

The Psychological Sequelae of Covid-19 During the Perinatal Period

Introduction

Pregnancy and early motherhood, conventionally steeped in the joy of new life, represent a significant physical and mental challenge to many women. The World Health Organisation estimates that, globally, 10% of pregnant women and 13% of new mothers experience a mental disorder (WHO, 2020). Depression, anxiety and psychosis are not uncommon in the perinatal phase and their potential effects are not limited solely to the wellbeing of new mothers themselves. Familial relationships and the welfare of children and partners can also suffer, in the lead-up and immediate period after birth and into the future. The Covid-19 pandemic, originating in Wuhan, China in 2019 and since achieving global spread, represents a considerable obstacle and potential stressor to new mothers and may have a significant impact on perinatal mental health. The pandemic and its containment strategies have had a hugely detrimental influence on people's ability to maintain social networks as face-to-face interactions have become increasingly limited. These networks, based on personal and professional relationships, are critical to the foundation of a strong and positive support system for new and expecting mothers. After a summary on the pandemic so far, this essay will explore the psychological consequences of Covid-19 by examining some of these critical networks in two main contexts – the mother as a patient and at home – to see how relationships between a woman and her healthcare services, her loved ones and her own infant, have been, and will continue to be, affected by the pandemic. Writing this essay, it is important to stress that every pregnancy is a deeply personal situation. Some generalisations, based on statistical evidence, will be made in the recognition that this data can reflect only part of the lived experience of new and expectant mothers. Taking a broad view of the pandemic and its consequences across the UK can highlight some of the major thematic issues, but healthcare professionals must recognise that perinatal mental health – and disorder – is based on a multitude of unique factors and issues, each of which will require personalised support in intervention and treatment.

Coronavirus: Pandemics and Psychology

The Covid-19 pandemic has laid bare the challenges of modern global healthcare and tested the capabilities of the UK's National Health Service (NHS). At the time of writing, the pandemic has been responsible for over 40,000 fatalities across the UK (PHE, 2020). Yet, its repercussions ripple beyond the bodies and minds of the infected and those who have cared for them. Widespread panic and anxiety accompanied the virus as it travelled the globe, reported on and fuelled by news sources and social media (Mejia, 2020). Public Health England (PHE) and government interventions, whilst intended to cater to the needs and priorities of all, have also seeded confusion, powerlessness and disquiet among individuals and communities. Like other major disasters – both natural and manmade – this has established a background of stress, making new mothers vulnerable, physically and psychologically (Fatema, 2019). Evidence for the psychological impact of Covid-19 in the perinatal phase is, at present, limited, but continues to grow as the situation develops. The scant evidence available so far, however, is concerning.

Over one-quarter of a million babies have been born since the UK went into lockdown in March (Saunders, 2020), entering a world of growing confusion, anxiety and uncertainty. Whilst current evidence suggests that pregnancy and childbirth do not substantially alter susceptibility to or exacerbate the course of infection and that rates of ICU admission are similar for pregnant and non-pregnant women (Gupta, 2020), it is nevertheless abundantly evident that new mothers are struggling (Davenport, 2020; Wu, 2020; Topalidou 2020). Bringing a child into a rapidly changing situation like the nationwide lockdown has contributed to extreme psychosocial stress. In new parents, there has been a significant increase in self-reported depression and anxiety associated with several stressors, such as fear of the virus, social isolation, reduced physical activity and financial concern (Davenport, 2020). The *Babies in Lockdown (BIL)* report (Saunders, 2020) revealed some of the recent issues faced by new parents by exploring new and expecting parents' views on aspects of the care, support and information they have received during the lockdown period as well as their concerns and hopes for the future. Some of the evidence is alarming. Parents are reporting increased feelings of anxiety, exhaustion, stress and frustration associated with the pandemic and 60% are concerned for their mental health (Saunders, 2020). The complex emotional atmosphere generated by the pandemic also seems to be affecting babies, with the report stating one-third of parents' have noticed their infants' interactions and behaviour change since the inception lockdown. More crying and clinginess have led, in a quarter of respondents, to changes in the parent-infant relationship. Other studies are showing that, worldwide, social limitations brought about by quarantine and lockdown measures to mitigate Covid-19 are facilitating severe negative emotional effects in an already vulnerable high-risk population (Zanardo, 2020).

