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Research Paper

Antenatal depression and adversity in urban South Africa

Thandi van Heyningen [a,c,*], Landon Myer [c], Michael Onah [a], Mark Tomlinson [b], Sally Field [a], Simone Honikman [a]

[a] Perinatal Mental Health Project, Alan J. Flisher Centre for Public Mental Health, Department of Psychiatry and Mental Health, University of Cape Town, South Africa
[b] Alan J. Flisher Centre for Public Mental Health, Department of Psychology, Stellenbosch University, South Africa
[c] Division of Epidemiology & Biostatistics, School of Public Health and Family Medicine, University of Cape Town, South Africa

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ABSTRACT

Background: In low and middle-income countries (LMIC), common mental disorders affecting pregnant women receive low priority, despite their disabling effect on maternal functioning and negative impact on child health and development. We investigated the prevalence of risk factors for antenatal depression among women living in adversity in a low-resource, urban setting in Cape Town, South Africa.
Methods: The MINI Neuropsychiatric Interview (MINI Plus) was used to measure the diagnostic prevalence of depression amongst women attending their first antenatal visit at a primary-level, community-based clinic. Demographic data were collected followed by administration of questionnaires to measure psychosocial risk. Analysis examined the association between diagnosis of depression and psychosocial risk variables, and logistic regression was used to investigate predictors for major depressive episode (MDE).
Results: Among 376 women participating, the mean age was 26 years. The MINI-defined prevalence of MDE was 22%, with 50% of depressed women also expressing suicidality. MDE diagnosis was significantly associated with multiple socioeconomic and psychosocial risk factors, including a history of depression or anxiety, food insecurity, experience of threatening life events and perceived support from family.
Limitations: The use of self-report measures may have led to recall bias. Retrospective collection of clinical data limited our ability to examine some known risk factors for mental distress.
Conclusion: These findings confirm the high prevalence of MDE among pregnant women in LMIC settings. Rates of depression may be increased in settings where women are exposed to multiple risks. These risk factors should be considered when planning maternal mental health interventions.

1. Background

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 (WHO Department of Health Statistics and Informatics, 2008). Globally, the lifetime prevalence of major depressive disorder is estimated to be between 10% and 15% (Lépine and Briley, 2011) and in South Africa, it is estimated that 9.8% adults will experience a major depressive episode (MDE) at least once during their lifetime (Stein et al., 2008). It is difficult to estimate the burden for people living with these disorders (Murray et al., 2012; Whiteford et al., 2013), but it is understood that the symptoms are significantly disabling for those affected (Collins et al., 2011). Despite this, fewer than half of those affected globally, have access to adequate treatment and health care. In LMIC, where mental disorders receive little attention and few resources, this "treatment gap" is estimated to be between 75% and 80% (Lund et al., 2010, 2011).

Depression during the perinatal period presents a similarly large burden. In high-income countries (HICs), the burden of perinatal depression is approximately 13–15% (Oates et al., 2004; Oates, 2003; Pearson et al., 2012). In LMIC, the burden is estimated to be much higher (Fisher et al., 2012). However, it is difficult to determine how high the burden is, as prevalence estimates vary greatly across countries and regions and many are based on screening data rather than diagnostic data (Abiodun, 2006; Adewuya et al., 2005; Fisher et al., 2012; Hanlon et al., 2008; Medhin et al., 2010). In South Africa, there are similar disparities between prevalence estimates from studies based on both screening and

* Corresponding author at: Perinatal Mental Health Project, Alan J. Flisher Centre for Public Mental Health, Department of Psychiatry and Mental Health, University of Cape Town, South Africa.
E-mail address: thandivh@gmail.com (T.v. Heyningen).

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diagnostic data. Studies using clinical diagnostic methods report rates of 47% (Rochat et al., 2013a, 2013b, 2011) and 34.7% (Cooper et al., 1998), which is 2–3 times higher than HIC settings. These prevalence data are, however, based on small sample sizes. Studies using the Edinburgh Postnatal Depression Scale (EPDS) as a screening tool have reported similarly high prevalence rates, ranging between 42–46% (Tsai et al., 2014) and 37–41% (Hartley et al., 2011; Manikkam and Burns, 2012; Rochat et al., 2006; Tomlinson et al., 2013). A recent study using the Beck Depression Inventory (BDI) with a sample of 726 pregnant women living in an urban, low-resource setting, reported a prevalence rate of 21% (Brittain et al., 2015).

Depression during the perinatal period is of particular concern because of the disabling effect on maternal functioning (Manikkam and Burns, 2012), and the negative consequences for the health and development of infants and children (Grote et al., 2010; Nasreen et al., 2010; Patel and Prince, 2006; Rahman et al., 2003a, 2003b; Tomlinson et al., 2004; Traviss et al., 2012). The impact of maternal depression is greater in contexts of chronic poverty and social adversity, which exacerbate the inter-generational cycle of mental illness and poverty (Lund et al., 2011). Despite these consequences, approximately 80% of women affected by common perinatal mental disorders (CPMD) are not diagnosed or treated (Condon, 2010).

