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The associations between interpersonal violence and psychological distress among rural and urban young women in South Africa

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ABSTRACT

Background: Approximately 25% of the world's population consists of young people. The experience of violence peaks during adolescence and the early adult years. A link between personal experience of violence and mental health among young people has been demonstrated but rural-urban differences in these associations are less well known in low to middle income countries. The aim of this study was to investigate the associations between interpersonal violence and psychological distress among rural and urban young women.

Methods: Data on experiences of violence and psychological distress were collected from a total of 926 non-pregnant young women aged between 18 and 22 years of age in rural and urban sites in South Africa. The General Health Questionnaire-28 was used to assess psychological distress as an indicator of mental health. Generalised structural equation models were employed to assess potential pathways of association between interpersonal violence and psychological distress.

Results: Thirty-four percent of the urban young women (n = 161) reported psychological distress compared to 18% of rural young women (n = 81). In unadjusted analysis, exposure to interpersonal violence doubled the odds of psychological distress in the urban adolescents and increased the odds 1.6 times in the rural adolescents. In adjusted models, the relationship remained significant in the urban area only (OR 1.84, 95% CI 1.13–3.00). Rural residence seemed protective against psychological distress (OR 0.41, 95% CI 0.24–0.69). Structural equation modelling did not reveal any direct association between exposure to interpersonal violence and psychological distress among rural young women. Stressful household events were indirectly associated with psychological distress, mediated by violence among young women in the urban area.

Conclusion: The relationship between violence and psychological distress differs between urban and rural-residing young women in South Africa, and is influenced by individual, household and community (contextual) factors.

1. Background

Approximately 25% of the world's population is between 10 and 24 years of age, with nearly 90% residing in low-to-middle income countries (LMICs) (Sawyer et al., 2012). In South Africa, this age-group constitutes 27% of the population (Stats South Africa, 2016). The development of this age-group is central to the achievement of global health goals. Risk factors to which adolescents and young adults are exposed, such as violence and infectious diseases, and risk behaviors adopted during this stage of life like smoking and lack of exercise can have a substantial effect in later life and potentially impact the health of future generations (Gore et al., 2011; Patton et al., 2012). At least 70% of premature adult deaths reflect behaviors initiated or reinforced during adolescence (Resnick et al., 2012). The rapid brain development, sexual maturation and dynamic behavioral and social change occurring in the second decade of life make it a time of great importance for later health, and therefore also a time of great potential for intervention (Viner et al., 2015).

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Interpersonal violence, defined in this study as "violence between family members and intimates, and violence between acquaintances and strangers that is not intended to further the aims of any formally defined group or cause", imposes a significant public health and economic burden worldwide and locally (Patel et al., 2007; World Health Organisation, 2002; Norman et al., 2010; Krug et al., 2002). The World Health Organisation divides interpersonal violence into two categories, namely family and intimate partner violence, and community violence, both of which are included in our definition for this study (World Health Organisation, 2002). Approximately 1.6 million people globally lose their lives to interpersonal, self-inflicted and collective violence with the majority of these deaths occurring in LMICs (World Health Organisation, 2002).

The experience of interpersonal violence peaks during the adolescent and young adulthood years with the highest rates of homicides and suicides in the world among males aged 15–29 years (World Health Organisation, 2002). In the South African Comparative Risk Assessment Study, interpersonal violence, defined as acts of family and community violence, was the second leading cause of healthy life-years lost (Norman et al., 2010). The average injury death rate of 157·8 per 100,000 population in South Africa is nearly twice the global average (Seedat et al., 2009). Data from the South African National Youth Victimization study show that between September 2004 and September 2005 42% of young people aged 12–22 years were victims of assault, sexual assault/rape, theft, robbery, housebreaking or car hijacking, translating to over 4 million people (Burton, 2006). Other data from South Africa reveal that at least 90% of adolescents aged 15–18 years studied in Limpopo Province have been exposed to at least one act of violence in their lifetime (Bach and Louw, 2010).

The burden of mental health disorders in young people is similarly high and many such disorders may go unnoticed until later in life. At least 20–25% of young people in the general population globally will suffer from at least one mental disorder in any given year (Patel et al., 2007). Three quarters of lifetime mental health disorders may have their onset before the age of 25 (Kessler et al., 2005). A systematic review of original studies from LMICs showed a prevalence of mental health problems of about 10–20% in most of the 16 surveys identified (Twine et al., 2016). The prevalence of mental disorders in South Africa is estimated at 15% (Patel et al., 2007).