There is a wealth of evidence to suggest that perinatal mental disorders can have multiple consequences for the mother, the child and the family, affecting the physical, psychological and emotional development of the unit and its individuals immediately and into the future. Some of these consequences are transient or reversible, but some can leave a lasting impression on peoples' lives. While evidence for the long-term outcomes of antenatal anxiety is inconsistent, longitudinal studies show that antenatal depression is associated with emotional problems in children, including difficulties in early emotional regulation and depression in adolescence. (Stein, 2014). Furthermore, antenatal depression affects attachment patterns, affecting a child's future relationships and their potential to thrive (Stein, 2014). Evidence also shows that past disasters, such as tsunamis or conflict situations, and past epidemics, such as SARS and MERS, have left a clear legacy of mental illness in vulnerable groups, including pregnant women and new mothers (Harville, 2012), potentially giving healthcare professionals insight into what sequelae can be expected from the developing Covid-19 situation.

The Mother as a Patient

One network key to women planning or experiencing pregnancy is formed through relationships with medical staff and members of a professional healthcare team. Psychological support is paramount in all stages of pregnancy and the Covid-19 situation further emphasises its significance, particularly to vulnerable women or those who have experienced previous mental health issues. New mothers are expected to have a minimum of ten appointments throughout their pregnancy (NHS, 2019), interacting with at least eight different types of healthcare professional, including midwives, doctors and family nurse practitioners (Tommy's, 2018). However, in patients with less straightforward pregnancies and more diverse needs, the number of interactions with medical staff will vastly increase. For new mothers with complex or severe mental health problems, the care pathways summary becomes much more intricate. Women from this group can face multiple appointments for specialist assessment and intervention in primary and secondary care settings, and from maternity services and health visitors. The difficult situation brought about by Covid-19's lockdown restrictions has made these interactions vastly more challenging. New and expecting mothers, potentially more fearful of the risks inherent to travelling to a clinical environment and confined by PHE guidelines may struggle to interact meaningfully and effectively with their professional teams, limiting the medical, emotional and psychological support they may be receiving (Saunders, 2020).

Previous international experiences with major disasters and epidemics suggest that women are more prone to post-disaster psychopathology than men, with pregnant and post-partum women being especially vulnerable (Harville, 2012). Medical support, therefore, is vital. New advice from the Royal College of Obstetricians emphasises the need to develop 'rapport and trusting relationships' during pregnancy (RCOG, 2020), highlighting that face-to-face appointments facilitate these relationships more readily. However, in recent months, consultations with healthcare professionals have undergone multiple adaptations to ensure they are 'Covid-secure', limiting the risk of infection to the clinician and their patient (RCOG, 2020). This may have involved moving consultations online via the use of video calling technology or introducing personal protective equipment (PPE) such as masks and gowns into any face-to-face meetings or home visits. Whilst these measures are aimed at maintaining the health of those involved, they can also invite a degree of removal and inhumanity into consultations, negatively impacting the developing relationship between a new or expecting mother and various members of her multidisciplinary team. Mothers may feel that video calls invade their privacy or leave them feeling exposed in physical or psychiatric appointments. They may struggle to establish a connection with masked and gowned health visitors or opt to avoid healthcare facilities completely due to the stigma and risk associated with Covid-19. These issues may limit the effectiveness of diagnoses, treatment and support, increasing frustration with healthcare services and potentially exacerbating psychological issues in the perinatal period as new and expecting mothers feel less comfortable contacting medical professionals for assistance. As it was estimated that, pre-Covid, up to half of depressed women remained undiagnosed and unsupported throughout their pregnancy (Davenport, 2020), there is a concern that increasing numbers of depressed women and those with other disorders will miss opportunities for intervention, worsening the course and prognosis of their illness.

