

ESMI II Research Team – Written evidence (PRT0071)

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Introduction

ESMI-II is a National Institute of Health Research (NIHR) funded interdisciplinary research project that examined the relationship between mental health and infant outcomes as a secondary aim. (The primary aim of the research programme was to examine the effectiveness of specialist community perinatal mental health teams on maternal mental health).

Relevant Background

It is well established that mental health problems are associated with adverse pregnancy outcomes including preterm birth, small for gestational age babies and low birth weight. There is also evidence that with more severe mental health problems, there is more evidence of adverse outcomes including stillbirths and neonatal deaths (Stein et al 2014; Howard and Khalifeh 2020). However, the extent to which this was a problem in England was not previously known.

Mental health problems are among the commonest complication of childbearing, occurring in 1 in 10 to 1 in 4 pregnant women depending on the study population e.g. a study (Howard et al 2018) in South-East London using diagnostic interviews found a prevalence of one in four but this was in an area of high socioeconomic deprivation, with many refugees and asylum seekers, and homelessness.

This study

NHS Hospital and birth registration records of women with singleton births between April 1 2014, and March 31 2018 in England were linked to records of babies and records from specialist mental health services.

Of 2 081 043 (mean age 30.0 years; range 18–55 years; 77.7% White, 11.4% South Asian, 4.7% Black, and 6.2% mixed or other ethnic background), 151 770 (**7.3%**) had at least one pre-pregnancy specialist (i.e. secondary care) face-to-face mental health-care contact. These women had significantly increased risks of preterm birth, a SGA baby and neonatal adverse outcomes.

Specifically, re preterm birth:

- The risk of preterm birth was 6.5% in women without a pre-pregnancy specialist mental health-care contact and 9.8% in women with a pre-pregnancy specialist mental health-care contact.
- Women who had more recent care with mental health services were at higher risk of having a pre-term birth. Women who had more recent contact (less than a year pre-pregnancy) with a mental health service - i.e. were more recently ill - were more at risk of a pre-term birth (11.3%) compared to women whose contact with a mental health service was more than 5 years before being pregnant (8.5%)
- The severity of illness (ie a history of psychiatric hospitalisation) impacts on an increased risk of pre-term birth, with women who had been hospitalised for their mental health being at higher risk compared to those receiving care within the community. Women who had a hospital admission or contact with a crisis resolution team were at a higher risk of having a pre-term birth (11.0-13.4%), compared to having contact with a community based mental health service (9.2%) or having no contact with a mental health team (6.5%). (These women were also at increased risk of having a still

birth/neonatal death – 12% in women who had been hospitalised for their mental health vs 6.3% in the community).

Associations were also observed when potential differences in age, parity, ethnic and socioeconomic background, and other maternal conditions were considered.

For further details see Langham et al 2023 below.

Discussion

The HoL team asked some specific questions:

1. how mental health impacts pregnancy (particularly preterm birth),
2. how this can be addressed, and
3. how mental health relates to other risk factors for preterm birth.

These are discussed in turn below:

1. how mental health impacts pregnancy (particularly preterm birth)

There are a number of potential mechanisms that may be driving the relationship between mental health problems and adverse pregnancy outcomes, including pre-term birth (Smith 2023).

- A) There is evidence that symptoms of mental disorders such as anxiety or depression are associated with an increased risk of preterm birth and delivery of a small for gestational age infant. Many scientists have suggested that the stress pathways involved in mental disorders, placental function and parturition are likely to be involved in linking mental health and pregnancy outcomes (e.g. Glover et al 2018).
- B) It is conceivable that some of the medications used to treat mental disorders could impact directly on pre term birth (e.g. SSRI - although the evidence is mixed on this point and if there is any

impact it is relatively small), or indirectly (such as antipsychotics causing obesity)

C) Pregnant women with mental disorders are more likely (than the general population of pregnant women) to have associated factors that are known to be on the causal pathway for adverse pregnancy outcomes. Smoking in particular, which is more difficult to stop for women with mental illness as they are more likely to be dependent and smoke heavily, has been thought to explain a significant proportion of adverse outcomes - one estimate was that smoking which was elevated fourfold in women with schizophrenia, was the variable that explained the greatest proportion of the elevated aRR for prematurity (9.9%), SGA (28.7%), and Apgar < 8 at 1 and 5 min (9.8%, 5.6%) (Vigod et al 2019). Illicit substance misuse is also more common in women with mental disorders. There are also many other factors which are also likely to contribute, including other stressors which impact on stress pathways. For example, poverty, domestic violence and abuse, and sexual assaults are all more common in women with mental health problems, particularly those with severe mental disorders (Howard & Khalifeh 2020). This is relevant and answers your third question *how mental health relates to other risk factors for preterm birth*.

2. *how this can be addressed*

- While NICE 2014 did recommend that women who are planning a pregnancy or recently learned they are pregnant should be asked about a history of mental illness, this research highlights the importance of maternity professionals asking a *detailed* history including whether they have ever had contact with a specialist mental health service, the type of contact (in patient care and other forms of care) and when they had the most recent contact. Other research highlights the importance of knowing their treatment

history including medication and psychological treatment to inform treatment through pregnancy and postpartum.

- The association between mental illness and other risk factors for adverse pregnancy outcomes such as domestic violence and abuse, obesity and smoking, highlights the need for comprehensive **preconception** care. Public Health England and NHS England commissioned preconception materials from our group and a leading charity (Tommy's baby charity), which are available for women themselves (via Tommy's planning a pregnancy website) and for primary care and mental health practitioners (see <https://www.kcl.ac.uk/ioppn/assets/preconception-care-a-resource-for-mental-health-professionals-a-collaboration-between-tommy-s-baby-charity-public-health-england-and-section-of-women-s-mental-health-ioppn-king-s-college-london.pdf>). Ideally all women in contact with secondary mental health services of childbearing age should be referred for preconception care to the new more specialist community perinatal mental health services which have been set up to provide advice and care for women with mental health problems in the pre-conception phase, antenatal and postnatal periods. This provides an opportunity for earlier referrals e.g. for smoking cessation, weight management, domestic violence advocacy and review of risks and benefits of psychotropic medication.

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