

https://dspace.org/

The relationship between Intimate Partner Violence and Adverse Pregnancy Outcomes among married women in South Africa.

Ndebele, S'hlengiwe

2025
University of the Witwatersrand, Johannesburg
https://hdl.handle.net/10539/48183

Ndebele, S'hlengiwe . (2025). CThe relationship between Intimate Partner Violence and Adverse Pregnancy Outcomes among married women in South Africa. [Master's dissertation, University of the Witwatersrand, Johannesburg]. WIReDSpace. https://hdl.handle.net/10539/48183

Downloaded from a DSpace repository. https://dspace.org/

The relationship between Intimate Partner Violence and Adverse Pregnancy Outcomes among married women in South Africa.

S'hlengiwe M. Ndebele

2142990

Supervisor: Dr. Rebaone Petlele

A RESEARCH REPORT SUBMITTED TO THE SCHOOL OF SOCIAL SCIENCES, UNIVERSITY OF THE WITSWATERSRAND, JOHANNESBURG, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN HEALTH DEMOGRAPHY.

DATE: MARCH 28TH, 2025.

Table of Contents

Acknowledgements 4

List of Acronyms and Abbreviations. 5

Abstract 6

Chapter One: Introduction-Background, Problem Statement, Research Question, Research Objections and Justification. 7

1.1 Background 7

1.2 Problem Statement: 8

1.3 Research Questions and Sub Questions: 9

1.4 Research Objectives and sub-objectives 10

1.5 Justification: 10

Chapter Two: Literature Review, Theoretical and Conceptual Framework. 12

Introduction: 12

2.1.1 Place of Residence 12

2.1.2 Population Group (race) 12

2.1.3 Age of Women 13

2.1.4 Education Level 14

2.1.5 Wealth Index 14

2.2 IPV 15

2.3. APOs and IPV 16

Conclusion: 18

2.4 The Theoretical Framework 18

2.5 Research Hypotheses 19

Chapter 3: Methodology 21

Introduction: 21

3.1 Description of Study Area: 21

3.2 Study Design and Data Source: 21

3.3 Study Population: 22

3.3.2 Sampling design: 22

3.4 Variables: 22

3.4.1 The Outcome variable 22

3.4.2. Independent Variables 23

3.5 Data Analysis: 25

3.6 Ethical Considerations: 25
3.7 Limitations of the Study: 25
Chapter 4: Results 27
Introduction: 27
4.1 Univariate analysis - Descriptive Statistics 27
4.2 Bivariate Analysis—Chi-squared test 31
4.3 Multivariate analysis—regression model 35
4.4 Testing the Hypothesis 36
Chapter 5: Discussion, Implications, Recommendations and Conclusions. 38
Introduction: 38
5.1 The Prevalence of APOs among married women aged 15-49 in South Africa 38
5.2 The relationship between IPV and APOs married women in South Africa 39
5.3 Applicability of the Framework 40
5.5 Policy Implications 41
5.6 Suggestions for further research and strengths and limitations 42
Conclusions: 42
References: 44
Appendix 1: Plagiarism Declaration 54
Annexure A: Ethical Clearance Waiver 55

Acknowledgements

I give thanks to my ancestors and those that have walked before me, allowing this moment in eternal time to be possible. To my mother, Loveness Ndebele, thank you for always making things a little bit easier for me. Your hard work, continued prayers and well-wishes will never go unnoticed. I would like to thank the support and patience of my supervisor, Dr. Rebaone Petlele in the process of drafting this research, without whose academic inputs, this would not be possible. Finally, myself, for enduring and remaining steadfast and reaching this point in my lifelong journey of learning

List of Acronyms and Abbreviations.

