Editorials

MBRRACE 2021:

preventing maternal deaths — we are all part of the solution

PURPOSE AND SCOPE

The Confidential Enquiry into Maternal Deaths in the UK started in 1952, aiming to identify the improvements in care provided to pregnant and postnatal women to reduce maternal morbidity and mortality. Since 2012, the Confidential Enquiry into Maternal Deaths in the UK has been based at the National Perinatal Epidemiology Unit, Oxford. Each year the report provides surveillance data from a triennium and confidential enquiries into specific topics. GPs have been involved for >15 years and currently a team of seven GP assessors are involved in case review. The 2021 report covers surveillance data on the deaths of women, during pregnancy or up to 1 year after pregnancy, between 2017 and 2019.[1] This confidential enquiry covers the topics of morbidity of older mothers, mental health and multiple adversity, malignancy, and venous thromboembolism.

DEFINITIONS AND TRENDS

A maternal death is a death occurring during pregnancy or up to 42 days after the end of a pregnancy. A 'late' maternal death is one occurring from 42 days to 1 year after delivery.

Between 2017 and 2019, 191 women died, a maternal death rate of 8.79 per 100 000 maternities.[1] There was no statistically significant decline in maternal deaths compared to 2010–2012. In 2017, the Health and Social Care committee set the aim of reducing maternal mortality by 50% between 2010 and 2025.[1] Progress towards this goal is currently inadequate.[2] Cardiac disease is the leading cause of maternal death in the UK, with neurological causes close behind. The highest rates of death are seen in particular ethnic groups, women aged ≥40 or <20 years, or related to socioeconomic deprivation. Black women are four times more likely, and Asian women almost two times more likely, to die than White women.[1] The cause of this disparity is unclear, and with this in mind the charity Birthrights are conducting an investigation into racial injustice in maternity care, due to be reported in 2022 (www.birthrights.org.uk/inquiry-into-racial-injustice-in-uk-maternity-services/).

Box 1. Useful resources for GPs

- National Institute for Health and Care Excellence. For information on aspirin in pregnancy: https://cks.nice.org.uk/topics/hypertension-in-pregnancy/management/pre-eclampsia (accessed 1 Mar 2022).
- Royal College of Obstetricians and Gynaecologists. Venous thromboembolism risk assessment tool: https://www.nice.org.uk/guidance/ng89/resources/royal-college-of-obstetricians-and-gynaecologists-risk-assessment-tool-pdf-4787150509 (accessed 1 Mar 2022).
- Faculty of Sexual and Reproductive Healthcare. Clinical guideline: contraception for woman aged >40 years: https://www.fsrh.org/standards-and-guidance/documents/fsrh-guidance-contraception-for-women-aged-over-40-years-2017 (accessed 1 Mar 2022).
- Royal College of Physicians. Acute care toolkit 15: Managing acute medical problems in pregnancy: https://www.rcplondon.ac.uk/guidelines-policy/acute-care-toolkit-15-managing-acute-medical-problems-pregnancy (accessed 1 Mar 2022).
- UK Teratology Information Service. Bumps: best use of medicines in pregnancy: https://www.medicinesinpregnancy.org (accessed 1 Mar 2022).
- Kearney L. UK Drugs in Lactation Advisory Service (UKDILAS): https://www.ukmi.nhs.uk/filestore/ukmiamt/UKDILAS_Sept%202017.pdf (accessed 1 Mar 2022).
- MBRRACE-UK. Key messages from the report 2021: https://www.npeu.ox.ac.uk/assets/downloads/mbrrace-uk/reports/maternal-report-2021/MBRRACE-UK_Maternal_Report_2021_-__Infographic_v10.pdf (accessed 1 Mar 2022).

OLDER MOTHERS

Increasing numbers of women aged >40 years are becoming pregnant,[3] and while the absolute number of women dying over 40 is small, their risk of mortality is four times greater than women aged 20–24.[1] For this morbidity enquiry a stratified random sample of 37 women aged ≥45's care was examined.

