed(Psy)*, Elizabeth Junpei Siak[1,2] *MRCPsych*, Lin Feng Hong[1,2] *MRCPsych*, Ying Chia Ch'ng[1] *MA App Soc Studies*, Yasmin Hassan[1] *BA(Social Work Hons)*, Cornelia Yin-Ing Chee[2] *MMed(Psy)*, Yee Ming Mok[3] *MMed(Psy)*, Say How Ong[5] *MMed(Psy)*, Victor Samuel Rajadurai[6] *MRCPaed*, Tiong Ghee Teoh[7] *FRCOG*, Vasuki Utravathy[8] *MPH*, Kok Hian Tan[2,9] *FRCOG*, Lay Kok Tan[2,9] *FRCOG*

ABSTRACT

Introduction: Perinatal depression and anxiety are public health concerns affecting approximately 1 in 10 women in Singapore, with clear evidence of association with various adverse outcomes in mother and child, including low birthweight, preterm birth and negative impact on infant neurodevelopment, temperament and behaviour. A workgroup was formed to develop recommendations to address the perinatal mental health needs of women with depression and anxiety. The approach was broad-based and aimed to incorporate holistic methods that would be readily applicable to the network of care providers supporting childbearing women.

Method: The Grading and Recommendations Assessment, Development and Evaluation (GRADE) Evidence to Decision framework was employed to draw these guidelines. Workgroup members—comprising experts in the field of perinatal mental health and obstetric medicine—deliberated on the public health needs of the target population, and reviewed literature published from 2001 to 2022 that were relevant to improve the well-being of women with depression and anxiety during the preconception and perinatal periods.

Results: A consensus meeting was held involving a wider professional network, including family physicians, paediatricians, psychiatrists, social services and the Health Promotion Board in Singapore.

Conclusion: Ten consensus statements were developed, focusing on the overall aim of achieving optimal perinatal mental health for women with depression and anxiety. They relate to awareness and advice on preconception mental health, screening and assessment, optimising care and treatment. Special considerations were recommended for women who suffered severe maternal events, tailoring care for adolescents and women with special needs, and addressing infant mental health needs.

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INTRODUCTION

Perinatal mental health conditions have been recognised as a key area of focus by the World Health Organization, with the new guide published in September 2022[1] highlighting the importance of screening, diagnosis and management of perinatal mental health conditions that are integrated into maternal and child health (MCH) services. The guide provides information on identifying symptoms of mental health problems and responding in a way that is adapted to local and cultural contexts, as well as evidence on perinatal mental healthcare, plans for its integration into MCH services and assessment of its impact. In Singapore, the need for addressing maternal mental health concerns has been well recognised and established as a key priority area by an inter-agency taskforce on child and maternal health and well-being that was set up in 2021 to enhance support for families with children to foster good health and well-being. In Singapore's latest nationwide mental health study, the lifetime prevalence of major depression and generalised anxiety disorder among women of childbearing age is reported to be 7.7–9.2% and 1.9–2.2%, respectively.[2] Antenatal depression affects around 7 to 9% of women in

[1] Department of Psychological Medicine, KK Women's and Children's Hospital, Singapore
[2] Duke-National University of Singapore, Singapore
[3] Department of Psychological Medicine, National University Hospital, Singapore
[4] Department of Mood and Anxiety, Institute of Mental Health, Singapore
[5] Developmental Psychiatry, Institute of Mental Health, Singapore
[6] Neonatology, KK Women's and Children's Hospital, Singapore
[7] Obstetrics & Gynaecology, KK Women's and Children's Hospital, Singapore
[8] Outreach Division, Health Promotion Board, Singapore
[9] Department of Maternal Fetal Medicine, KK Women's and Children's Hospital, Singapore
Correspondence: Prof Kok Hian Tan, Department of Maternal Fetal Medicine, KK Women's and Children's Hospital, 100 Bukit Timah Road, Singapore 229899.
Email: tan.kok.hian@singhealth.com.sg
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CLINICAL IMPACT

What is New

- This article reviews recommendations in Singapore ensuring optimal mental health for women with depression and anxiety during the preconception, antenatal and postnatal periods.
- Holistic approach examining healthy lifestyle adjustment, early detection through opportunistic screening, and needs-based intervention can improve outcomes for mothers and mothers-to-be.