ANC: Antenatal Care

APO: Adverse Pregnancy Outcomes

ENAP: Every Newborn Action Plan

GBV: Gender Based Violence

GSWCAH: The Global Strategy for Women's, Children's and Adolescent Health

IPV: Intimate Partner Violence

SA: South Africa/South African

SADHS: South African Demographic Health Survey

SDOH: Social Determinants of Health Theory

UN: United Nations

WHO: World Health Organisation

Abstract

Intimate Partner Violence has been a growing public health concern for women in South Africa.1 in 5 women in South Africa are likely to be murdered by an Intimate Partner. Married and pregnant women are particularly vulnerable. An experience of violence poses risks for both mother and child. The current investigation aimed to determine the prevalence of APOs in South Africa among married women, and the socio demographic factors associated with APOs. A cross-sectional study of the nationally representative South African Demographic Health Survey (SADHS 2016) was used. A weighted sample of 4,059 female respondents. IPV is measured as physical and/ or sexually abused. IPV ever experienced during the course of the marriage and while pregnant is measured. Descriptive and inferential statistics are used to estimate the relationship between dependent and independent variables. Women aged 25-34 had the highest prevalence of APOs at 37.2%, while women aged 15-24 had the lowest prevalence at 9.6%. Women aged 35-44 were 2.9 times more likely to experience an APO than those aged 15-24 years (AOR: 2.91; CI 1.88-4.51). Additionally, women aged 45-49 were 2.5 times more likely to experience an APO compared to those aged 15-24 years (AOR: 2.56; p=0.000; CI95% 1.60-4.12). Experience of violence during pregnancy in South Africa is linked to several socio-demographic factors. It is important to protect women's rights by recognizing the risk that IPV poses to the health system and women's health and safety. The reduction of APOs protects the lives of mothers and their unborn child, allowing them to thrive in their environment.

Keywords: Intimate Partner Violence, South Africa, Married women, Maternal health, child health, SADHS 2016.

Chapter One: Introduction-Background, Problem Statement, Research Question, Research Objections and Justification.

1.1 Background

Globally, research demonstrates that in recent decades, married women continue to bear the burden of adverse pregnancy outcomes. (Hoque et al., 2014; Naik et al., 2016; Tadese et al., 2022). Adverse Pregnancy Outcomes (APOs) refer to the negative results at the end of a pregnancy, including the occurrence of an intrauterine death, stillbirth, and spontaneous or induced abortion (Naik et al., 2016). It can also be defined as neonatal outcomes such as low birth weight and preterm neonatal deaths, as well as maternal deaths (Jeena et al., 2020; Aski *et al.,* 2015). The current study will use the former as the working definition because it succinctly encompasses the scope of the current investigation.

Furthermore, 2.1 million third trimester stillbirths occurred in 2015 on the globe (McClure et al., 2020). Furthermore, 98% of stillbirths occur in lower- and middle-income countries (McClure *et al.,* 2023). The United Kingdom had the highest rates of stillbirths in high-income countries in 2009; France was second to the UK, followed by Australia (O'Neill et al., 2013). Stillbirths are among the highest contributors to under-5 mortalities in sub-Saharan Africa (Gardosi *et al.,* 2013). According to the United Nations, every 16 seconds a stillbirth occurs globally, accumulating close to 2 million stillbirths every year (UN, 2020).

Maternal health outcomes are important measures for determining the state of global and regional health affairs. Souza et al., (2024) argues that the lives of 3 million women lost to preventable circumstances between 2010-2020 is an indicator of global health inequality. In sub-Saharan Africa, an estimated 29.7% of women experience adverse outcomes to their pregnancy (Tamirat et al., 2021). Furthermore, Niza et al., *(*2022) state that 35% of unwanted pregnancies in the region were among 15–19-year-olds in unstable

relationships. Therefore, monitoring and surveillance of maternal health is important for applicable policy.

In South Africa (SA), intimate partner violence (IPV) has been the major cause of APOs, threatening maternal and child health outcomes in the country (Moodley et al., 2023; Tsai et al., 2016). Intimate partner violence refers to behaviours within an intimate relationship, performed by both current and former partners, that result in harm of a physical, sexual, or physiological nature, as well as controlling behaviours (WHO, n.d.). IPV has been identified as a significant public health problem that poses risk for the mental and physical health of mothers during and post pregnancy (Zar et al., 2019).

Numerous factors have been associated with IPV and APOs among women. Such factors include low education levels, poverty, alcohol abuse, and past childhood traumas (McCloskey et al., 2016). In sub-Saharan Africa, the problem of IPV is widespread (McCloskey et al., 2016); 36% of women experience IPV in the region (Izugbara et al., 2020). Furthermore, Izugbara et al., (2020) have argued that the problem remains misunderstood. Across Africa, 46.5% of women experience lifetime IPV.

1.2 Problem Statement:

The health of mothers and their unborn children remains an important concern in the public health space. Despite this prioritization, there remains concerns with growing violence against women which also affects pregnant women and their unborn children. In 2022, South Africa reported 10 818 cases of sexual assault and rape in the first quarter of the year (2023). Furthermore, the average South African woman is 5 more times more likely to be killed by an intimate partner compared to anywhere else in the world (Govender, 2023). The South Africa, mortality rates related to partner violence are double that of the cases in the United States (Field et al.,2018). Additionally, Field et al., (2018) highlights that violence against women in South Africa has been attributed to cultural norms, patriarchal norms associated with defence of honour and aversion to risk.