Broadly women fell into two groups; multiparous women with unplanned pregnancies and women who underwent assisted reproduction. Women with unplanned pregnancies were often multiparous and engaged with maternity services later. Women aged ≥45 years at risk of pregnancy are less likely to be using contraception than their younger peers.[4] Counselling for older women regarding contraceptive options is needed to prevent unplanned pregnancy (Box 1). Women who conceived through assisted reproduction often had fertility treatment abroad using donor embryos. Older women are more likely to have pre-existing medical conditions, including hypertension, diabetes, and heart disease, and multimorbidity.[3] Many of these women had no discussion around the risks posed by pregnancy or the opportunity to optimise pre-conception health. GPs may be the only health professional that a woman sees before embarking on this path. Optimisation of health prior to conception and discussion of any pregnancy risks, either in the community or by specialist referral, are essential to allow women to make informed choices and improve outcomes.

Box 2. Red and amber flags in mental health assessment[1]

Red flags may indicate suicide risk and their presence should prompt urgent specialist input:

- Recent significant change in mental state or emergence of new symptoms
- New thoughts or acts of violent self-harm
- New or persistent expressions of incompetency as a mother or estrangement from the infant

Amber flags indicating risk for recurrence of major perinatal mental illness, particularly in early postpartum:

- Previous history of psychosis gives a 25% chance of recurrence in a subsequent pregnancy[7]
- Women with a family history of bipolar disorder or postpartum psychosis who themselves have mood disorder or change in mental state
- Personal and family patterns of occurrence and re-occurrence can inform risk management strategies

MENTAL HEALTH AND MULTIPLE ADVERSITY

Suicide continues to be the leading direct cause of late maternal deaths.[1] Concerningly, there has been an increase in suicide among pregnant or recently pregnant teenagers.[1] The majority of women who committed suicide had previous history of treatment in either primary or secondary care for mental illness.[1] When caring for women with a mental health diagnosis it is important to be aware of red and amber flags (Box 2). Women with a history of substance misuse and domestic abuse are particularly vulnerable, as are those who have experienced the loss of a baby including through removal by social services; 37% of women who committed suicide and 57% of women who died from substance misuse

Box 3. Key messages for GPs

- Women aged ≥45 years at risk of pregnancy should be counselled about their contraceptive choices.
- Pre-conceptual counselling and improving health prior to pregnancy and between pregnancies is essential to have a significant impact on maternal mortality and morbidity.
- Experiencing a stillbirth, miscarriage, or removal of a child is a risk factor for maternal suicide.
- New symptoms in pregnancy aren't only pregnancy related; always consider alternative diagnoses.
- Identify women who need antenatal venous thromboembolism (VTE) prophylaxis using the Royal College of Obstetricians and Gynaecologists risk assessment tool and refer for specialist input in first trimester.
- Have a low threshold to investigate for VTE, especially in the presence of abnormal signs.
- *'Treat women who may become pregnant, are pregnant, or who have recently been pregnant the same as a non-pregnant person unless there is a very clear reason not to.'*[1]

experienced loss.[1] Pregnancy is a time to discuss the risks and benefits of medication; antidepressants should not be automatically or suddenly discontinued.[5] GPs have a key role to play in recognising any changes in a woman's mental health; early referral to specialist services is important where indicated. Primary care also has an increasing number of allied mental health professionals working in their teams and early referral to these roles can be important in providing a closer support structure for the woman. Where a woman is already known to mental health services, notify them of the pregnancy. Relatives are often an invaluable source of support and should be listened to and worked with, but responsibility for care should not be given to them as a replacement for effective mental health support. If a woman needs admission, this should be to a mother and baby unit so mother and baby stay together.

WOMEN WITH CANCER

Some of the women who died from malignancy became pregnant during or shortly after completing cancer treatment. Women with cancer should be given advice about the need for effective contraception and delaying pregnancy. Where guidelines are available it is recommended that most women wait for 2 years after completing treatment to conceive, as recurrence rates are typically highest in the first 2 years. Their oncologist should be responsible for pre-conception counselling. If a woman with active cancer, or who has recently completed treatment, conceives unexpectedly, refer early in the first trimester to an oncologist and obstetrician to discuss all available options. Other women who died were diagnosed during pregnancy. Often diagnosis was delayed because presenting symptoms were attributed to pregnancy, or they were investigated and managed differently because of their pregnancy. Not all new symptoms in pregnancy are pregnancy related. Recurrent presentation, escalating symptoms, atypical presentation, and symptoms persisting beyond pregnancy all warrant further investigation. Symptoms suspicious of malignancy should be escalated as in a non-pregnant woman. Pregnancy does not preclude the use of imaging, chemotherapy, or radiotherapy, with appropriate counselling, where the benefits outweigh the risks.