The experience of birth will also have been drastically altered for many women, also with unsettling repercussions for perinatal mental health. The infection control procedures used in the antenatal setting during active labour (e.g. isolation rooms, high levels of PPE), especially if combined with previous negative experiences with healthcare services and disrupted professional relationships, may increase women's sense of fear and alienation, potentially increasing the risk for birth-related post-traumatic stress disorder, or PTSD (Hermann, 2020). In the immediate post-birth period, a new mother may not feel empowered to ask for the support she needs, for example with breastfeeding or health concerns, leaving them to become a larger, more destructive issue in the future. Some women may find online appointments more convenient or manageable, but their effectiveness has yet to be firmly established through research. Early findings, such as the *BIL* report, suggest that 70% of new

parents are struggling to find appropriate and effective mental health support as relationships with services are changed, with potentially troubling consequences in the future.

The Mother at Home

The strength and consistency of a new or expecting mother's social support network is a vital protective factor in her mental health in the perinatal period (Negron, 2014). Recent evidence suggests that social isolation, as imposed during lockdown, is strongly associated with high levels of stress (Torales, 2020). It is highly likely that, for many new and expecting mothers, lockdown will have disrupted the communication and interactions necessary to maintain the strong and stable relationships they need to maintain mental health. As inconsistent social support is a significant risk factor for depression in pregnant women (Ali, 2020; Alipour, 2018), this will likely have a negative effect on their perinatal mental health experiences throughout the pandemic. The negative emotions experienced by new mothers in lockdown – fear, sadness, anger, frustration – while already contributing to emotional instability and risk of depression and anxiety in the immediate and long-term (Zanardo, 2020), can become heightened if not expressed to supportive friends and family (James, 1996). This can generate an emotional 'echo-chamber' effect, wherein the new or expecting mother, unable to share her worries or feelings is drawn into a negative psychological spiral, lowering the threshold for future depression.

While there may be some benefits to lockdown for new mothers with supportive partners in a positive and emotionally nurturing environment, such as increased time at home with the baby, for many women, staying isolated at home is fraught with risks to physical and mental health. Reports on the rise in the incidence of abusive head trauma throughout the pandemic (Sidpra, 2020) reflect a rise in domestic abuse in some households, another significant risk factor for poor mental health, now and in the future. As well as abuse, relationships may become frayed due to some of the broader-reaching societal effects the pandemic has had. Uncertain economic circumstances, job loss and bereavement all contribute to the heightened stress and uncertainty experienced by women and their families, leading to collective trauma and increased psychopathology. Lack of support at home, combined with factors such as decreased physical activity and lack of access to the outside world, forms a potent and harmful blend likely to increase the risk of perinatal mental disorder.

Another highly significant relationship that will have vast effects on a mother's mental health is that with her own infant. A baby's behaviour has a strong influence on the mother-

child bonding process. Positive bonding experiences and secure attachment are protective factors for a new mother's mental health, reinforcing her self-perception of her abilities as a new mother and fortifying her self-esteem (Leary, 1995). However, as evidence suggests that babies' behaviour is being negatively affected by lockdown (Saunders, 2020), there are concerns that key foundational bonding and attachment may suffer, with mental health consequences for the mother and the baby. Increased tearfulness and clinginess, a baby's response to parental stress, may reduce a new mother's self-confidence in her child-caring abilities, as well as adding to her stress by impacting opportunities for sleep and self-care. For mothers with pre-existing mental disorders, psychological resilience may already be at a lower baseline, making the effects of attachment difficulty even more challenging to manage. Furthermore, research indicates that attachment issues can have a significant and prolonged impact on the growing child's behavioural and emotional controls, associated with failure to thrive, autism and attention deficit hyperactivity disorder (Rees, 2007), potentially adding to new mothers' growing anxieties.

Conclusion: Linking Relationship Changes to Mental Disorders

Many of the predictions about the implications of the Covid-19 pandemic are based on data from historical emergencies. While it is difficult to compare the traumatic effects of lockdown and social distancing with natural disasters and previous pandemics, the isolation, health fears and widespread prolonged panic experienced so far are likely to have similar effects on perinatal mental health. With evidence growing that, globally, the pandemic is contributing to increased rates of mental illness in pregnant women (Wu, 2020), many fear that Covid-19 is facilitating a growing crisis with concerning implications for the future wellbeing of these individuals and their families. In the short-term, this crisis may be associated with an acute increase in mental disorders – anxiety and stress that may be responsive to standard biopsychosocial intervention. However, the potential long-term implications of Covid-19 on mental health are astounding. The pandemic and its associated uncertainties and anxieties continue to contribute to a prolonged sustained psychopathological milieu for new and expecting mothers. Background levels of increased stress, as seen previously in other pandemics and disasters, may lead to increased rates of perinatal anxiety, depression and psychosis. The fact that prevention, early detection and treatment, already an issue, have become more challenging due to NHS-wide limitations and changes to clinical interaction may mean that more cases go unrecognised. Those women with unmet mental health needs will be vulnerable to continued mental disorders or deterioration and may sustain lifelong