Married women are prone to violence during pregnancy and particularly vulnerable in this period. Married women often lose decision making power in heterosexual relationships, including decisions that can affect their health and safety (Tadele et al., 2019). This can

include the decision to take family planning and other maternal health services which can protect from unintended pregnancies, resultant forced abortions and sexually transmitted diseases such as HIV/AIDS while in potentially unstable heterosexual relationships (Demissie et al., 2022). Women in abusive relationships are also twice as likely to miss prenatal visits or delay until the third trimester (Alhusen, 2015).

Furthermore, a study conducted on 370 Portuguese subjects, Cutinho et al., (2015) found that 43% women experienced IPV during pregnancy. Jain et al., (2016) showed that among 400 pregnant violence increased during for 18.4% of women compared to 4% of women where violence decreased. This study shows that increased vulnerability of women to IPV during pregnancy. Furthermore, IPV can cause harm to the mother and child. Hill et al., (2016) states that IPV can trigger stress responses in the body such such increases levels of cortisol which leads to intrauterine growth restriction (IUGR), and the release of prostaglandin which results in premature contractions.

In recognition of the need to protect mothers and unborn children, the South African government established various frameworks and policy efforts. This includes the The Global Women Strategy for Women's, Children's, and Adolescent's Health is also a guiding framework for the SA government to align themselves well with international efforts to protect maternal and neonatal health (South African Government, 2021). Additionally, Every Newborn Action Plan (ENAP) was established by the World Health Organisation to support the work of countries aiming to reduce and prevent the occurrence of adverse pregnancy outcomes and support maternal health advancement (South African Government, 2021).

1.3 Research Questions and Sub Questions:

- **Main Research Questions:**

What is the relationship between IPV and APOs in South Africa?

<u>Sub Questions:</u>

1. What is the prevalence of APOs in South Africa?
2. What is the association between IPV and APOs in South Africa?

1.4 Research Objectives and sub-objectives

- **Main Objective:**

To determine the relationship between IPV and APOs in South Africa.

Specific Objectives:

1. To determine the prevalence of APOs in South Africa.
2. To determine the association between IPV and APOs in South Africa.

1.5 Justification:

Recent South African data on stillbirths and perinatal deaths is hard to come by. However, according to the South African Saving Babies (2017-2019) Report, the country aims for a stillbirth rate of less than 15/1000 by 2030 (RSA Department of Health, 2020). In the 2017-2019 period, the Free State province reported the highest stillbirth rate of 23.7/1000, followed by the Northern Cape at 19/1000 (SBR, 2019). These numbers reflect significantly higher rates than the targets of the country, which are congruent with the National Development Plan (NDP) 2030. Understanding the relationship between IPV and miscarriages and stillbirth is essential to improving maternal and child health in the way of positive pregnancy outcomes. Additionally, SDG 3 aims to reduce the maternal mortality rate and preventable deaths of babies in the neonatal phase to below 12/1000.

South Africa presents an opportunity for special research within the African context due to its high rates of IPV. A cohort study found that 20% of women in South Africa experienced IPV in the duration of their pregnancy and up to 9 months postpartum (Groves et al., 2015). Furthermore, the National Development Plan highlights in its plans to work towards the safety of women and children and the girl child (NDP, 2015). To this end, this research investigation seeks to bridge the gap on a national level, aligning with goals set by the Government of South Africa to not only save women and girls but also the unborn child. This study also extends to the existing literature in South Africa by examining the relationship between IPV and APOs among married women in South Africa.

The Sustainable Development Goal (SDG) 5 of the United Nations highlights gender equality as a requisite to building peaceful and sustainable societies as well as a human right that should be recognized across the globe (United Nations, 2012). Gender inequality is damaging and hinders women's efforts to live in a free society. Mpondo et al., 2015 argued that reducing women's exposure to IPV can lead to self-determination and a healthy life. Therefore, the findings of the current study could potentially inform public health policymakers on the association between IPV and APOs, in an effort increase women's self-determination in the societies they reside in.

Chapter Two: Literature Review, Theoretical and Conceptual Framework.

Introduction:

This chapter intends to provide a brief review of literature that concerns APOs and intimate partner violence. This includes a summary of literature on the socio-demographic factors associated with APOs. Literature concerning both the risk factors and mechanisms linking IPV and socio-demographic variables to APOs. The literature reviewed in this section has a global, sub-Saharan Africa, and South African focus. The literature review will focus on papers using quantitative research methods.