Clinical Implications

- This expert consensus can guide the professional network to support mothers and mothers-to-be, to improve the population health for childbearing women in Singapore.

Singapore,[3,4] while those with high-risk pregnancies registered a higher rate of 18 when considering both major and minor depression antepartum depressive states.[5] The prevalence of postnatal depression was reported at 6.8–10.4%.[4,6,7] Perinatal anxiety is less studied, in part because of a lack of clarity of diagnostic criteria; nonetheless, persistently high antenatal anxiety can occur in as many as 17% women locally.[8] The neurodevelopmental impact of depression and anxiety on the growing fetus has been clearly evidenced in the Growing Up in Singapore Towards Healthy Outcomes (GUSTO) birth cohort study, with reported changes in microstructure,[9] functional connectivity[10] as well as epigenetic footprint.[11] The adverse impact extends into the postpartum period, during which maternal depression and anxiety have been found to be associated with infant negative temperament,[12] reduced maternal sensitivity,[13] child behavioural problems,[10] and decreased school readiness.[14] Given that preconception mental health has been found to be closely related to antenatal mental health,[15] which in turn predicts postnatal mental health,[16] there is a crucial need for early identification and intervention to ensure the best health outcomes for women and children.

Aim of consensus statement

Our objective is to provide guidance to professionals in maternal and child health services on addressing depression and anxiety, during the preconception, antepartum and postpartum phases. In Singapore, the network of practitioners will include general practitioners, family physicians, obstetricians and gynaecologists, paediatricians, nurses, social workers and counsellors, psychiatrists, and other mental health professionals. The consensus statement includes a 10-item summary that aims to be easily understood by healthcare professionals as well as the general public, because awareness and public education are key factors to addressing maternal mental health at the population level. These recommendations are relevant to all childbearing women, irrespective of cultural background or socio-economic status; and include considerations for women with special needs, who have experienced severe obstetric adverse events or adolescent pregnancies, and infants. Severe mental disorders, such as schizophrenic and bipolar disorders, are not covered here, as they are less prevalent and require specialist attention. Future work is needed to develop guidelines in the approach to perinatal management of severe mental disorders as this remains a key area of need.

METHOD

The consensus workgroup comprised perinatal mental health specialists and clinical counsellors from KK Women's and Children's Hospital as well as National University Hospital and Institute of Mental Health, the other two public centres with perinatal mental health resourcing. The workgroup was tasked by the College of Obstetricians and Gynaecologists Singapore to develop perinatal mental health guidelines, and was supported by the SingHealth Duke-NUS Maternal & Child Health Research Institute Integrated Platform for Research in Advancing Maternal & Child Health Outcomes (IPRAMHO), funded by the National Medical Research Council. Focusing on the more prevalent conditions (i.e. depression and anxiety) during the preconception, antepartum and postpartum phases, we reviewed evidence from the UK National Institute of Health and Care Excellence (NICE) guidelines on antenatal and postnatal mental health as well as relevant literature published in MEDLINE, PubMed and Google Scholar using the keywords "preconception mental health", "antenatal mental health", "perinatal depression screening", "postnatal mental health", "serious adverse obstetric events" and "adolescent pregnancy". Studies identified included case-control studies, cohort studies, systematic reviews, meta-analyses, randomised control trials and expert reviews. Contributing to the expert consensus were experienced senior specialists comprising a paediatrician-neonatologist, obstetrician-gynaecologists and public health administrator.

The workgroup used the Grading of Recommendations Assessment, Development

and Evaluation (GRADE)[17] Evidence to Decision framework to evaluate the quality of evidence and strength of recommendation, to provide a structured and clear methodology for healthcare recommendations. The GRADE framework is available in the supplementary material of this article. The online annexes include the presentation of all consensus statements, the various screening tools, a brief summary version of the perinatal mental health guide and the AGREE Reporting Checklist for guidelines. These recommendations are intended to guide healthcare professionals and maternal and child health service providers in the provision of holistic care for childbearing women from preconception through to the first year postpartum.

