Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Commentary

Maternal postnatal health during the COVID-19 pandemic: Vigilance is needed

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Six months ago a new respiratory infectious disease caused by SARS-CoV2 (COVID-19) was confined to one province of China. Globally to date, 4.5 million cases and over 300,000 deaths have been attributed to COVID-19, numbers that are probably significant underestimates (Elflein, 2020). As COVID-19 is highly infectious, the United Kingdom (UK) government, in line with governments across the world, introduced lockdown measures to limit the spread of infection. These actions have had significant effects on everyone, including pregnant and postnatal women.

On March 16th 2020, the UK government categorised pregnant women as a 'vulnerable' group. This reflected what was known about effects of the earlier SARS pandemic on pregnancy outcomes (Wong et al., 2004) and concerns that changes in the immune system of pregnant women predisposed them to more severe respiratory symptoms if infected with COVID-19. Pregnant women were advised to adhere to self-isolation and social distancing guidance, those at highest risk due to pre-existing health problems or in their third trimester of pregnancy advised to more stringently follow guidance (Royal College of Obstetricians and Gynaecologists, 2020a). Initial case studies and case-series of COVID-19 in pregnant women suggested they were not at increased risk of more severe symptoms than those in the general population, with no apparent increased risk of early miscarriage or pre-term birth (Buekens et al., 2020).

Larger studies with appropriately matched populations offer further reassurance. Interim pre-publication findings of a prospective national population cohort study of pregnant women hospitalised with COVID-19 using the UK Obstetric Surveillance System (UKOSS) were circulated on May 13th 2020 (Knight, 2020). The UKOSS study aimed to identify factors associated with COVID-19 infection and outcomes, including transmission of infection from women to their infants (Knight, 2020). Between March 1st 2020 and April 14th 2020, 427 pregnant women with a median pregnancy gestation of 34 completed weeks were hospitalised with confirmed COVID-19, an estimated incidence of 4.9 per 1000 maternities. Data were matched with a comparison cohort of 694 women from a previous UK study of seasonal influenza in pregnancy who gave birth between November 2017 and October 2018. Women most likely to be hospitalised with COVID-19 were older (35+), from Black, Asian or other minority ethnic groups, overweight or obese and had pre-existing co-morbidities. The same characteristics reflected those of people hospitalised with COVID-19 in the general population. As the UKOSS team stress, active transmission of COVID-19 continues and data on complete pregnancy outcomes and possible impacts of mild or asymptomatic infection are not yet available.

Although UKOSS findings to date show most pregnant women who had COVID-19 did not have severe infection, and transmission from women to infants was rare (Knight, 2020), admissions of postnatal women were not included. An audit from the UK Intensive Care National Audit and Research Centre of the most severely ill patients admitted to critical care units in England, Wales and Northern Ireland with confirmed COVID-19 up until May 7th 2020 included 567 women aged 16–49 (Intensive care national audit and research centre (ICNARC), 2020). Twenty-one of these women were pregnant, and 30 had given birth in the previous six weeks. No information was provided on women's ethnicity, parity, obstetric or medical history. Nevertheless, audit findings suggest that data on pregnant and postnatal women hospitalised with COVID-19 need to be collated in order to better understand impacts on perinatal health.

While studies have focussed on pregnancy outcomes of infection with COVID-19, maternal morbidity following birth in a maternity system and society significantly restructured to tackle the COVID-19 pandemic needs to be considered. The incidence of perinatal anxiety and depression has increased (National Institute of Health and Care Excellence, 2006) with impacts of social isolation during the postnatal period for women coping alone with a new baby and those shielding due to medical problems requiring urgent assessment. Consequences of the pandemic on domestic violence are extremely concerning, one recent paper showing calls to a UK national domestic abuse helpline have increased by 25% since lockdown commenced (Refuge, 2020).

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Current advice for postnatal care provision

Regularly updated information from the RCOG (Royal College of Obstetricians and Gynaecologists, 2020a; Royal College of Obstetricians and Gynaecologists, 2020b) reflects evidence as the pandemic evolves. General advice for health professionals and maternity providers is that antenatal and postnatal care are essential services to keep women and infant's safe (Knight et al., 2017). Advice for postnatal services is limited to neonatal care, importance of not separating mothers and infants if infection is suspected and support for breastfeeding (Royal College of Obstetricians and Gynaecologists, 2020b), although specific information is not included. There is limited evidence to support women with COVID-19 infections breastfeeding their babies. Current NHS guidance recommends women to continue to breastfeed their (Royal College of Obstetricians and Gynaecologists, 2020b), as the benefits outweigh the risks, but it is not known whether hygiene procedures for women with COVID-19 infections needs to be modified, or the effects of medications on the safety of breast milk.

RCOG guidance for antenatal and postnatal contacts (Royal College of Obstetricians and Gynaecologists, 2020b) advises individualising postnatal care in line with relevant NICE guidance (National Institute of Health and Care Excellence, 2006), but recommends women should be contacted at one, five and ten days, face-to-face or remotely via telephone or online platforms, with face-to-face visits prioritised for women following operative birth or with additional complexity. Guidance from WHO similarly refers to ensuring women continue to receive high quality care during and after their pregnancy, although postnatal contacts and maternal health considerations are not addressed (World Health Organization, 2020). Some official sources offer more detailed information on infant feeding, for example guidance from the Scottish Government (Infant Feeding Service, 2020) but postnatal maternal health generally is not a focus.

Countries are now starting to ease lockdown restrictions, although the potential for a second wave pandemic remains. Given uncertainties about when and if an effective vaccine becomes available and suggestions that COVID-19 may not disappear, to contain the spread of infection and protect lives, the UK National Health Service (NHS) may opt to keep restructured maternity services in place. If this is the case, we need to ensure this does not increase health inequalities for women and infants amongst our most vulnerable groups.

