The prevalence and predictors of intimate partner violence among pregnant women attending a midwife and obstetrics unit in the Western Cape

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Background. Intimate partner violence (IPV) during pregnancy is prevalent across the world, but more so in low- and middle-income countries. It is associated with various adverse outcomes for mothers and infants. This study sought to determine the prevalence and predictors of IPV among pregnant women attending one midwife and obstetrics unit (MOU) in the Western Cape, South Africa.

Methods. A convenience sample of 150 pregnant women was recruited to participate in the study. Data were collected using several self-report measures concerning the history of childhood trauma, exposure to community violence, depression and alcohol use. Multivariable logistic models were developed, the first model was based on whether any IPV occurred, the remaining models investigated for physical-, sexual- and emotional abuse.

Results. Lifetime and 12-month prevalence rates for any IPV were 44%. The 12-month IPV rates were 32% for emotional and controlling behaviours, 29% physical and 20% sexual abuse. The adjusted model predicting physical IPV found women who were at risk for depression were more likely to experience physical IPV [odds ratios (ORs) 4.42, 95% confidence intervals (CIs) 1.88–10.41], and the model predicting sexual IPV found that women who reported experiencing community violence were more likely to report 12-month sexual IPV (OR 3.85, CI 1.14–13.08).

Conclusion. This is the first study, which illustrates high prevalence rates of IPV among pregnant woman at Mitchells Plain MOU. A significant association was found between 12-month IPV and unintended pregnancy. Further prospective studies in different centres are needed to address generalisability and the effect of IPV on maternal and child outcomes.

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Background

Violence is a complex behavioural phenomenon which takes on many forms across a variety of contexts. Violence can have detrimental effects for those who encounter it, often resulting in bodily harm; mental, physical and emotional suffering; loss of productivity; and fatality, representing an increased burden for social and public health sectors (DeVries et al., 2014; Wuest et al., 2015). South Africa is a country with a long history of violence, arguably rooted in systemic racism and apartheid legislation, exerted by a minority authoritarian party against the disempowered, within political, social, judicial, informal, public and domestic settings (Moffette, 2006). Though we have entered a post-apartheid period, violence is still seen to penetrate all sectors of our society and is very common.

While literature from low- and middle-income countries (LMIC) focuses on violence against women in the general population (Hamberger & Larsen, 2015; Katiti...
et al., 2016), pregnancy has been identified as a period of increased risk for exposure to intimate partner violence (IPV) (WHO, 2011; Bernstein, et al., 2016). IPV is a well-documented phenomenon of behaviour in the context of human relationships (WHO, 2005; Sarkar, 2008; Silva et al., 2011). IPV is defined as ‘patterns of emotional, sexual and/or physical violence and economic intimidation by an intimate partner in conditions of coercive power’ (Patel et al., 2011, 1). IPV during pregnancy is of concern as the possible consequences pose risk to both mother and the unborn child (Taillieu & Brownridge, 2010; Mobasher et al., 2013). IPV during pregnancy has been associated with various negative outcomes, including pregnancy-related deaths, inadequate ante-natal care, labour complications, emotional distress, depression, anxiety and harmful neonatal consequences such as low birth weight (Moreno et al., 2005; Charles & Pereira, 2007; Howard et al., 2013).

In South Africa, statistics among pregnant women reveal that IPV rates range between 27 and 48% (DeVries et al., 2014). For example, a cross-sectional community-based descriptive study (Hoque et al., 2009), found that the prevalence rates of IPV for the past month, among 340 rural pregnant women in KwaZulu Natal, were at 31%. Another study investigating prevalence rates of IPV among pregnant women from antenatal clinics in the metropolitan of Soweto found that more than 50% of 1395 pregnant women interviewed, reported experiencing IPV in the previous 12 months (Dunkle et al., 2004). In addition, analyses of a subsample of 544 mothers from socially disadvantaged peri-urban communities outside of Cape Town indicated that they had experienced IPV within the past year (Koen et al., 2016).

IPV is not an isolated occurrence, but part of an interaction between social, personal, emotional and psychological factors. To develop appropriate strategies for IPV prevention among pregnant women, an understanding of the associated risk and protective factors is essential. Several socio-demographic factors have been found to be associated with IPV. Women from low socio-economic backgrounds have been found at higher risk for experiencing IPV compared with a woman from higher socio-economic backgrounds (Patel et al., 2011; Capaldi et al., 2012). Supporting this statement, a National survey in England established factors such as low household income, deprived education and low social class to be associated with lifetime prevalence for IPV (Khalifeh et al., 2013). Contradictory to this, a systematic review from Africa revealed no difference between women whom were employed compared with those who were not (Shamu et al., 2011). Other socio-demographic variables that have been found to be associated with IPV include the level of education and age. In support, one cross-sectional study of 1502 pregnant women attending healthcare facilities in Mpumalanga, South Africa, found that more than 55% of those women had less than a grade 12-level education and that the dominant age was between 18 and 24 years (Matseke et al., 2012).

A commonly noted risk factor associated with IPV is the harmful use of alcohol during pregnancy (WHO, 2010; Labato et al., 2011). Alcohol use has been associated with countless personal harms including violence and aggression; elevated rates of IPV; general familial friction as well as poor parenting styles, as it affects both cognitive and physical functioning, often reducing the ability of self-control and increasing the likeliness of violent altercations (WHO, 2006; Stanley, 2008). Alcohol consumption is noted to be high among South Africans; especially in the Western Cape where rates of alcohol abuse exceed 20% (Herman et al., 2009; Pasche & Myers, 2012). Alcohol use has been associated with increased risk of perpetrating acts of violence, increased risk for being a victim of IPV; increased risk for exposure to IPV as well as increased risk of resorting to alcohol as a means of coping with IPV (WHO, 2010; Simonelli et al., 2014).

One of the social factors commonly identified as a risk factor for IPV is being exposed to or witnessing violence as a child (Norman et al., 2010; Moore et al., 2011; Capaldi et al., 2012; Shamu et al., 2016). A notable association between childhood abuse and IPV has been identified, demonstrating that women who have experienced abuse during their childhoods are more likely to experience IPV during their adult years, compared with women who had not experienced abuse during childhood (Whitfield et al., 2003; Widom et al., 2008; Patel et al., 2011). Dunkle et al. (2004) found that childhood sexual violence was established as a major risk factor for experiencing IPV in adulthood. Outcomes of childhood abuse have predominantly centred on victims re-experiencing abuse in their adulthood, either by becoming perpetrators of violence themselves or by becoming victims of violence again (Omduff et al., 2001; Widom et al., 2008).

Violence should not be viewed as an isolated event, but rather one that is manifested and fuelled by greater influences, one of which is the community in which one resides (Hamberger et al., 2015). Mitigating environmental factors are also considered as part of the causal factors associated with violence (Chen et al., 2016). Frustrations associated with low levels of socio-economic opportunities and high levels of unemployment may be implicated in high levels of crime and violence, as well as high rates of alcohol and substance abuse sometimes found in poorer communities (Raghavan et al., 2006; Beyer et al., 2015). Low-income communities especially face problems with gangsterism and violent crimes. It has been reported that
high rates of exposure to community violence often results in the notion that violence is acceptable (Abrahams et al., 2005).