We also sought input from various professional bodies, such as College of Obstetricians and Gynaecologists Singapore, College of Psychiatrists Singapore, College of Family Physicians Singapore, Perinatal Society of Singapore, Singapore Psychiatric Association, Academy of Medicine Singapore, and Health Promotion Board, and held a consensus meeting on 30 November 2022 to gather feedback through an open poll, thereby improving on the guidelines. The consensus meeting was also attended by key members from the Ministry of Social and Family Development. The final published version in this edition has been endorsed by key stakeholders, and it is hoped that with wider understanding and ownership, we can create a community that works together to support maternal mental health and well-being. The language of the guidelines is also kept simple so that non-professionals and the public might also be able to understand and make sense of the recommendations. These guidelines will be reviewed for consideration of an update in 2030.

RESULTS

Consensus Statements

1. Increase awareness and provide advice on preconception mental health

(a) Provide advice on pregnancy planning

Women should be provided advice on pregnancy planning or contraception. This is particularly important for women and adolescents of childbearing potential with a past or current depressive or anxiety disorder, as they are particularly vulnerable to the stress of an unplanned pregnancy. Any history of depression or anxiety is a well-established risk factor for antenatal depression or anxiety,[18] and unintended pregnancy is a risk factor associated with perinatal depression.[19]

(b) Provide preconception counselling on impact of maternal mental illness and treatment

Women and adolescents of childbearing potential with severe depressive or anxiety disorders should be provided information regarding how their mental health condition and its treatment might affect them or their baby if they become pregnant.[20] This information should be tailored according to individual needs and illness patterns to enable informed decisions about family planning and necessary arrangements to prepare for pregnancy.

2. Optimise preconception mental health

a) Make lifestyle adjustments to optimise preconception mental health

Lifestyle adjustments to optimise preconception mental health are recommended, particularly for women of childbearing potential with pre-existing depressive or anxiety disorders.[21] These recommendations should be tailored to match individual needs and include improving nutrition with a whole foods diet, weight management, smoking cessation, alcohol abstinence and folate supplementation to promote maternal mental well-being and fetal development. Physical activity, exercise and mindfulness practice can also help reduce symptoms of depression or anxiety and promote well-being.[22]

(b) Evaluate medication use in consideration of childbearing

Use of medication in relation to childbearing involves careful consideration of safe choices of psychotropic medication or mood stabiliser, for women or girls of childbearing potential who might require long-term treatment for their mood disorder.[23] The use of valproate should be restricted to when there are no effective or tolerated alternatives, and when pregnancy prevention plan is adequate, as valproate is teratogenic.[24] As maternal mental health state tends to remain consistent from preconception to pregnancy,[15] the recommendation is for achieving a minimum effective dose of psychotropic medication to maintain wellness during conception.

(c) Have a holistic approach to preconception mental health

A holistic approach to preconception mental health is recommended, with the use of psychological therapies, and addressing of social stressors, to

optimise the control of pre-existing depressive or anxiety disorder, as this can help minimise the dose of antidepressant medication needed. Any medication cessation should be discussed in preconception care planning. Addressing any couple conflicts is particularly important as strong couple relationship could ameliorate the risk of depression perinatally.[25]

3. Have screening and assessment for antenatal depression and anxiety

(a) Provide screening for antenatal depression and anxiety

Early screening for antenatal depression during obstetric visits provides an ideal opportunity for preventative care and treatment before delivery.[26] A short screen such as the Patient Health Questionnaire 2-item (PHQ-2)[27] may be used: "Over the last 2 weeks, how often have you been bothered by (1) little interest or pleasure in doing things, or (2) feeling down, depressed or hopeless?" (Appendix 1). Women who experience either or both symptoms for most days, can be considered screen-positive, and will benefit from support or referral for further assessment. Women may also be screened using a validated questionnaire such as the Edinburgh Postnatal Depression Scale (EPDS)[28] (Appendix 2), with follow-up actions according to referral and management protocols unique to each centre or practice. Screening is important as antenatal depression is at least as common as postnatal depression,[3,4] and antenatal depression and anxiety are significant risk factors for postnatal depression.[29] For antenatal anxiety, the Generalized Anxiety Disorder 2-item (GAD-2)[30] may be used, but will require further assessment as there is currently no robust evidence for a reliable screening tool for antenatal anxiety (Appendix 3).