psychological trauma which could have an indelible impact radiating to their families and children. They will be survivors of a major prolonged human tragedy, leaving them with complex and layered psychological sequelae, potentially combining pregnancy-related depression and anxiety with the complications of grief, abuse and breakdown of relationships.

Recovery is a challenging prospect for patients and services. Past disasters have taught services that the recovery period following a disaster is a complex time, characterised by prolonged stress as societal structures rebuild and reform (Giarratano, 2020). New and expecting mothers, therefore, face the challenge of layering the uncertainty of their own changeable personal circumstances with those of a transforming community whose capabilities and priorities may not be adapted to their needs. Pregnant women and new mothers may experience stereotypical post-trauma patterns in keeping with the general population, presenting with increased prevalence of adjustment disorders, PTSD, addiction and psychosomatic disorders (PAHO, 2009), all of which must be managed in a system hampered by the barriers imposed by increasingly limited resources and physical separation measures.

However, there may be some hope for new and expecting mothers. If the risk of perinatal psychiatric issues is recognised early and appropriate interventions are made across UK health services, there is an opportunity for effective and sustainable change. Women in the perinatal phase have always needed support, but a post-Covid landscape could provide the chance to reorganise and restructure mental health services to provide greater coverage, assistance and efficacy. Internationally, gaps in healthcare provision are becoming more recognised and appreciated as the pandemic continues. The challenge posed by Covid-19, while having many tragic personal and public consequences, has taught public health services and healthcare teams volumes about the needs of their patients and how to provide for those needs in a novel and creative way. For example, despite not being without its problems, use of video conferencing technology – already a pre-Covid target of the NHS – is, for many, providing a convenient and effective alternative to traditional face-to-face consultations. The RCOG and other groups are providing support and information for clinicians and patients to ensure that expectant mothers receive the same quality of care that they could have expected pre-Covid.

Accepting that this will be a significant challenge is the first step to success. As the crisis is increasingly brought under control, services must engage with their clients to reflect on areas of success and areas for improvement. Collaboration should be encouraged to facilitate a meaningful and positive transition for perinatal psychological services, framed as an ongoing opportunity to advance, despite the current challenges. In moving forward, however, those many women who have already been affected by Covid-19 must not be forgotten. Just as if changes are not made immediately to provide for new patients, if this

group continues to struggle without intervention, the potential chronic effects of the pandemic on mental health will be severe, widespread and deeply troubling as we move forward into a post-Covid world.