1.1. Multiple risk factors for maternal depression

The relationship between an individual's vulnerability to stress, the experience of a stressful life event, such as pregnancy, and the onset of depression is well established (Ramchandani et al., 2009). This can be exacerbated when a woman has a history of psychiatric diagnosis (Beck, 2001; Robertson et al., 2004; Woods et al., 2010). However, in the majority of cases, the major underlying risk factors for maternal depression are social rather than biological (Austin et al., 2011; Cooper and Murray, 1998; Hartley et al., 2011). The stress of pregnancy and birth (Dunkel Schetter and Tanner, 2012) can be amplified by circumstances where women experience poverty (Faisal-Cury et al., 2009; Milgrom et al., 2008; Patel et al., 2002), lack of social support (Faisal-Cury et al., 2009; Milgrom et al., 2008; Rahman and Creed, 2007; Ramchandani et al., 2009; Robertson et al., 2004; Rochat et al., 2006), intimate partner violence (Dunkle et al., 2004, 2003; Woods et al., 2010), and when a pregnancy is unintended and unwanted (Bunevicius et al., 2009). In LMIC, additional psychosocial and socioeconomic risk factors associated with maternal depression include poor education; substance use and low levels of emotional and financial support from a partner (Hartley et al., 2011).

There is growing evidence that food insecurity, which is a proxy measure for poverty, is a risk factor for poor mental health (Huddleston-Casas et al., 2009; Lund et al., 2010; Maes et al., 2010). In low income settings, food insecurity has been strongly associated with mental health problems such as anxiety and depression (Garcia et al., 2013; Hadley and Patil, 2006; Huddleston-Casas et al., 2009). In South Africa, the rate of food insecurity is estimated to be around 25–33%, and 38% of households report food insufficiency[1](Sorsdahl et al., 2011). Both food insecurity and insufficiency are associated with an increased risk of having a diagnosis of anxiety and substance use disorder (Dewing et al., 2013; Sorsdahl et al., 2011). Food insecurity for women during the perinatal period potentially has several negative consequences. Pregnant and breast-feeding women have increased nutritional needs and lack of sufficient and healthy food not only places a woman at risk of malnutrition, but may also impact foetal and infant nutrition and development (Scorgie et al., 2015). In Dewing's study, increased levels of food insecurity (associated with poverty) were associated with hazardous drinking, probability of depression and high-risk suicidality (Dewing et al., 2013).

This study aims to address the variance in reported prevalence rates of antenatal depression in South Africa by providing accurate diagnostic data using a structured clinical interview with a sample of 376 pregnant women. Furthermore, examination of multiple psychosocial and socioeconomic variables simultaneously, seeks to elucidate the core risk factors associated with depression amongst pregnant women living in contexts of poverty and long-standing psychosocial adversity.

2. Methods

2.1. Setting

This cross-sectional study was undertaken at the Hanover Park Midwife Obstetric Unit (MOU), which provides primary level maternity services in an urban area of Cape Town, South Africa. Hanover Park has a population of about 35,000 people (Statistics South Africa, 2013), and is a community characterized by high levels of poverty and community-based gang violence. Hanover Park is regarded as one of the most violent parts of Cape Town with high rates of alcohol and substance abuse, physical and sexual violence, and child abuse and neglect (Moultrie, 2004). Rates of violence are amongst the highest in the world. In 2012, per 10,000 people, there were 6 homicides, 87 sexual crimes and 115 cases of assault with grievous bodily harm (Institute for Security Studies, 2015). Ninety eight percent of children are reported to have witnessed violence in the community, with 40% being threatened or assaulted in the community and 58% being threatened or assaulted at home (Benjamin, 2014). Housing is comprised of run-down public residential units, smaller freestanding formal houses and informal shacks. Unemployment rates are between 40% and 69%, almost two-thirds of adults do not have a regular income and less than 20% of adults have completed high school (Benjamin, 2014; Moultrie, 2004).

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.

2.2. Sample

Every third woman arriving at the Hanover Park MOU for her first antenatal visit was invited to participate in the study.[2] No prior clinical assessment of the women was performed. Women included in the study were 18 years or older, pregnant, willing to provide informed consent to participate in the study and able to understand the nature of the study, questions, and instructions

[1] Food insecurity is defined as " limited or uncertain access to food with adequate nutritional value, or the inability to procure food in socially acceptable ways" (Dewing et al., 2013). Food insufficiency is defined as "an extreme form of household food insecurity that refers to a condition in which household members sometimes or often do not have enough to eat" (Sorsdahl et al., 2011).

[2] This sampling frame (k =3) was used after taking into account the average number of women who presented daily for antenatal care, and the amount of time that screening would take per woman. This was then used to calculate how many women would need to be screened daily in order to obtain the sample number. This method also allowed for sampling of those women who arrived earlier as well as those women who arrived later in the day for antenatal care.