Overview of the Hanover Park maternal mental health screening study

The Perinatal Mental Health Project (PMHP)

The PMHP is an independent initiative based at the University of Cape Town. It is located within the Alan J Flischer Centre for Public Mental Health, in the Department of Psychiatry and Mental Health. We partner with the Departments of Health and Social Development and have been operating since 2002.

The PMHP provides mental health services for pregnant and postnatal women, train those who work with mothers to improve the quality of their care, form partnerships to promote the scale up of services and inform local and global interventions through robust research and advocacy. We support state agencies and partner with non-profit organisations to achieve health and social development objectives for mothers living in adversity.

Common Mental Disorders

- Mental health disorders are the leading cause of disability worldwide
- Depressive disorders account for almost half of the burden of disease presented by mental disorders, followed by anxiety disorders, and drug and alcohol use disorders
- In South Africa, common mental disorders during the perinatal period are almost three times higher than in developed countries
- Approximately 80% of women who are affected by common mental disorders during the perinatal period are not identified or treated
- Screening represents a critical entry point to care
- The Edinburgh Postnatal Depression Scale (EPDS) is an internationally validated 10 question mental health screening tool
- The EPDS is validated for the South African setting but is complex and time-consuming to administer in busy antenatal clinics
The Hanover Park Study

In 2011-2012, the PMHP, under the auspices of the University of Cape Town, conducted a study in Hanover Park, Cape Town.

Hanover Park is regarded as one of the most violent parts of Cape Town with high rates of:
- Alcohol and substance abuse
- Unemployment
- Food insecurity
- Physical and sexual violence
- Child abuse and neglect

At the time of data collection, there was no specific mental health service or support for pregnant women. Mental health services were provided for outpatients at the Hanover Park Community Health Centre (CHC), which was staffed by two psychiatric nurses, with weekly consultations by a psychiatrist and an intern clinical psychologist. Psychiatric emergencies were managed by the CHC’s casualty unit and referrals made to secondary or tertiary level hospitals.

Nearly 400 pregnant women took part in the study. A series of socio-demographic and psychosocial risk questionnaires, as well as a number of mental health screening tools were administered. The Expanded Mini-International Neuropsychiatric Interview (MINI Plus) Version 5.0.0 was used as the gold standard diagnostic interview. Women with severe psychopathology or who presented a high suicide risk were referred to emergency psychiatric services. Women who were diagnosed with a common mental disorder were offered counselling with the study’s registered mental health counsellor.

The following organisations helped fund the study

- The Medical Research Council of South Africa
- Cordaid
- Mary Slack and Daughters Foundation
- Harry Crossley Foundation

- DG Murray Trust
- Rolf-Stephan Nussbaum Foundation
- The Truworths Community Foundation Trust
Results of the Hanover Park study

The study resulted in the development of five manuscripts that examined the multiple psychosocial and socioeconomic variables associated with

1. Depression
2. Anxiety
3. Suicidal ideation and behaviour
4. Domestic violence
5. Alcohol and drug use

In addition, the results of the study was used to develop a 5-item binary maternal mental health screening tool.

The manuscripts


The findings showed that among the 376 women participating, the MINI-defined prevalence of a major depressive episode (MDE) was 22%, with 50% of depressed women also expressing suicidality.

<table>
<thead>
<tr>
<th>Factors associated with an increased risk of MDE included</th>
<th>Factors associated with a decreased risk of MDE included</th>
</tr>
</thead>
<tbody>
<tr>
<td>A history of depression or anxiety (5 x higher)</td>
<td>Perceived support from family (18% lower)</td>
</tr>
<tr>
<td>Being food insecure (2.5 x higher)</td>
<td></td>
</tr>
<tr>
<td>Experience of a threatening life event (2 x higher)</td>
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The findings showed a 23% prevalence of diagnosed anxiety disorders.

<table>
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<th>Factors associated with an increased risk of anxiety disorders</th>
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</tr>
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<tbody>
<tr>
<td>Multigravida (2.8 x higher)</td>
<td>Perceived social support from friends (5% lower)</td>
</tr>
<tr>
<td>Food insecurity (2.5 x higher)</td>
<td></td>
</tr>
<tr>
<td>Unplanned and unwanted pregnancy (2 x higher)</td>
<td></td>
</tr>
<tr>
<td>Loss of a previous pregnancy or death of a child (2 x higher)</td>
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<tr>
<td>A history of mental health problems (4 x higher)</td>
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<tr>
<td>MDE diagnosis (3.8 x higher)</td>
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<tr>
<td>Experience of a threatening life event (30% higher)</td>
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</table>
The findings showed that the MINI-defined prevalence of suicide ideation and behaviours (SIB) was 18%. Of those women who reported any current SIB, 33% were diagnosed with MDE and 35% were diagnosed with some form of anxiety disorder. 54% had neither MDE nor anxiety disorder diagnosis as defined by the MIN Plus. This latter finding is highly relevant for our context given that the global literature reports that across different settings that SIB is highly correlated with MDE.

<table>
<thead>
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<th>Factors associated with an increased risk of SIB</th>
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<tbody>
<tr>
<td>A lifetime suicide attempt (4 x higher)</td>
<td>Perceived support from a significant (7% lower)</td>
</tr>
<tr>
<td>Being in a casual relationship (3.5 x higher)</td>
<td></td>
</tr>
<tr>
<td>Experiencing intimate partner violence (2 x higher)</td>
<td></td>
</tr>
<tr>
<td>Having given birth to more than one child (2.5 x higher)</td>
<td></td>
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Factors associated with an increased risk of SIB
- A lifetime suicide attempt (4 x higher)
- Being in a casual relationship (3.5 x higher)
- Experiencing intimate partner violence (2 x higher)
- Having given birth to more than one child (2.5 x higher)

Factors associated with a decreased risk of SIB
- Perceived support from a significant (7% lower)

The findings showed that 18% of women reported alcohol and other drug (AOD) use. Of these, 18% were currently experiencing a MDE, 19% had a current anxiety diagnosis and 22% expressed suicidal ideation.