Not surprisingly, mental health problems have been shown to be highly correlated with experiences of IPV. These include psychological suffering and emotional distress; as well as mental health conditions, including depression, anxiety and post-traumatic stress disorder (Fortin et al., 2011; Umubyeyi et al., 2014). Recently, Woollett & Hatcher (2016) found that in South Africa, symptoms of depression increase among individuals who experienced elevated rates of exposure to violence in both domestic and community settings, supporting the argument that violence has an impact on the mental functioning of an individual (Iverson et al., 2015). Pregnant women are possibly additionally vulnerable as evidenced by the high prevalence rates of mental health problems that occur during this time (Holden et al., 2012). It is important to note that abuse during pregnancy highly correlates with symptoms of depression, as mental health outcomes have been conceptualised as a consequence of IPV during the peri- and post-partum periods of pregnancy (Rochat et al., 2011, Jackson et al., 2015).

To date, there have been no studies investigating the prevalence of IPV in a midwife and obstetrics unit (MOU) in the Western Cape, South Africa, and the associations between alcohol use, depression, childhood abuse and exposure to community violence. This study was conducted at Mitchell’s Plain MOU, a primary level maternity facility offering pregnant women antenatal care throughout the pregnancy, as well as HIV testing and counselling. The facility also has a labour ward for deliveries as well as post-natal care. Understanding the frequency of IPV within this community is essential to identify possible need for psychosocial interventions. The present study attempts to address this gap by answering the following two-pronged research question: What is the prevalence of IPV among women attending one antenatal clinic in the Western Cape, South Africa and what are the risk factors associated with IPV among this population.

Methods

Setting

Data were collected at an MOU in the Western Cape, South Africa. This community forms part of one of the largest townships in the Western Cape, South Africa. Townships are commonly used to describe urban or peri-urban communities that are largely economically and geographically underdeveloped.

Participants

A convenience sample of 150 pregnant women attending antenatal care appointments at the MOU was asked to participate in this study. Participants had to be 18 years or older, pregnant (any term during pregnancy), a registered patient at the MOU, as well as being willing and able to participate in an interview in either English or Afrikaans.

Study procedure

Recruitment of participants occurred over a 2-month period (November–December 2015). Potential participants were approached while they waited for the clinic. Appointments for interviews were scheduled for those who interest in participation on days and times that were most convenient for the participants. Sampling took place 5 days of the week for ~5 h/day.

G*Power version 3.1.9 software (Faul et al., 2009) was used to calculate the sample size for a multivariate logistic regression analysis. The alpha was set at 0.05 and desired power at 0.80. The estimated sample size is 175 participants. Unfortunately, due to time and budgetary constraints only 150 women participated.

Prior to the interview, each participant was again informed about the voluntary nature of the study, as well as the conditions of confidentiality and anonymity concerning their involvement, and then asked to complete the consent form. Interviews of approximately 45 min in duration were conducted by the first author, a qualified Registered Counsellor, in a private office. Questionnaires were made available in both English and Afrikaans and were read aloud to each participant. Participants each received a voucher of ZAR50 (approximately US$3.60) for a local grocery store as compensation for their time. Participants who required further intervention after the interview, were assessed and given referrals to social workers, counsellors or mental health nurses, as deemed necessary by the researcher (a registered trauma counsellor).

Measures

Data were collected using the following measures:

Socio-demographics questionnaire

Information was collected regarding participant’s race, age, level of education, current employment status and marital status, whether the pregnancy was planned or unplanned, the number of previous pregnancies and pregnancy gestation.
WHO interpersonal violence questionnaire (IPVQ) (WHO, 2000)

This is a survey questionnaire used to screen for past and current experiences of IPV (lifetime and 12 months). It includes subscales for the assessment of emotional abuse and controlling behaviour as well as physical and sexual abuse. Questions such as ‘Have you ever been hit, slapped, kicked or otherwise physically hurt by your current or previous intimate partner?’ are included. While it has not yet been validated for the use in South Africa, local studies have shown good reliability rates (Koen et al., 2016).

Childhood trauma questionnaire (CTQ) (Bernstein et al., 1994)

This is a 28-item self-report inventory that provides brief, reliable and valid screening for childhood histories of abuse and neglect. This instrument follows a five-factor format, enquiring about five different types of maltreatment – emotional, physical and sexual abuse, and emotional and physical neglect. It has been validated in both clinical and community settings and has been translated into several languages (Patel et al., 2011). Studies have found an internal consistency coefficient close to 0.80, indicating good reliability for responses over a period of time (Hernandez et al., 2013; Grassi-Oliveria et al., 2014).

Exposure to community violence questionnaire (WHO, 2000)

This measure was adapted from the Children’s Exposure to Community Violence Questionnaire (Richters & Martinez, 1990). The frequency of lifetime exposure to violence (through visual and auditory senses) is measured by this tool. It determines the incidence of violence in the home and in the general neighbourhood. This includes questions such as: ‘Have you seen someone being beaten up?’ and ‘Have you seen a gun in your home?’ This measure has not been validated in clinical settings (Beyer et al., 2015).

The Edinburgh postnatal depression scale (EPDS) (Cox et al., 1987)

This is one of the most widely used instruments to screen for both ante- and postnatal depressive symptoms. This is a self-report rating scale with an internal consistency score of 0.83 (Bunevicius et al., 2009). It is low and middle-income countries (Akena et al., 2012) and includes questions such as ‘I have been so unhappy that I have been crying’. Multiple validation studies have found the EPDS to be a reliable screening instrument (Shrestha et al., 2016).

Alcohol use disorder identification test (AUDIT) (WHO, 2001)

This measure screens for hazardous and harmful patterns of alcohol consumption. It includes questions such as: ‘How often do you have a drink containing alcohol?’ and ‘How often during the last year have you found that you were not able to stop drinking once you started?’ A systematic review of the psychometric properties of the AUDIT, found great performance rates for the tool, across a variety of settings for the 47 studies analysed (Shrestha et al., 2016). Studies have found it to be a reliable and effective tool to detect harmful alcohol consumption behaviours (Pitpitan et al., 2013; Sabri et al., 2014).

Data analysis

The Statistical Package for Social Science (SPSS) (23.0) was used to analyse the data. Frequency distributions and descriptive statistics were calculated for categorical and continuous variables. The unadjusted associations between IPV as the dependent variable, and participant demographic characteristics, history of childhood abuse, self-report alcohol abuse and perception of community violence as independent variables, were analysed. In addition, multivariate logistic models were developed to control for demographics and socio-economic variables (including gender, age, race and marital status), alcohol abuse, community violence and childhood trauma. The first was based on whether any IPV occurred (lifetime and 12 months), while the remaining three models investigated IPV for physical abuse, sexual abuse and emotional abuse for both lifetime and 12 months experience. The results of the regression models are reported as odds ratios (ORs) with 95% confidence intervals (CIs).