(b) Provide assessment of antenatal depression and anxiety for those screened positive

Clinical diagnoses should be made based on criteria listed in Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)[31] or International Classification of Diseases (ICD-11).[32] As part of holistic care, assessment should include holistic aspects of care such as presence of other psychiatric comorbidities (e.g. learning disability, alcohol and substance use disorders), medical and obstetric health, quality of partner and other familial relationships, care of older children, financial and occupational stressors, lifestyle practices, and bonding with unborn child. It is particularly important to assess for risk of harm to self and others (including the fetus).

4. Optimise care, treatment and support for antenatal depression and anxiety

(a) Counsel on medication use in antenatal depression and anxiety

Antidepressants are recommended for women with moderate to severe illness, or at risk of clinically significant relapse, with careful consideration of potential benefits and risks of antenatal use of antidepressants.[33] The decision-making should include consideration of factors such as symptom severity, risk of relapse or worsening, impact of illness versus medication on mother and fetus, patient's response to previous treatment, stage of pregnancy, and patient preference.[34] Clinicians should provide information regarding the risk of septal defects with selective serotonin reuptake inhibitors, such as paroxetine,[35] and discuss risk-benefit considerations.[36] Good practices for safe prescription include using the lowest effective doses, divided over the day if necessary, avoiding first-trimester use if possible, and frequent and regular reviews.[36] Benzodiazepines, commonly used for anxiety, should be avoided in pregnancy as there is an increased risk of use of ventilatory support for the newborn.[37]

(b) Provide holistic approach to care for patients with antenatal depression and anxiety

Care for patients should be coordinated among relevant healthcare professionals, which may include general and family medicine practitioners, obstetricians and gynaecologists, paediatricians, psychiatrists, nurses, counsellors, social workers and midwives.[33] Patients (and their partners or family, with their agreement) can be enabled to make informed, collaborative decisions about their care when provided with relevant mental health information. Information should include potential benefits and side effects of treatment, consequences of untreated illness, which may include poor maternal health, lower quality of life, difficulties with social relationships, poor mother-infant bonding, and poor overall development of the infant.[33] Non-pharmacological interventions may be beneficial (e.g. supportive therapy, psychology therapy and group therapy) in addition to pharmacological interventions.[38] Lifestyle behavioural interventions targeting diet, sleep, physical activity, smoking and alcohol cessation, and having social support help to prevent and reduce antenatal depressive symptoms.[39]

(c) Provide monitoring and support for women receiving care for antenatal depression and anxiety

Regular monitoring of symptoms and response to treatment during the antenatal period is recommended.[34] Considerations should be made for referral to tertiary perinatal psychiatric services (at KK Women's and Children's Hospital, National University Hospital, Institute of Mental Health) for those with severe depression or anxiety, or those not responding to treatment. Having adequate social and emotional support from spouses or partners and family during the antenatal period can help reduce depressive and anxiety symptoms.[40]

5. Have screening and assessment for postnatal depression and anxiety

(a) Provide screening for postnatal depression and anxiety

Early screening for postnatal depression during obstetric visits provide an ideal opportunity for preventative care and treatment.[41] Routine well-child visits to the paediatrician or primary health practitioner, such as for vaccination and development assessment, are also an opportune time to screen the mother for postnatal depression.[42] Screening is particularly important for women with risk factors of postnatal depression and anxiety, which include antenatal depression or anxiety, recent stressful life events and inadequate social support.[43] The short screen PHQ-2 may be used: "Over the last 2 weeks, how often have you been bothered by (1) little interest or pleasure in doing things, or (2) feeling down, depressed or hopeless?" Women who experience either or both symptoms for most days, can be considered screen-positive, and will benefit from support or referral for further assessment. Women may also be screened using a validated questionnaire such as the EPDS,[28] with follow-up actions according to referral and management protocols unique to each centre or practice. The optimal timing for the use of the EPDS for screening for postnatal depression is 6 to 8 weeks post-delivery, although it has been used up to 12 months.