<table>
<thead>
<tr>
<th>Factors associated with an increased risk of AOD use</th>
<th>Factors associated with a decreased risk of AOD use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being unemployed (1.7 x higher)</td>
<td>Having a higher education level (12% lower)</td>
</tr>
<tr>
<td>Being very poor (2.3 x higher)</td>
<td>Having a planned pregnancy (69% lower)</td>
</tr>
<tr>
<td>Being food insufficient (3.7 x higher)</td>
<td>Living with your partner (52% lower)</td>
</tr>
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Factors associated with an increased risk of AOD use
- Being unemployed (1.7 x higher)
- Being very poor (2.3 x higher)
- Being food insufficient (3.7 x higher)

Factors associated with a decreased risk of AOD use
- Having a higher education level (12% lower)
- Having a planned pregnancy (69% lower)
- Living with your partner (52% lower)
Field S, Onah M, van Heyningen T, Honikman S. *Prevalence and determinants of domestic violence among pregnant women in a low resource setting in South Africa – a facility-based, mixed methods study.* *BMC Women’s Health* 2017; under review.

Quantitative and qualitative methods were used. The findings showed that 58 women (15%) had experienced intimate partner violence (IPV) at some point in their lives. In addition, 17 women reported experiencing domestic violence in their current pregnancy by someone in the household that was not an intimate partner.

<table>
<thead>
<tr>
<th>Factors associated with an increased risk of IPV</th>
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<tr>
<td>Past abuse (4.8 x higher)</td>
<td>Perceived support from a ‘special person’ (9% lower)</td>
</tr>
<tr>
<td>Unhappy about pregnancy (2.5 x higher)</td>
<td>Being older than 29 years (75% lower)</td>
</tr>
<tr>
<td>Being in a stable relationship (2.5 x higher)</td>
<td></td>
</tr>
<tr>
<td>Being food insecure (96% higher)</td>
<td></td>
</tr>
<tr>
<td>Current mental health problems (33% higher)</td>
<td></td>
</tr>
<tr>
<td>A history of mental health problems (93% higher)</td>
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</tbody>
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Qualitative findings from client case notes

- Alcohol and substance abuse by members of the family were a contributing factor to violence (61%)
- Past abuse affected current behaviours (39%)
- Violence was seen as “normal behaviour” (52%)
- Women participated in violent behaviours (29%)
- The effects of violence were transgenerational (39%)

Photo credit: Bev Meldrum
Learnings from the Hanover Park Study

- Various demographic, economic, and psychosocial factors play a major role in predisposing pregnant women in adverse environments, like Hanover Park, to depression, anxiety, SIB, violence and AOD.
- The association between diagnosed depression, anxiety, suicidality, AOD and domestic violence, largely reflect how complex environmental factors support the coexistence of multiple mental health problems.

A concerted inter-sectoral approach is required to address the social and economic determinants of common mental disorders.

These findings emphasise the need to screen pregnant women routinely, using a screening tool that is accurate, brief and easy to administer and score – especially in low resource antenatal settings, where the tools may be used by a busy health staff and community health workers.

Development of a brief, valid mental health screening tool

Using the data collected, we analysed the performance of all the mental health screening tools against the MINI diagnostic tool and found that the brief tools of 2-3 question items performed comparably well with longer tools of 9 or more items. Based on the findings from the analysis, the PMHP developed a binary 5-item screening tool. This tool screens for depression, anxiety as well as suicidal ideation.

This need led to the development of (1) a screening advisory document and (2) a policy brief for screening for perinatal depression, anxiety and suicidal ideation and behaviour at primary healthcare level in South Africa.

1. Screening advisory

2. **Policy brief**


**Next steps**

We would like to raise funds to build on the foundation work completed to date and undertake includes the following research:

- Development of a paper on food insecurity and maternal mental distress, as food insecurity is shown to cause depression and anxiety disorders in pregnant and postnatal mothers. Food insecurity during pregnancy is associated with gestational diabetes among mothers and low birth weight in the newborn. Apart from poor physical health outcomes, a dose response relationship has been observed between food insecurity and major depressive episode or generalized anxiety disorder among pregnant women. Findings from our other analyses of the database has demonstrated very strong associations between food insecurity and insufficiency and a range of adverse mental health outcomes.

- Development of a paper on **screening for suicide ideation and behaviour** in pregnant women in socially adverse settings. This paper follows from our finding that about half of the women in our study with SIB were not depressed. Thus, SIB screening needs to be separate and additional to screening for depression.

- **Screening tool validation**: In order to advocate for the use of, and consequent scale up of the 5-question screening tool, in maternal mental healthcare settings, a formal validation study is required to assess the construct validity of the questionnaire.
  - Cognitive interviewing will be used to assess the construct validity of the tool, i.e. whether the 5 questions making up the screening tool perform in the way they were intended. In addition, the 5 questions comprising the screening tool will be validated in three local languages (English, Afrikaans and isiXhosa) in low resource settings in the Western Cape.
  - Once the construct validity has been established, the 5-question screening tool will be validated against the Edinburgh Postnatal Depression Scale (a 10 question Likert-type screening tool), which has been previously validated in a South African setting.
  - We would also like to validate the tool in other South African languages, for use in the postnatal period, for self-administered use and for use through a mobile platform.

**Annual Reports**

For further information, please refer to our Annual Reports. Available at: [http://pmhp.za.org/about-us/reports/](http://pmhp.za.org/about-us/reports/)