Results

The socio-demographic details of participants are detailed in Table 1. A total of 150 women were recruited to participate in the study. Of these women, the majority were unemployed (n = 93, 62%) and between the ages of 18 and 30 years old (n = 103, 68.7%). Just over half of the respondents completed high school (n = 79, 52.7%). Respondents reported that many of them indicated that their current pregnancy was unplanned (n = 115, 76.7%). Notably of the 115 participants who indicated that their pregnancies were unplanned only 32 (65.3%) specified being in an intimate relationship. More than half of the participants, (n = 83, 55.3%) reported that they were in their second trimester of pregnancy (weeks 13–28). Respondents reported high levels of childhood trauma (n = 123, 82%) and witnessing community violence (n =
It was found that 38.7 and 25.3% met criteria for depression and alcohol, respectively.

Both the 12-month and lifetime prevalence rates for IPV were calculated to be 44.7%. Physical violence was the most common form of abuse experienced in the women’s lifetime (n = 70, 46.7%), followed by emotional abuse and controlling behaviours (n = 66, 44%) and sexual violence (n = 24.7%). Most types of IPV victimisation were reported to occur during the second trimester of pregnancy (n = 39, 58.2%) (see Table 2). It was noted that nearly 80% of the 150 women interviewed, reported that they had never (in their lifetime) opened a police case for assault. No significant differences were noted for prevalence rates between single woman and woman in intimate partner relationships (p > 0.05).

The unadjusted and adjusted associations between participant characteristics and the experience of emotional and controlling behaviours in the past 12 months are reported in Table 3. After adjusting for the effects of other variables, women who are emotionally abused are more likely to experience symptoms of depression (OR 6.42, CI 2.51–16.41) and identified themselves as Coloured. Investigations into the unadjusted and adjusted associations between participant characteristics

Table 1. Socio-demographic, pregnancy-related and psychosocial characteristics of sample

|                        | Total (N = 150) | Single (N = 101) | In an intimate relationship (N = 49) |
|------------------------|----------------|-----------------|-------------------------------------|
| Age                    |                |                 |                                     |
| 18–30                  | 103 (68.7)     | 74 (73.3)       | 29 (59.2)                           |
| 31 and older           | 47 (31.3)      | 27 (26.7)       | 20 (40.8)                           |
| Race                   |                |                 |                                     |
| Black                  | 67 (44.7)      | 50 (49.5)       | 17 (34.7)                           |
| Coloured               | 81 (54.0)      | 49 (48.5)       | 32 (65.3)                           |
| White                  | 2 (1.3)        | 2 (2.0)         | 0 (0.0)                             |
| Employment status      |                |                 |                                     |
| Employed               | 57 (38.0)      | 36 (35.6)       | 21 (42.9)                           |
| Unemployed             | 93 (62.0)      | 65 (64.4)       | 28 (57.1)                           |
| Education              |                |                 |                                     |
| Did not complete school| 71 (47.3)      | 50 (49.5)       | 21 (42.9)                           |
| Completed high school  | 79 (52.7)      | 51 (50.5)       | 28 (57.1)                           |
| Pregnancy planned      |                |                 |                                     |
| Planned pregnancy      | 35 (23.3)      | 18 (17.8)       | 17 (34.7)                           |
| Unplanned pregnancy    | 115 (76.7)     | 83 (82.2)       | 32 (65.3)                           |
| Gravidity (m, S.D.)    | 2.5 (1.6)      | 2.3 (1.4)       | 3 (1.7)                             |
| Parity (m, S.D.)       | 1.3 (1.4)      | 1.1 (1.3)       | 1.7 (1.5)                           |
| Miscarriage            |                |                 |                                     |
| Yes                    | 34 (22.7)      | 20 (19.8)       | 14 (28.6)                           |
| No                     | 116 (77.3)     | 81 (80.2)       | 35 (71.4)                           |
| Pregnancy gestation    |                |                 |                                     |
| Weeks 3–12             | 48 (32.0)      | 29 (28.7)       | 19 (38.8)                           |
| Weeks 13–28            | 83 (55.3)      | 61 (60.4)       | 22 (44.9)                           |
| Weeks 29–40 and more   | 19 (12.7)      | 11 (10.9)       | 8 (16.3)                            |
| Mental health          |                |                 |                                     |
| High-risk depression   | 58 (38.7)      | 44 (43.6)       | 14 (28.6)                           |
| Low-risk depression    | 91 (61.3)      | 57 (56.4)       | 35 (71.4)                           |
| Alcohol use            |                |                 |                                     |
| Low-risk drinker       | 112 (74.7)     | 68 (67.3)       | 44 (89.8)                           |
| High-risk drinker      | 38 (25.3)      | 33 (32.7)       | 5 (10.2)                            |
| Childhood trauma       |                |                 |                                     |
| No childhood trauma    | 27 (18.0)      | 17 (16.8)       | 10 (20.4)                           |
| Yes, childhood trauma  | 123 (82.0)     | 84 (83.2)       | 39 (79.6)                           |
| Community violence     |                |                 |                                     |
| Low community violence | 56 (37.3)      | 33 (34.7)       | 28 (57.1)                           |
| High community violence| 94 (62.7)      | 66 (65.3)       | 21 (42.9)                           |
and the experience of physical IPV in the past 12 months are reported in Table 4. After adjusting for the effects of other variables, women who were at risk for depression were more likely to experience physical IPV (OR 4.42, CI 1.88–10.41) than women not at risk for depression.

The unadjusted and adjusted effects of participant characteristics on the experience of any 12-month IPV are displayed in Table 4. After adjusting for the effects of other variables, women reported experiencing community violence were more likely to report 12-month sexual IPV (OR 4.42, CI 1.88–10.41), than women who reported no exposure to community.

Discussion

Several important findings were made. First, the prevalence of IPV among pregnant woman attending an MOU in the Western Cape, South Africa was high. Second, the study identified four main variables as risk factors for IPV in this sample of pregnant women. Significant associations were found to exist between IPV and depressive symptoms; IPV and unintended pregnancies; as well as IPV and exposure to community violence. Furthermore, 82% of all respondents reported experiencing high levels of childhood