For postnatal anxiety, the GAD-2 may be used but will require further assessment as there is currently no robust evidence for a reliable screening tool for antenatal anxiety.

(b) Have assessment of postnatal depression and anxiety

Clinical diagnoses should be made based on criteria listed in DSM-5 or ICD-11. As part of holistic care, assessment should include holistic aspects of care such as the presence of other psychiatric comorbidities (e.g. learning disability, alcohol and substance use disorders), medical and obstetric health, quality of partner and other familial relationships, care of older children, financial and occupational stressors, lifestyle practices, and bonding with baby. It is particularly important to assess for risk of harm to self and baby.

6. Optimise care, treatment and support for postnatal depression and anxiety

(a) Evaluate medication use in postnatal depression and anxiety

Counselling should be provided regarding the risk and benefits of starting pharmacological treatment, including potential consequences of untreated depression or anxiety, and adverse side effects of antidepressants.[44] Women should be provided support in their decision about breastfeeding and be informed that antidepressant use is not an absolute contraindication to breastfeeding.[44]

(b) Have a holistic approach towards care for patients with postnatal depression and anxiety

Care for patients should be coordinated among relevant healthcare professionals, which may include general and family medicine practitioners, obstetricians and gynaecologists, paediatricians, psychiatrists, nurses, counsellors, social workers and midwives. Patients (and their partners or family, with their agreement) can be enabled to make informed, collaborative decisions about their care when provided with relevant mental health information.[45] Information should include potential benefits and side effects of treatment, consequences of untreated illness, which may include poor maternal health, lower quality of life, difficulties with social relationships, poor mother-infant bonding, and poor overall development of the infant.[46] Lifestyle advice such as those relating to healthy eating, physical activity and sleep hygiene could be provided to patients, in consideration of the adjustment of these activities during the postnatal period.[47] Supportive counselling or structured individual psychological intervention, such as cognitive behavioural therapy or inter-personal psychotherapy, may improve depressive symptoms.[48] Interventions to improve mother-baby bonding should be considered if there are concerns with the dyadic relationship as women with depressive symptoms may experience challenges with bonding.[49]

(c) Provide monitoring and support for women receiving care for postnatal depression or anxiety

Regular monitoring of symptoms and response to treatment during the postnatal period is

recommended. Considerations should be made for referral to tertiary perinatal psychiatric services (at KK Women's and Children's Hospital, National University Hospital, Institute of Mental Health) for those with severe depression or anxiety, or those not responding to treatment. Having adequate social and emotional support from spouses, partners and family during the postnatal period can help reduce depressive and anxiety symptoms.[50]

7. Provide mental health support in severe maternal events and to those with mental health needs

Women who have experienced severe maternal events—such as haemorrhage requiring massive transfusion with or without a hysterectomy, severe hypertensive crises, eclamptic seizures, sepsis, thrombotic events and cardiovascular failure, miscarriage, termination, stillbirth or intrauterine death—are particularly at risk of depression and anxiety, as well as post-traumatic stress disorder.[51] Often, there is a struggle to understand why the event occurred, and whether the care experience or information provision might have been inadequate. These concerns add to the distress of patient, her family as well as the clinical team.[52] Care and support should be provided for the patient as well as the healthcare providers who might experience emotional effects of severe adverse events.[52] Similarly, care and support should be provided for women who have experienced a miscarriage, which can lead to grief and depression, as well as anxiety in a subsequent pregnancy.