Planning postnatal care during the pandemic

That some groups of pregnant women in the UK had a higher risk of COVID-19 infection requiring hospital admission is not a surprise. The UKOSS report (Knight, 2020) mirrors recent confidential enquiries into maternal deaths in the UK and Ireland led by the same team which reported that women from Black, Asian and other ethnic minority groups, and those with pre-existing morbidity are more likely to die as a consequence of pregnancy (Knight et al., 2019; Knight et al., 2017). As most maternal deaths in the UK occur postnatally (Knight et al., 2019; Knight et al., 2017), concerns have consistently been raised about the lack of priority accorded to the provision of safe, high quality and equitable postnatal care (Bick et al., 2015) (Bick et al., 2020).

This mattered before the COVID-19 pandemic, most notably because the health profile of UK women who become pregnant has changed significantly in recent decades. More women are older when having their first baby, more are commencing pregnancy with pre-existing physical and psychological co-morbidities such as an overweight or obese Body Mass Index (BMI), diabetes and mental health problems, and more women are leading sedentary lifestyles (Geller et al., 2018). Postnatal services and systems have not been revised in line with health changes and are consequently not fit for purpose (Bick et al., 2015).

Given current circumstances, we need to consider how we can minimise potential longer-term consequences for maternal morbidity. If women 'fell through the gaps' due to poor postnatal care prior to the pandemic (Knight et al., 2019), it is absolutely essential that further health inequalities or differential impacts on some groups of women are not increased because of failure to meet women's needs during the pandemic.

It is imperative that we make high quality postnatal care a priority, commencing with actions we could take now. All women should have a postnatal discharge plan reflecting pre-existing, pregnancy or immediate postnatal related medical or psychological problems, with a pathway of core, planned contacts with a key named midwife offered face to face or remotely in line with women's preferences and clinical assessment. Planning should involve the woman, her family and if relevant, the multi-disciplinary team to promote joined-up services (Knight et al., 2019). The initial community-based postnatal contact should reflect that due to restructured in-patient maternity services, there may have been little time for explanation of labour or birth events, and an in-patient stay which may have been potentially traumatic for women whose partners could not stay with them because of infection control measures.

Conflicting advice should be minimised through continuity of care (relational and informational) and women signposted to evidence-based online and telephone based resources to support breastfeeding and positive lifestyle behaviours such as smoking cessation and weight management support. In line with NICE guidance (National Institute of Health and Care Excellence, 2006), women should be advised of signs and symptoms of postnatal onset of serious maternal and infant health morbidity, such as pre-eclampsia, infection and mental health problems, infant physiological jaundice and feeding problems. Women whose ethnicity, age, BMI and/or health history places them in a high-risk group should be advised of why this is the case, with discussion of importance of taking care of their health, attending planned follow-up appointments and pre-conception care if planning a future pregnancy. These factors should form the focus of the woman's 6–8 week General Practitioner (GP, family doctor) appointment, and planned on-going health assessments in line with relevant NICE guidance.

As cases of domestic violence have increased (Fraser, 2020), a woman's risk based on previous history or concerns arising from responses to questions about a woman's well-being need to be acted on immediately and safeguarding processes triggered. The UK government advise that women must be reassured that household isolation in response to COVID-19 does not apply if they need to leave their homes as a result of domestic violence (UK Home Office, 2020).

Symptoms and signs of COVID-19 should be discussed with all women and families, including how to access NHS advice, infection prevention measures and actions to take if infection is suspected. Women, partners and families should know when and how to urgently contact their midwife, health visitor (a public health nurse in the UK), GP or hospital, if the woman or her infant show symptoms and signs of severe illness, regardless of whether related to birth, COVID-19, other health or social care issue. Women must be aware that NHS services continue to be available 24 h a day, seven days a week during the current pandemic.

Maintaining vigilance

We do not know yet what the longer-term physical, mental health or psychosocial impacts of giving birth during the pandemic are, or health impacts of symptomatic and asymptomatic infection with COVID-19. We do know that some groups of women are more at risk of maternal death during or following pregnancy (Knight et al., 2019; Knight et al., 2017), and that some maternal physical and mental health problems, including hypertensive disorders, diabetes, obesity, severe depression and anxiety can impact on the life-long health of women and their infants (Bick et al., 2015). This, together with evidence of which women were more likely to be hospitalised due to COVID-19 in pregnancy (Knight, 2020), shows some of the same maternal characteristics associated with adverse pregnancy outcomes increase risk of COVID-19 infection during pregnancy.

Shorter-term, we need to collate data on hospital admissions for diagnosed COVID-19 infection and cases managed in the community amongst postnatal women, implement changes that require minimal system support, such as planning contacts based on need and improving communication pathways. Longer-term we need evidence of appropriate interventions to support a comprehensive package of care to assess and address individual physical and psychological needs of all postnatal women, with robust data collection systems to document outcomes. The changing health profile of women has implications for how we train our midwives, obstetricians and GPs to better support women who have medical and/or socially complex pregnancies.

The restructuring of maternity services enabled the NHS to respond to the pandemic and protect women, families and healthcare workers. We need to consider positive and negative consequences. Restructured care in response to the pandemic such as use of remote postnatal contacts could make better use of time and resources of women and NHS staff in the future, but this is unlikely to suit everyone or meet all needs. As current provision and content of routine postnatal care fails to utilise opportunities to improve maternal health (Bick et al., 2020), if we do not evaluate outcomes of changes during the pandemic it is difficult to know if or how UK maternity services can best support women in the future. We really cannot afford to ignore postnatal care.

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