### Table 2. Any IPV in past 12 months and associated variables

|                          | % Yes (N = 67) | % No (N = 83) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|--------------------------|---------------|--------------|------------------------|----------------------|
| Age                      |               |              |                        |                      |
| 18–30                    | 52 (77.6)     | 51 (61.4)    | 1.00                   | 1.00                 |
| 31 and older             | 15 (22.4)     | 32 (38.6)    | 0.46 (0.22–0.95)       | 0.41 (0.14–1.19)     |
| Race                     |               |              |                        |                      |
| Black                    | 28 (41.8)     | 39 (47.0)    | 1.00                   |                      |
| Coloured                 | 39 (58.2)     | 44 (53.0)    | 1.29 (0.68–2.48)       | 1.46 (0.64–3.34)     |
| Employment status        |               |              |                        |                      |
| Employed                 | 20 (29.9)     | 37 (44.6)    | 1.00                   | 1.00                 |
| Unemployed               | 47 (70.1)     | 46 (55.4)    | 1.90 (0.96–3.73)       | 1.24 (0.53–2.90)     |
| Education                |               |              |                        |                      |
| Did not complete high school | 31 (46.3) | 40 (48.2)    | 1.00                   | 1.00                 |
| Completed high school    | 36 (53.7)     | 43 (51.8)    | 1.09 (0.57–2.06)       | 1.50 (0.65–3.46)     |
| Pregnancy intended      |               |              |                        |                      |
| Planned pregnancy        | 8 (11.9)      | 27 (32.5)    | 1.00                   | 1.00                 |
| Unintended pregnancy     | 59 (88.1)     | 56 (67.5)    | 3.56 (1.50–8.48)       | 3.36 (1.21–9.38)     |
| Miscarriage              |               |              |                        |                      |
| Yes                      | 15 (22.4)     | 19 (22.9)    | 1.00                   | 1.00                 |
| No                       | 52 (77.6)     | 64 (77.1)    | 1.03 (0.48–2.22)       | 0.33 (0.08–1.41)     |
| Pregnancy gestation      |               |              |                        |                      |
| Weeks 3–12               | 17 (25.4)     | 31 (37.3)    | 1.00                   | 1.00                 |
| Weeks 13–28              | 39 (58.2)     | 44 (53.0)    | 1.61 (0.78–3.36)       | 1.90 (0.78–4.62)     |
| Weeks 29–40 and more     | 11 (16.4)     | 8 (9.6)      | 2.51 (0.85–7.43)       | 2.70 (0.71–10.24)    |
| Mental health            |               |              |                        |                      |
| Low depression           | 27 (40.3)     | 65 (78.3)    | 1.00                   | 1.00                 |
| High Depression          | 40 (59.7)     | 18 (21.7)    | 5.35 (2.62–10.93)      | 6.56 (2.70–15.97)    |
| Alcohol use              |               |              |                        |                      |
| Low-risk drinker         | 47 (70.1)     | 65 (78.3)    | 1.00                   | 1.00                 |
| High-risk drinker        | 20 (29.9)     | 18 (21.7)    | 1.54 (0.73–3.22)       | 0.70 (0.28–1.76)     |
| Childhood trauma         |               |              |                        |                      |
| No childhood trauma      | 14 (20.9)     | 13 (15.7)    | 1.00                   | 1.00                 |
| Yes, childhood trauma    | 40 (59.7)     | 70 (84.3)    | 0.70 (0.31–1.62)       | 1.30 (0.46–3.71)     |
| Community violence       |               |              |                        |                      |
| Low community violence   | 50 (74.6)     | 44 (53.0)    | 1.00                   | 1.00                 |
| High community violence  | 17 (25.4)     | 39 (47.0)    | 2.61 (1.30–5.25)       | 1.45 (0.61–3.43)     |
trauma; 62% had witnessed community violence (n = 94, 62%), while possible cases of depression and alcohol dependence problems were detected in 38 and 25%, respectively.

Similar to other studies (Graham-Kevan & Archer, 2011; Connor-Smith et al., 2011), the most common form of abuse experienced by women in this sample was physical violence (46%), then emotional abuse and controlling behaviours (44%), followed by sexual violence (24%). Recent data from a systematic review showed that between 4 and 29% of pregnant women from LMIC will experience some form of IPV (Mobasheri et al., 2013). This study’s prevalence rates are closely aligned to systematic reviews that have investigated the prevalence of IPV in Africa generally and South Africa specifically, found that up to 40% of pregnant women have experienced some form of IPV in their lifetime (Shamu et al., 2011).

Of the four predictors of IPV identified in this study, age was the only socio-demographic variable found to be significantly associated with IPV. Women who were younger (18–30 years old) were more likely to experience IPV than women who were older than 30. Burgos-Soto et al. (2014) have argued that older women may experience more helplessness and detachment from their circumstances as a result of many years of abuse, making them less likely to disclose possible abuse. Unlike other studies (e.g., Brownridge et al., 2011; Capaldi et al., 2012), no association was found between IPV and other socio-demographic variables such as level of education, relationship status or employment status.

### Table 3. Emotional and controlling behaviours IPV in the past 12 months

|                          | % Yes (N=48) | % No (N=48) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|--------------------------|-------------|-------------|------------------------|----------------------|
| **Age**                  |             |             |                        |                      |
| 18–30                    | 37 (77.1)   | 66 (64.7)   | 1.00                   | 1.00                 |
| 31 and older             | 11 (22.9)   | 36 (35.3)   | 0.55 (0.25–1.20)       | 0.31 (0.09–1.07)     |
| **Race**                 |             |             |                        |                      |
| Black                    | 14 (29.2)   | 53 (52.0)   | 1.00                   | 1.00                 |
| Coloured                 | 34 (70.8)   | 47 (64.1)   | 2.74 (1.31–5.72)       | 3.79 (1.448–9.75)    |
| **Employment status**    |             |             |                        |                      |
| Employed                 | 13 (27.1)   | 44 (43.1)   | 1.00                   | 1.00                 |
| Unemployed               | 35 (72.9)   | 58 (56.9)   | 2.04 (0.97–4.31)       | 1.23 (0.48–3.12)     |
| **Education**            |             |             |                        |                      |
| Did not complete high school | 23 (47.9) | 48 (47.1) | 1.00                   | 1.00                 |
| Completed high school    | 25 (52.1)   | 54 (52.9)   | 0.97 (0.49–1.92)       | 1.64 (0.67–4.04)     |
| **Pregnancy intended**   |             |             |                        |                      |
| Planned pregnancy        | 8 (16.7)    | 27 (26.5)   | 1.00                   | 1.00                 |
| Unintended pregnancy     | 40 (83.3)   | 75 (73.5)   | 1.80 (0.75–4.33)       | 1.16 (0.40–3.34)     |
| Gravidity (m, s.d.)      | 2.5 (1.6)   | 2.6 (1.6)   | 0.84 (0.46–1.54)       | 0.16 (0.13–1.40)     |
| Parity (m, s.d.)         | 1.3 (1.6)   | 1.3 (1.4)   | 1.22 (0.64–2.33)       | 0.14 (0.74–9.28)     |
| **Miscarriage**          |             |             |                        |                      |
| Yes                      | 12 (25.0)   | 22 (21.6)   | 1.00                   | 1.00                 |
| No                       | 36 (75.0)   | 80 (78.4)   | 0.83 (0.37–1.85)       | 0.36 (0.08–1.59)     |
| **Pregnancy gestation**  |             |             |                        |                      |
| Weeks 3–12               | 11 (22.9)   | 37 (36.3)   | 1.00                   | 1.00                 |
| Weeks 13–28              | 27 (56.3)   | 56 (54.9)   | 1.62 (0.72–3.66)       | 1.56 (0.59–4.14)     |
| Weeks 29–40 and more     | 10 (20.8)   | 9 (8.8)     | 3.74 (1.21–11.50)      | 3.48 (0.89–13.67)    |
| **Mental health**        |             |             |                        |                      |
| Low depression           | 17 (35.4)   | 75 (73.5)   | 1.00                   | 1.00                 |
| High depression          | 31 (64.6)   | 27 (26.5)   | 5.07 (2.42–10.59)      | 6.42 (2.51–16.41)    |
| **Alcohol use**          |             |             |                        |                      |
| Low-risk drinker         | 35 (72.9)   | 77 (75.5)   | 1.00                   | 1.00                 |
| High-risk drinker        | 13 (27.1)   | 25 (24.5)   | 1.14 (0.52–2.50)       | 0.49 (0.18–1.34)     |
| **Childhood trauma**     |             |             |                        |                      |
| No childhood trauma      | 13 (27.1)   | 14 (13.7)   | 1.00                   | 1.00                 |
| Yes, childhood trauma    | 35 (72.9)   | 88 (86.3)   | 0.35 (0.57–3.52)       | 0.65 (0.23–1.86)     |
| **Community violence**   |             |             |                        |                      |
| Low community violence   | 8 (16.7)    | 48 (47.1)   | 1.00                   | 1.00                 |
| High community violence  | 40 (83.3)   | 54 (52.9)   | 0.39 (0.96–1.12)       | 2.48 (0.91–6.77)     |
Experiencing depressive symptoms during pregnancy was also found to predict elevated IPV in this sample. The results showed that women with symptoms of depression were four times more likely to experience physical IPV than those who were asymptomatic. Increased symptoms of depression were also found to be significantly associated with any form of IPV in the previous 12 months. Depression may also be an outcome/consequence of IPV rather than a predictor; however as this study was cross-sectional, no directional relationship could be determined. These findings are consistent with studies that have found mental health problems to be highly correlated with experiences of IPV (Rao et al., 2012; Iverson et al., 2015; Jackson et al., 2015). In particular, IPV during pregnancy has been shown to be significantly associated with depressive symptoms (Adams et al., 2013; Howard et al., 2013). Notably, other studies conducted in Cape Town have highlighted a much stronger association between IPV and depressive symptoms. For example, Hartley et al. (2011) found that women in their sample who experienced abuse in their relationships in the previous 12 months were eight times more likely to report depressive symptoms. The association between IPV and depression appears to highlight the impact that violence has on the mental health functioning of the individuals exposed to it. However, while no directional link between depressive symptoms and IPV can be inferred from this data, some research has shown that individuals with mental health problems, such as major depressive disorder, are at risk for becoming victims of abuse or ill-treatment (Elbogen