References

- Ali, N., 2020. Maternal mental health amidst the Covid-19 Pandemic. *Asian Journal of Psychiatry*; 54: 102261. Available from: doi: 10.1016/j.ajp.2020.102261.
- Alipour, Z., 2018. The most important risk factors affecting mental health during pregnancy: a systematic review. *East Mediterranean Health Journal*; 24(6):549-559. Available from: doi: 10.26719/2018.24.6.549.
- Davenport, M., 2020. Moms are not OK: Covid-19 and Maternal Mental Health. *Frontiers in Global Women's Health*; 1:1. Available from: doi: 10.3389/fgwh.2020.00001.
- Fatema, S., 2019. Women's health-related vulnerabilities in natural disasters: a systematic review protocol. *BMJ Open*; 9:e032079. Available from: doi: 10.1136/bmjopen-2019-032079.
- Giarratano, G., 2020. Mental health and worries of pregnant women living through disaster recovery. *Health Care for Women International*; 40(3): 259-277. Available from: doi:10.1080/07399332.2018.1535600.
- Gupta, A., 2020. Extrapulmonary manifestations of Covid-19. *Nature Medicine*; 26: 1017-1031. Available from: doi: 10.1038/s41591-020-0968-3.
- Harville, E., 2012. Disasters and perinatal health: a systematic review. *Obstetric Gynaecological Survey*; 65(11): 713-728. Available from: doi:10.09/OGC.0b013e31820eddb.
- Leary M., 1995. The role of low self-esteem in emotional and behavioural problems: why is low self-esteem dysfunctional? *Journal of Social Clinical Psychology*; 14(3):297-314. Available from: doi: 10.1521/jscp.1995.14.3.297.
- Hermann, A., 2020. Meeting Maternal Mental Health Needs During the Covid-19 Pandemic. *JAMA Psychiatry*; online. Available from: doi: 10.1001/jamapsychiatry.2020.1947.
- James, G., 1997. Hiding feelings: the acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology*; 106, 95. Available from: doi: 10.1037//0021-843x.106.1.95.
- Mejia, C., 2020. The Media and their Informative Role in the Face of the Coronavirus Disease 2019 (COVID-19): Validation of Fear Perception and Magnitude of the Issue. *Electronic Journal of General Medicine*, 17(6): em239. Available from: doi: 10.29333/ejgm/7946.
- Negron, R., 2014. Social support during the postpartum period: mothers' views on needs, expectations and mobilisation of support. *Maternal Child Health Journal*; 17(4): 616-623. Available from: doi: 10.1007/s10995-012-1027-4.
- NHS, 2019. Your Antenatal Appointments. Available from: <https://www.nhs.uk/conditions/pregnancy-and-baby/antenatal-appointment-schedule/> [Accessed 17/10/20].
- Pan American Health Organisation (PAHO), 2009. Protecting Mental Health During Epidemics. Available from: <https://www.paho.org/en/documents/protecting-mental-health-during-epidemics>.
- Public Health England, UK Covid-19 Summary. Available from: <https://coronavirus.data.gov.uk/deaths> [Accessed 24/10/20].
- Rees, C., 2007. Childhood attachment. *British Journal of General Practice*; 57(544): 920-922. Available from: 10.3399/096016407782317955.
- Royal College of Obstetricians and Gynaecologists (RCOG). Guidance for antenatal and postnatal services in the evolving coronavirus (COVID-19). Available from: <https://www.rcog.org.uk/globalassets/documents/guidelines/2020-07-10-guidance-for-antenatal-and-postnatal.pdf> [Accessed 24/10/20].
- Saunders, B., 2020. Babies in Lockdown. Available from: <https://babiesinlockdown.files.wordpress.com/2020/08/babies-in-lockdown-main-report-final-version-1.pdf>
- Sidpra, J., 2020. Rise in the in the incidence of abusive head trauma during the Covid-19 pandemic. *Archives of Disease in Childhood*; 0(1). Available from: doi: 10.1136/archdischild-2020-319872.
- Stein, A., 2014. Effects of Perinatal Mental Disorders on the Fetus and Child. *Lancet*; 384(9956): 1800-19. Available from: doi: 10.1016/S0140-6736(14)61277-0.

Topalidou, A., 2020. Covid-19 and maternal mental health: are we getting the balance right? Available from: doi: 10.1101/2020.03.30.20047969v1.

Torales, J., 2020. The outbreak of Covid-19 coronavirus and its impact on global mental health. *International Journal of Social Psychiatry*; 66(4): 317-320. Available from: doi: 10.1177/0020764020915212.

Tommy's, 2020. Your Antenatal Appointment Schedule. Available from: <https://www.tommys.org/pregnancy-information/im-pregnant/antenatal-care/your-antenatal-appointment-schedule> [Accessed 17/10/20].

World Health Organisation (WHO), 2020. Maternal Mental Health. Available from: https://www.who.int/mental_health/maternal-child/maternal_mental_health/en/ [Accessed 17/10/20].

Wu, Y., 2020. Perinatal depressive and anxiety symptoms of pregnant women during the coronavirus disease 2019 outbreak in China. *American Journal of Obstetric Gynaecology*; 223(2): 240.e.1-240.39. Available from: doi: 10.1016/j.ajog.2020.05.009.

Zanardo, V. 2020. Psychological impact of Covid-19 quarantine measures in north-eastern Italy on mothers in the immediate postpartum period. *International Journal of Gynaecological Obstetrics*; 150: 184-188. Available from: doi: 10.1002/ijgo.13249.