A link between exposure to violence and mental health among young people has been widely demonstrated, with negative effects including post-traumatic stress disorder (PTSD), depression and psychological distress (PD) (Bach and Louw, 2010; Rosenthal and Wilson, 2006; Visser et al., 2015). The effects of exposure to violence in young women have also been especially studied because of the possibility of the transmission of intergenerational trauma through the women's mental health.

In the United States of America (USA) and Spain, young women aged between 18 and 25 years who reported exposure to violence had increased risk of depressive symptoms, PTSD, general aggression and somatic complaints (Mitchell et al., 2010). Among young African-American mothers, violence exposure was found to increase aggression and depression, which in turn affected parenting behaviors and increased the risk of the use of harsh disciplining methods (Mitchell et al., 2010). South African evidence shows that interpersonal violence, including gender-based violence and criminal assault, is associated with increased incidence of HIV (Dunkle et al., 2004; Jewkes et al., 2010) and an increased lifetime risk of PTSD in women (Kaminer et al., 2008). Women who experience or witness more violence are at an increased risk of more severe mental health and other symptoms (Mitchell et al., 2010; Sundermann et al., 2013). Further research from South Africa also shows that young women are more likely to have a higher prevalence of depressive symptoms than men even with similar levels of exposure to violence (Bach and Louw, 2010).

The relationship between place of residence, risk factors for and prevalence of mental health disease appears quite complex. Evidence from high-income countries suggests that the epidemiology of mental health differs between rural and urban contexts. In Europe and Canada, urbanicity has been linked to a higher risk and prevalence of mental health and depressive disorders. (Kovess-Masféty et al., 2005; Wang) On the other hand, data from the USA showed slightly but significantly higher prevalence of depression in rural compared to urban residents (Probst et al., 2006). The burden of mental disorders is often highest in the poor, in women and in rural communities among others, and yet these groups have low access to the necessary services (Saxena et al., 2007). This is further compounded by the fact that resources for mental health care are not only scarce, but are also inequitably distributed, with need and access usually inversely related (Saxena et al., 2007). Data from the National Income Dynamics Study (NIDS) South Africa, a long-running national panel survey, confirms that poverty headcount ratios are higher in women compared to men, and in rural compared to urban dwellers (Jansen et al., 2015). Disparities in access to health care services and health-care service delivery between urban and rural South Africans also persist (le and Booysen, 2003). The role of the rural-urban divide in the association between exposure to violence and psychological distress therefore needs to be fully explored in South Africa.

The rapid development and pervasive social and behavioral changes occurring during adolescence and young adulthood make this period in the life course critical for later health and well-being (Viner et al., 2015). In South Africa, this age-group is exposed to high levels of violence which has been linked to poor mental health outcomes with greater risk in women. In addition to this, evidence shows that most mental health disorders that manifest in adulthood, usually have their first onset in childhood or adolescence (Kessler et al., 2005). It is therefore essential to investigate the link between exposure to violence and psychological distress especially among young women to broaden our understanding of the factors that impact this association, with a view to develop appropriate and effective interventions. Therefore, the aims of this study were threefold: (i) to investigate the prevalence of interpersonal violence and PD among young women residing in rural and urban South Africa; (ii) assess the factors associated with interpersonal violence and PD; and (iii) explore the potential pathways between interpersonal violence and PD in urban and rural settings.

2. Methods

2.1. Study design and setting, and participants

We prospectively designed a study to examine rural-urban differences between young women drawing upon two research platforms. Firstly, the Project Ntshembo-Hope Cross-Sectional Survey, a study set in the Agincourt Health and Socio-Demographic Surveillance System (Agincourt HDSS) research site and whose main aim was to optimise the health of young women in South Africa and limit the intergenerational risk of metabolic disease (Twine et al., 2016; Draper et al., 2014) was utilised. Constituting the rural site, the Agincourt HDSS research site covers a sub-district of Mpumalanga Province in northeast South Africa covering 31 villages and a population of 115 000 living in a total area of 450 km^2 (Kahn et al., 2012). Living conditions are poor, with modest road infrastructure, poor access to piped water and electricity and low socio-economic status (SES) (Kahn et al., 2012; Maredza et al., 2016a). The Agincourt HDSS was established in 1992 to support district health systems development led by the Ministry of Health, and as of 2011 had 90,000 people under surveillance (Kahn et al., 2012). From the 2011 Agincourt HDSS database, 509 young women aged between 18 and 23 years of age were randomly selected out of a possible total of 2126 young women.

Secondly, 510 young women aged between 22 and 23 years were selected from the Young Adult Survey (YAS) of the Birth to Twenty Plus (Bt20+) cohort, Soweto (Micklesfield et al., 2017; Prioreschi et al., 2017). The Bt20+ Study is the largest and longest-running birth cohort