### Table 4. Physical IPV in past 12 months

|                          | % Yes (N = 44) | % No (N = 106) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|--------------------------|---------------|---------------|-----------------------|---------------------|
| **Age**                  |               |               |                       |                     |
| 18–30                    | 18 (40.9)     | 69 (65.1)     | 1.00                  | 1.00                |
| 31 and older             | 26 (59.1)     | 37 (34.9)     | 0.55 (0.24–1.23)      | 0.53 (0.17–1.60)    |
| **Race**                 |               |               |                       |                     |
| Black                    | 34 (77.3)     | 49 (46.2)     | 1.00                  | 1.00                |
| Coloured                 | 10 (22.7)     | 55 (51.9)     | 1.29 (0.63–2.63)      | 1.44 (0.62–3.35)    |
| **Employment status**    |               |               |                       |                     |
| Employed                 | 13 (29.5)     | 44 (41.5)     | 1.00                  | 1.00                |
| Unemployed               | 39 (88.6)     | 62 (58.5)     | 1.69 (0.80–3.60)      | 1.04 (0.43–2.52)    |
| **Education**            |               |               |                       |                     |
| Did not complete school  | 23 (52.3)     | 48 (45.3)     | 1.00                  | 1.00                |
| Completed high school    | 21 (47.7)     | 58 (54.7)     | 0.76 (0.37–1.53)      | 0.82 (0.35–1.93)    |
| **Pregnancy intended**   |               |               |                       |                     |
| Planned pregnancy        | 5 (11.4)      | 30 (28.3)     | 1.00                  | 1.00                |
| Unintended pregnancy     | 39 (88.6)     | 76 (71.7)     | 3.08 (1.11–8.56)      | 2.70 (0.87–8.39)    |
| Gravida (m, S.D.)        | 2.4 (1.4)     | 2.6 (1.6)     | 0.90 (0.70–1.14)      | 0.08 (0.11–1.14)    |
| Parity (m, S.D.)         | 1.2 (1.3)     | 1.3 (1.5)     | 0.92 (0.71–1.20)      | 0.81 (0.87–9.97)    |
| **Miscarriage**          |               |               |                       |                     |
| Yes                      | 11 (25.0)     | 23 (21.7)     | 1.00                  | 1.00                |
| No                       | 33 (47.7)     | 83 (78.3)     | 0.83 (0.37–1.90)      | 0.23 (0.05–1.01)    |
| **Pregnancy gestation**  |               |               |                       |                     |
| Weeks 3–12               | 13 (29.5)     | 35 (33.0)     | 1.00                  | 1.00                |
| Weeks 13–28              | 25 (56.8)     | 58 (54.7)     | 1.16 (0.53–2.56)      | 0.89 (0.36–2.22)    |
| Weeks 29–40 and more     | 29 (13.6)     | 13 (12.3)     | 1.24 (0.39–3.96)      | 0.78 (0.20–3.01)    |
| **Mental health**        |               |               |                       |                     |
| Low depression           | 16 (36.4)     | 76 (71.7)     | 1.00                  | 1.00                |
| High depression          | 28 (63.6)     | 30 (28.3)     | 4.43 (2.10–9.34)      | 4.42 (1.88–10.41)   |
| **Alcohol use**          |               |               |                       |                     |
| Low-risk drinker         | 28 (63.6)     | 84 (79.2)     | 1.00                  | 1.00                |
| High-risk drinker        | 16 (36.4)     | 22 (20.8)     | 2.18 (1.01–4.73)      | 1.42 (0.59–3.46)    |
| **Childhood trauma**     |               |               |                       |                     |
| No childhood trauma      | 10 (22.7)     | 17 (16.0)     | 1.00                  | 1.00                |
| Yes, childhood trauma    | 34 (77.3)     | 89 (84.0)     | 0.02 (0.98–1.05)      | 0.98 (0.35–2.78)    |
| **Community violence**   |               |               |                       |                     |
| Low community violence   | 12 (27.3)     | 44 (41.5)     | 1.00                  | 1.00                |
| High community violence  | 32 (72.2)     | 62 (58.5)     | 0.03 (0.96–1.12)      | 1.02 (0.41–2.56)    |
One systematic review and meta-analysis of longitudinal studies investigating the association between IPV and depression found that IPV was associated with incident depressive symptoms and depressive symptoms with incident IPV, among women (Devries et al., 2014). It is not clear why depressive symptoms might cause IPV; however, Devries et al. (2014) posit that these symptoms may lead to poor choices in a partner.