THROMOBOEMBOLISM

Pregnancy is a hypercoagulable state and venous thromboembolism (VTE) continues to be a leading cause of deaths, with obesity a significant risk factor. A BMI of 30 or more is associated with four-times higher odds of VTE compared with a normal BMI, and 72% of women who died from a VTE were overweight or obese.[1] In 2016/17, 22% of women nationally had a booking BMI of ≥30;[6] VTE risk should be considered in all women in the first trimester. The Royal College of Obstetricians and Gynaecologists has a risk scoring system for VTE assessment in pregnancy (Box 1), which can be used in the community to identify women who require first trimester VTE prophylaxis. Women with a history of VTE should be referred for pre-pregnancy counselling to a haematologist or, failing this, urgent referral to an obstetric haematology clinic in the first trimester. The threshold for considering investigation to rule out VTE should be lowered; particularly with abnormal physical signs. Key takeaways for GPs can be found in Box 3.

All healthcare professionals, including GPs, have a role in reducing maternal mortality and morbidity. With 59% of women who died having pre-existing conditions,[1] managing these and optimising health prior to, and between pregnancies, is essential to have a significant impact on risk. The focus of care should be to:

'Treat women who may become pregnant, are pregnant, or who have recently been pregnant the same as a non-pregnant person unless there is a very clear reason not to.'[1]

Becky MacGregor,
Academic Clinical Fellow in General Practice, Unit of Academic Primary Care, Warwick Medical School, University of Warwick, Coventry.

Judy Shakespeare,
Retired GP and Chair of GPs Championing Perinatal Care, Oxford.

Rohit Kotnis,
GP Partner and MBRRACE GP Lead, Oxford.

Marian Knight,
Professor of Maternal and Child Population Health and Honorary Consultant in Public Health, Nuffield Department of Population Health, University of Oxford, Oxford.

Sarah Hillman,
National Institute for Health Research Clinical Lecturer in Primary Care, Unit of Academic Primary Care, Warwick Medical School, University of Warwick, Coventry.

ADDRESS FOR CORRESPONDENCE
Becky MacGregor
Unit of Academic Primary Care, Warwick Medical School, University of Warwick, Gibbet Hill Road, Coventry CV4 7AL, UK.
Email: becky.macgregor@warwick.ac.uk

Provenance
Freely submitted; externally peer reviewed.

Competing interests
The authors have declared no competing interests.

DOI: https://doi.org/10.3399/bjgp22X718829

REFERENCES

1. Knight M, Bunch K, Tuffnell D, *et al. Saving lives, improving mothers' care — lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2017–19*. Oxford: University of Oxford, 2021.
2. House of Commons Health and Social Care Committee. *The safety of maternity services in England. Fourth Report of Session 2021–22*. London: House of Commons, 2021.
3. Faculty of Sexual and Reproductive Healthcare (FRSH). *FSRH guideline: contraception for women aged over 40 years*. London: FRSH, 2019.
4. Public Health England (PHE). *What do women say? Reproductive health is a public health issue*. London: PHE, 2018.
5. National Institute for Health and Care Excellence (NICE). *Antenatal and postnatal mental health: clinical management and service guidance. CG192*. London: NICE, 2020.
6. NMPA Project Team. *National Maternity and Perinatal Audit: clinical report 2019. Based on births in NHS maternity services between 1 April 2016 and 31 March 2017*. London: Royal College of Obstetricians and Gynaecologists, 2019.
7. Di Florio A, Smith S, Jones I. Postpartum psychosis. *The Obstetrician & Gynaecologist* 2013; **15(3):** 145–150.