8. Tailor perinatal mental healthcare for adolescents and women with special needs

Women with special needs (such as neurodevelopmental disorders or intellectual disability) face a higher risk of obstetric complications[53] that create stress; in addition to this, their experience can be overwhelming because they cannot verbalise anxiety. Ensuring a good support network is imperative, and guiding the mother to follow her baby's lead can help mothers who struggle with social cues. They will benefit from care delivery that is tailored to address their needs.[54] Likewise, depression is more likely among young mothers, and can predict for substance and alcohol abuse, as well as harsher parenting style.[55] Invariably, teen pregnancies are unplanned and disrupt development, especially on the young mothers' education. Additional effort to provide information and support for these vulnerable mothers can mitigate the development of depression and anxiety in their perinatal experience.

9. Promote higher caregiving quality for perinatal and infant mental health needs

Infants of mothers who are treated with antidepressant medications such as serotonin reuptake inhibitors throughout labour—even though weaning off towards term is preferred if clinically safe for maternal well-being—may have early onset respiratory distress due to persistent pulmonary hypertension, hypoglycaemia and drug withdrawal symptoms such as excessive crying, irritability, feeding and sleep disturbances during the first 4 weeks of life. Hence, regular monitoring and interventions for such infants are recommended,[56] such as ensuring neonatal standby at delivery, adequate warmth and hydration, as well as monitoring for clinical evidence of respiratory distress, oxygen saturation and blood glucose of the neonate during the first 2 days of life.

Infant neurodevelopment is related to the quality of caregiving. Maternal mental health can influence maternal attunement and sensitivity to infant needs,[13] and maternal mind-mindedness.[57] Mothers are encouraged to spend quality time attending to and caring for their infants, by following baby's cues and being mindful of baby's needs. Research shows that mothers "staying present, watching and wondering" about their infants can improve maternal reflective capacity.[58] Red flags for dysfunction in mother-infant dyads include reduced maternal attunement, reduced child responsiveness to mother, and restricted growth and development.[59]

10. Aim to integrate the above recommendations into healthcare framework for the best results

The healthcare community should aim to integrate the above recommendations in preconception, antenatal and postnatal periods into current healthcare framework, providing opportunistic care and guidance for the best results. Given that health services can have varying resourcing and care processes, these recommendations are intended to provide guidance to maternal and child health practitioners in Singapore, as a collective effort to improving perinatal mental health with direct benefits on child health and well-being.[60]

With the publication of these findings, efforts have simultaneously begun for public outreach and education, as well as advancing continuing medical education initiatives to primary healthcare network. Future efforts will include surveys of healthcare professionals and population to understand the impact of these guidelines, and whether practices have changed in tandem with recommendations laid out here.

About the workgroup

This document was developed by the COGS-IPRAMHO Perinatal Mental Health Study Group, which comprised key members practising in the field of maternal and child health. The initiative is supported by NMRC Integrated Platform for Research in Advancing Maternal & Child Health Outcomes (IPRAMHO) and the developed guidelines are endorsed by College of Obstetricians & Gynaecologists Singapore (COGS); Perinatal Society of Singapore; College of Family Physicians Singapore (CFPS); College of Psychiatrists Singapore; Singapore Psychiatric Association, Academy of Medicine, Singapore, and Health Promotion Board, Singapore.

Conflict of interest

There was no conflict of interest for all authors.

Disclaimer

This guide is intended as an educational aid and reference for healthcare professionals practising in the area of maternal and child health in Singapore. The guide does not define a standard of care, nor is it intended to dictate an exclusive course of management. It describes evidence-based and practice-based clinical and psychosocial recommendations for consideration by practitioners for incorporation into their service. Management approach may vary and must always be responsive to the need of individual patients, resources, and limitations unique to the institution or type of practice.

Supplementary materials

1. College of Obstetricians and Gynaecologists Singapore (COGS-Singapore) Integrated Perinatal Mental Health Guidelines for Depression and Anxiety Grade Evidence to Decision Framework
2. COGS-Singapore Perinatal Mental Health Guidelines on Depression and Anxiety Summary Statements
3. Appendices 1–3 PHQ-2, EPDS, GAD-2
4. AGREE Reporting Checklist

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