Unintended pregnancy was found to be another predictor of IPV in this sample. Women who reported experiencing emotional and controlling behaviours in the previous 12 months were three times more likely to have an unintended pregnancy than women who reported experiencing no abuse. Remarkably, more than 70% of the study’s respondents indicated that their current pregnancy was unintended. Furthermore, of those who reported any form of IPV in the past 12 months, 88% of the women in this sample indicated that their current pregnancy was unintended. Studies investigating the association between IPV and unintended pregnancy are limited. However, it does appear to be a relatively widely recognised risk factor (Pallitto et al., 2005; Mantell et al., 2009). One study in Brazil found that women who experienced violence before becoming pregnant were more than 1.5 times more likely to have unintended pregnancies (Azevedo et al., 2013). Given the limited research, it is not clear what the nature of the association is between unintended pregnancies and IPV. It is possible that women with violent partners experience intimidation, control or coercion from their partners regarding

Table 5. Sexual IPV in the past 12 months

|                        | % Yes (N = 30) | % No (N = 120) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|------------------------|---------------|----------------|------------------------|----------------------|
| **Age**                |               |                |                        |                      |
| 18–30                  | 24 (80.0)     | 79 (65.8)      | 1.00                   | 1.00                 |
| 31 and older           | 6 (20.0)      | 41 (34.2)      | 0.48 (0.18–1.27)       | 0.57 (0.14–2.28)     |
| **Race**               |               |                |                        |                      |
| Black                  | 13 (43.3)     | 54 (45.0)      | 1.00                   | 1.00                 |
| Coloured               | 17 (56.7)     | 64 (53.3)      | 1.17 (0.50–2.75)       | 1.15 (0.43–3.07)     |
| **Employment status**  |               |                |                        |                      |
| Employed               | 9 (30.0)      | 48 (40.0)      | 1.00                   | 1.00                 |
| Unemployed             | 21 (70.0)     | 72 (60.0)      | 1.33 (0.53–3.32)       | 0.97 (0.35–2.71)     |
| **Education**          |               |                |                        |                      |
| Did not complete high school | 13 (43.3)   | 58 (48.3)      | 1.00                   | 1.00                 |
| Completed high school  | 17 (56.7)     | 62 (51.7)      | 1.45 (0.62–3.53)       | 1.30 (0.47–3.61)     |
| **Pregnancy intended**|               |                |                        |                      |
| Planned pregnancy      | 5 (16.7)      | 30 (25.0)      | 1.00                   | 1.00                 |
| Unintended pregnancy   | 25 (83.3)     | 90 (75.0)      | 1.50 (0.50–4.48)       | 1.23 (0.38–4.02)     |
| Gravidity (m, s.d.)    | 2.1 (1.2)     | 2.6 (1.6)      | 0.71 (0.31–1.62)       | 0.13 (0.09–1.36)     |
| Parity (m, s.d.)       | 1.0 (1.4)     | 1.4 (1.4)      | 1.14 (0.47–2.76)       | 0.20 (0.63–8.43)     |
| **Miscarriage**        |               |                |                        |                      |
| Yes                    | 8 (26.7)      | 26 (21.7)      | 1.00                   | 1.00                 |
| No                     | 22 (73.3)     | 94 (78.3)      | 0.71 (0.27–1.87)       | 0.30 (0.06–1.58)     |
| **Pregnancy gestation**|              |                |                        |                      |
| Weeks 3–12             | 7 (23.3)      | 41 (34.2)      | 1.00                   | 1.00                 |
| Weeks 13–28            | 22 (73.3)     | 61 (50.8)      | 2.11 (0.83–5.40)       | 2.08 (0.72–6.01)     |
| Weeks 29–40 and more   | 1 (3.3)       | 18 (15.0)      | 0.33 (0.04–2.84)       | 0.23 (0.02–2.30)     |
| **Mental health**      |               |                |                        |                      |
| Low depression         | 13 (43.3)     | 79 (65.8)      | 1.00                   | 1.00                 |
| High depression        | 17 (56.7)     | 41 (34.2)      | 2.21 (0.93–5.28)       | 2.15 (0.82–5.67)     |
| **Alcohol use**        |               |                |                        |                      |
| Low-risk drinker       | 20 (66.7)     | 92 (76.7)      | 1.00                   | 1.00                 |
| High-risk drinker      | 10 (33.3)     | 28 (23.3)      | 1.30 (0.52–3.28)       | 1.09 (0.38–3.13)     |
| **Childhood trauma**   |               |                |                        |                      |
| No childhood trauma    | 10 (33.3)     | 17 (14.2)      | 1.00                   | 1.00                 |
| Yes, childhood trauma  | 20 (66.7)     | 103 (85.8)     | 0.01 (0.97–1.05)       | 0.40 (0.14–1.20)     |
| **Community violence** |               |                |                        |                      |
| Low community violence | 4 (13.3)      | 52 (43.3)      | 1.00                   | 1.00                 |
| High community violence| 26 (86.7)     | 68 (56.7)      | 0.87 (1.00–1.18)       | 3.85 (1.14–13.08)    |
their reproductive choices (Pallitto et al., 2005; Azevedo et al., 2013).

The fourth predictor of IPV identified in this study was exposure to community violence. Data from this study showed that women who reported witnessing community violence were four times more likely to report 12-month sexual IPV, than women who reported no exposure to community violence. Very little research has been conducted to investigate the relationship between IPV and exposure to community violence. However, recent data have shown that the Western Cape has significantly high levels of violence within its communities (Prinsloo et al., 2016), while Cape Town was ranked 9th on the list of the 50 most violent communities in the world (Leggit, 2004; Weatstone, 2016). It is possible that this finding simply reflects the levels of emotional abuse and controlling behaviours that members of this community are exposed to, which extends to IPV.

Where South African policy is concerned, there has been very little recognition of IPV as a major health concern, nor has the development of strategies to effectively deal with IPV been attended to. Currently, the National Mental Health Policy Framework for South Africa (Freeman et al., 2013) makes no reference to IPV. This is concerning given the high levels of mental health problems found among victims of IPV, including depression, post-traumatic stress disorder and anxiety (Hartley et al., 2011; Lagdon et al., 2014; van Heyningen et al., 2016). Given the high prevalence of IPV among pregnant woman, as well as the range of problematic outcomes associated with it, developing a policy that deals specifically with IPV is a matter of urgency. These policies might include the training of professional caregivers to detect IPV victims during routine care, in addition to providing sensitive and appropriate care, intervention and support.

The study had several limitations. First, the study’s sample size is small and drawn from one site, making any generalisation to even this setting as well as other parts of South Africa or elsewhere impossible. The substantial prevalence rate found is supported by other studies in the Cape Town area (Abrahams et al., 2013) as well as other extremely poor areas in South Africa (Dunkle et al., 2004). However, given that this MOU is one of the largest in the Western Cape, South Africa (Western Cape Gov., 2016) it does offer some insight into the level of violence experienced by a pregnant woman from this specific population and setting. Second, the researcher is only fluent in English and Afrikaans and so was only able to administer the measures in those languages. Feasibility issues compromised the use of the Xhosa versions of the study’s measures, which were additionally limited by the reliance on self-report methods. In addition, basic statistical analytical strategies were employed, limiting the ability to determine the interactions/effects of other possible mediators of IPV.

Recommendations for future research might include longitudinal designs investigating the experience of IPV postnatally and whether there are differences before and after the birth. Longitudinal studies might also provide important data about the long-term impact that IPV has on the mother and child. This would help to inform the development of appropriate intervention strategies and programmes for those affected. The effectiveness of screening and intervention programmes should be investigated. Further research could help examine and identify ways to incorporate screening interventions for IPV among pregnant woman, in primary health care settings. This data this could aid in detecting IPV and linking woman to resources such as non-profit organisations, social services and support groups or legal services.

Conclusion

This is the first study of IPV to be conducted with pregnant women receiving antenatal care at the Mitchells Plain MOU. These findings are consistent with findings from other SA studies. The results from this study identified three major risk factors associated with IPV during pregnancy; high levels of unintended pregnancies, witnessing community violence and experiencing depressive symptoms. They also highlight the urgency for the development of appropriate policy and strategies to address IPV, particularly among pregnant women. Due to the high levels of IPV among pregnant woman, healthcare institutions and practitioners need to find new ways to identify, contain and provide adequate intervention and support for the victims.

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Ethical Standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

Conflict of Interest

None.
References

Abrahams N, Jewkes R, Hoffman M, Laubs R (2005). Sexual violence against intimate partners in Cape Town: prevalence and risk factors reported by men. *Bulletin of the World Health Organisation* 82, 330–337.

Abrahams N, Mathews S, Martin LJ, Lombard C, Jewkes R (2013). Intimate partner homicide in South Africa in 1999 and 2009. *PLoS Medicine* 10(4), e1001412.

Adams AE, Bybee D, Tolman RM, Sullivan CM, Kennedy AC (2013). Does job stability mediate the relationship between intimate partner violence and mental health among low-income women? *American Journal of Orthopsychiatry* 83, 600–608.

Akena D, Joska J, Obuku EA, Amos T, Musisi S, Stein DJ (2012). Comparing the accuracy of brief versus long depression screening instruments which have been validated in low and middle-income countries: a systematic review. *BMJ Psychiatry* 12, 187.

Azevedo A, de Arayo TVB, Volongeuiro S, Ludermir AB (2014). Validity of Edinburgh postnatal depression scale. *The British Journal of Psychiatry* 150, 782–786.

Devries KM, Child JC, Bacchus LJ, Mak J, Falder G, Graham K, Heise L (2014). Intimate partner violence victimization and alcohol consumption in women: a systematic review and meta-analysis. *Journal of Addiction* 109, 379–391.

Dunkle KL, Jewke RK, Brown HC, Yoshihama M, Gray GE, McIntyre JA, Harlow SD (2004). Prevalence and patterns of gender-based violence and revictimization among women attending antenatal clinics in Soweto, South Africa. *American Journal of Epidemiology* 160, 230–239.

Elbogen EB, Johnson SC (2009). The intricate link between violence and mental disorder results from the national epidemiologic survey on alcohol and related conditions. *Archives of General Psychiatry* 66, 152–161.

Faul F, Erdfelder E, Buchner A, Lang AG (2009). Statistical power analysis using G*Power 3.1: tests for correlation and regression analyses. *Behaviour Research Methods* 41, 1149–1160.

Fortin I, Guay S, Lavoie V, Boisvert JM, Beaudry M (2011). Intimate partner violence and psychological distress among young couples: analysis of the moderating effect of social support. *Journal of Family Violence* 26, 63–73.

Freeman M, Rataemane S, Uys L, Manyedi E, Lund C, Mkhize N, Sodi T, Sutcliffe T, Westmore I, Tlou E (2013). Department of Health, National Mental Health Policy Framework and Strategic Plan 2013–2020. (https://www.health-e.org.za/wp-content/uploads/2014/10/NationalMental-Health-Policy-Framework-and-Strategic-Plan-2013-2020.pdf) Accessed 10 February 2017.

Graham-Keenan N, Archer J (2011). Violence during pregnancy: investigating infantilising motives. *Journal of Family Violence* 26, 453–458.

Grassi-Oliveira R, Cogo-Moreira H, Salum GA, Briezke E, Viola TW, Manfro GG, Arteche AX (2014). Childhood trauma questionnaire (CTQ) in Brazilian samples of different age groups: findings from confirmatory factor analysis. *PloS ONE* 9(1), e87118.

Hamberger LK, Larsen SE (2015). Men’s and women’s experience of intimate partner violence: a review of Ten years of comparative studies in clinical samples; Part I. *Journal of Family Violence* 30, 699–717.

Hamberger LK, Rhodes K, Brown J (2015). Screening and intervention for intimate partner violence in healthcare settings: creating sustainable system-level programs. *Journal of Women’s Health* 24, 86–91.

Hartley M, Tomlinson M, Greco E, Comulada WS, Stewart J, le Roux I, Rotheram-Borus MJ (2011). Depressed mood in pregnancy: prevalence and correlates in two Cape Town peri-urban settlements. *Reproductive Health* 8, 9.

Herman AA, Stein DJ, Seedat S, Heeringa SG, Moomal H, Williams DR (2009). The South African Stress and Health...
Hernandez A, Gallardo-Pujol D, Pereda N, Arntz A, Bernstein DP, Gaviria AM, Gutierrez-Zotes JA (2013) Initial validation of the Spanish childhood trauma questionnaire-short form: factor structure, reliability and association with parenting. *Journal of Interpersonal Violence* 28, 1498–1518.

Holden KB, McKenzie R, Pruitt V, Aaron K, Hall S (2012). Depressive symptoms, substance abuse, and intimate partner violence among pregnant women of diverse ethnicities. *Journal of Health Care: Poor Underserved* 23, 226–241.

Hoque ME, Hoque M, Kader SB (2009). Prevalence and experience of domestic violence among rural pregnant women in KwaZulu-Natal, South Africa. *South African Journal of Epidemiological Infections* 24, 34–37.

Howard LM, Oram S, Galley H, Trevillion K, Feder G (2013). Domestic violence and perinatal mental disorders: a systematic review and meta-analysis. *PLoS Medicine* 10(5), e1001452.

Iverson KM, Vogt D, Dichter ME, Carpenter SL, Kimerling Koen N, Brittain K, Donald KA, Barnett SK, Mare K, Zar HJ, Leggit Lagdon S, Armour C, Stringer M (2014). Adult experience of mental health outcomes as a result of intimate partner violence victimisation: a systematic review. *European Journal of Psychotraumatology* 5, 10.3402/ejt.v5.24794.

Leggit (2004). Crime rates in Western Cape. *SA Crime Quarterly* 2004(7), 15–20.

Mantell JE, Needham SL, Smit JA, Hoffman S, Cebekhulu Q, Adams-Skinner J, Milford C (2009). Gender norms in South Africa: implications for HIV and pregnancy prevention among African and Indian women students at a South African tertiary institution. *Culture, Health Sex* 11, 139–157.

Masseke G, Pelter K, Mlambo G (2012). Partner violence and associated factors among pregnant women in Nkangala district, Mpumalanga. *South African Journal of Obstetrics and Gynaecology* 18, 77–81.

Mobasheri M, Choobini ZM, Mardanpour E, Kianiz S, Farsani EA (2013). Systematic review of violence against women. *Life Sciences Journal* 10, 3611–3619, ISSN:1097–8135.

Moffette H (2006). These woman they force us to rape them; rape as narrative of social control in post-apartheid South Africa. *Journal of Southern African Studies* 32, 129–144.

Moore BC, Easton CJ, McMahon TJ (2011). Drug abuse and intimate partner violence: a comparative study of opioid-dependent fathers. *American Journal of Orthopsychiatry* 81, 218–227.

Moreno CG, Jansen HA, Ellsberg M, Heise L, Watts CH (2005). WHO Multi-country study on women’s health and domestic violence against women study team. *The Lancet* 368(9543), 1260–1269.

Norman R, Schneider M, Bradshaw D, Jewkes R, Abrahams N, Matzopoulos R, Vos T (2010). Interpersonal violence: an important risk factor for disease and injury in South Africa. *Popular Health* 8, 32.

Omduff SB, Kelsey RM, Oleary KD (2001). Childhood physical abuse, personality, and adult relationship violence: a model of vulnerability to victimization. *American Journal of Orthopsychiatry* 71(3), 322–331.

Pallitto CC, Campbell JC, O’Campo P (2005). Is intimate partner violence associated with unintended pregnancy? A review of the literature. *Trauma Violence Abuse* 6, 217–235.

Pasche S, Myers B (2012). Substance misuse trends in South Africa. *Human Psychopharmacology* 27, 338–341.

Patel MN, Bhaju J, Thompson MP, Kaslow NJ (2011). Life stress as mediator of the childhood maltreatment – intimate partner violence link in Low-income, African American women. *Journal of Family Violence* 27, 1–10.

Pelphian SR, Kalichman SC, Eaton LA, Cain D, Sikkema KJ, Watt MH, Pieterse D (2013). Co-occurring psychosocial problems and HIV risk among women attending drinking venues in a South African township: a syndemic approach. *Annals of Behavioral Medicine. A Publication of the Society of Behavioral Medicine* 45, 153–162.

Prinsloo M, Matzopoulos R, Laubscher R, Myers J, Bradshaw D (2016). Validating homicide rates in the Western Cape Province, South Africa: findings from the 2009 injury mortality survey. *South African Medical Journal* 106, 193–195.

Raghavan C, Mennerich A, Sexton E, James SE (2006). Community violence and Its direct, indirect, and mediating effects on intimate partner violence. *Violence against Woman* 12, 1132–1149.

Rao D, Horton R, Raguram R (2012). Gender inequality and structural violence among depressed women in south India. *Social Psychiatry and Psychiatric Epidemiology* 47, 1967–1975.

Richters JE, Martinez P (1990). *Things I Have Seen and Heard: A Structured Interview for Assessing Young Children’s Violence Exposure*. Rockville, MD: National Institute of Mental Health, pp. 521–545.

Sabri B, Stockman JK, Campbell JC, O’Brien S, Campbell D, Callwood GB, Hart-Hyndman G (2014). Factors associated with increased risk for lethal violence in intimate partner relationships among ethnically diverse black women. *Violence Victims* 29, 719–741.
Sarkar NN (2008). The impact of intimate partner violence on women’s reproductive health and pregnancy outcome. *Journal of Obstetrics and Gynaecology* 28(3), 266–271.

Shamu S, Abrahams N, Temmerman M, Musekiwa A, Zarowsky C (2011). A systematic review of African studies on intimate partner violence against pregnant women: prevalence and risk factors. *PLoS ONE* 6(3), e17591.

Shamu S, Gevers A, Mahlangu BP, Jama Shai PN, Chirwa Shamu S, Abrahams N, Temmerman M, Musekiwa A, Simonelli A, Pasquali CE, De Palo F, Taillieu TL, Brownridge DA, Stanley S (2016). Prevalence and risk factors for intimate partner violence among grade 8 learners in urban South Africa: baseline analysis from the Shkhokho supporting success cluster randomised controlled trial. *International Journal of Health* 8(1), 18–26.

Shrestha SD, Pradhan R, Tran TD, Gualano RC, Fisher JR (2016). Reliability and validity of the Edinburgh postnatal depression scale (EPDS) for detecting perinatal common mental disorders (PCMDs) among women in low-and lower-middle-income countries: a systematic review. *BMC Pregnancy and Childbirth* 16, 72.

Silva EP, Ludermir AB, Araújo TVB, Valongueiro SA (2011). Freqüência e padrão da violência por parceiro íntimo antes, durante e depois da gravidez. *Revista de Saúde Pública* 45(6), 1044–1053.

Simonelli A, Pasquali CE, De Palo F (2014). Intimate partner violence and drug-addicted women: from explicative models to gender-oriented treatments. *European Journal of Psychotraumatology* 5, 10.3402/ejpt.v5.24496.

Stanley S (2008) Interpersonal violence in alcohol complicated marital relationships (A study from India). *Journal of Family Violence* 23, 767–776.

Taillieu TL, Brownridge DA (2010). Violence against pregnant women: prevalence, patterns, risk factors, theories, and directions for future research. *Journal of Aggression Violent Behavior* 15, 14–35.

Umubyeyi A, Mogren I, Ntaganira J, Krantz (2014). Women are considerably more exposed to intimate partner violence than men in Rwanda: results from a population-based, cross-sectional study. *BMC Women's Health* 14, 99.

van Heyningen T, Myer L, Onah M, Tomlinson M, Field S, Honikman S (2016). Antenatal depression and adversity in urban South Africa. *Journal of Affective Disorders* 203, 121–129.

Weatstone R (2016). The 50 most Dangerous Cities in The World (http://www.mirror.co.uk/news/world-news/50-most-dangerous-cities-world-7262615). Accessed 3 December 2016.

Western Cape Government Directory. Maternity Hospitals (https://www.westerncape.gov.za/) Accessed 13 January 2017.

Whitfield H, Anda RF, Dube SR, Felitti VJ (2003). Violent childhood experiences and the risk of intimate partner violence in adults: assessment in large health maintenance organizations. *Journal of Interpersonal Violence* 18, 166–185.

Widom CS, Czaja SJ, Dutton MA (2008). Childhood victimization and lifetime revictimization. *Child Abuse & Neglect* 32, 785–796.

Woollett N, Hatcher AM (2016). Mental health, intimate partner violence and HIV. *South African Medical Journal* 106 (10), 969–972.

World Health Organisation (2000) Violence against women and HIV/AIDS: Setting the research agenda Meeting report, Geneva, 23–25 October 2000 (http://www.who.int/gender-equity-rights/knowledge/who_fch_gwh_01_8/en/).

World Health Organisation (2001). The Alcohol Use Disorder Identification Test. (http://www.talkingalcohol.com/files/pdfs/WHO_audit.pdf) Accessed 16 April 2016.

World Health Organisation (2005) Addressing violence against women and HIV testing and counseling: A meeting report. ISBN: 92 4 159459 4 (http://www.who.int/reproductivehealth/publications/violence/en/).

World Health Organisation (2006). Understanding and Addressing Violence Against Woman: Intimate Partner Violence (http://apps.who.int/iris/bitstream/10667/432/WHO) Accessed 17 April 2016.

World Health Organisation (2010). London School of Hygiene and Tropical Medicine. Preventing intimate partner and sexual violence against women: taking action and generating evidence (http://apps.who.int/iris/bitstream/10665/44_eng.pdf) Accessed 15 April 2016.

World Health Organisation (2011) Intimate partner violence during pregnancy, Information sheet. WHO reference number: WHO/RHR/11.35 (http://www.who.int/reproductivehealth/publications/violence/rhr_11_35/en/) Accessed 15 April 2016.

Wuest J, Merritt-Gray M, Dube N, Hodgens MJ, Malcolm J, Majerovich JA, Varcoe C (2015). The process, outcomes, and challenges of feasibility studies conducted in partnership with stakeholders: a health intervention for women survivors of intimate partner violence. *Research in Nursing & Health* 38, 82–96.