2.1.1 Place of Residence

Place of residence classified by rural and urban settings is a point of interest for public health researchers regarding its relationship to obstetric outcomes (Harrington et al., 2023). Shan et al., (2018) demonstrated that in China, women who lived in rural residences had poor birthing outcomes and foetal complications. These women were also of advanced age and primiparity (Shan et al., 2018).

In a study conducted in Iran, Mehrnoush et al., (2023) found that mothers who resided in rural areas were more likely to experience APOs such as preterm births and low birth weight compared to urban mothers. This phenomenon can be explained by access to proper maternal care and obstetric services. Mehrnoush et al., (2023) also found that women in rural areas were also more likely to have lower iron levels. Low iron or anaemia has been associated with impaired foetal outcomes (Zhang et al., 2021). These findings reflect broader disparities in access to maternal healthcare infrastructure, often tied to socio-economic and policy-level neglect of rural areas.

2.1.2 Population Group (race)

The role of population group, otherwise racial origin has been widely studied in relation to its contribution to APOs in women across the globe (Grobman et al., 2018). In a study conducted by Grobman et al., *(*2018), Black women in the United States were more likely to experience adverse pregnancy outcomes such as preterm births than Hispanic and

white women. In the same study, white women were found to be more likely to give birth to children who are small-for-gestational-age (SGA) (Grobman et al., 2018). Similarly, Jardine et al., (2021) in a study in England, found that the risk for stillbirth increased in Black women to 0.7%; comparatively, this was 0.3% in white women. This study had 1,233,184 subjects, and two-thirds of the stillbirths in this study were attributed to Black women who resided in disadvantaged areas with odds of low socio-economic status.

Moreover, the study also notably adjusted for socio-economic and ethnic groups. The adjusted values showed that Black and South Asian women had a 63.7% and 53.3% risk for stillbirth. Two studies in the US have found that African American (Black) women are at higher risk for adverse pregnancy outcomes when compared to Hispanic and White women (Grobman et al., 2018; Bediako et al., 2015). Grobman et al., (2018) state that Black women's predisposition to APOs such as stillbirths can be explained by higher odds for stress-related disorders due to lack of support systems regardless of income when compared to white women. Bediako et al., (2015) explain that the African American women were more likely to experience APOs due to systemic social exclusion, which leads to long-term stress disorders that can transcend generations.

2.1.3 Age of Women

Maternal age has been widely debated in recent years with the advent of delayed childbearing. This trend has been largely observed in developed countries as women have in recent years focused on their pursuit of education and career growth, among other reasons (Tembo et al., 2019). Londero et al., (2019) report a notable association between advanced maternal age and increased risk for preterm birth, low birth weight (LBW), and perinatal death. Similarly, in Ethiopia, 29% of women who were aged over 35 years of age fared poorly in their perinatal outcomes in comparison to adult-aged women who were 20-34 years old in the study (14.5%) (Getaneh et al., 2021). Women of advanced age were defined as those 35 years older at the time of delivery of a baby (Getaneh et al., 2021). Using Demographic Health Survey data, Mpolokeng and Musekiwa (2023) also demonstrated that women 35-49 years old were at higher risk for APOs compared to those 15-19 years old.

While most studies have focused on the associated advanced maternal age and birth outcomes, the public health issue of teenage pregnancy in developing countries persists. Amjad et al., (2019) state that this trend is equally dangerous, as the risk for biological immaturity for childbirth is a risk for poor obstetric outcomes. In sub-Saharan Africa, 32% of women aged between 15 and 24 years old experienced an unintended pregnancy in 2020 (Bolarinwa and Boikhutso, 2021). Amadou *et al., (*2022) find that adolescent pregnancy in Africa was associated with a higher risk for adverse pregnancy outcomes due to socio-economic, low educational status, low uptake of antenatal care, and risky behaviours such as alcohol and smoking**.** Thus, both adolescent and advanced maternal ages pose biological and socio-economic risks that elevate vulnerability to APOs.

2.1.4 Education Level

In an Italian study, Cantarutti et al., (2017) found that in a sample of women with access to universal health care (UHC) regardless of socio-economic status, women with higher education had lower odds of preterm births, low birth weight (LBW), and small for gestational age (SGA) compared to women with lower education. Rogne et al., (2024) argued that low educational attainment is linked to APOs (LBW) but were unable to demonstrate the pathways on which this occurs. However, several studies have shown that low socio-economic status linked to low levels of education was associated with low uptake of maternal care services and subsequent APOs (Babalola, 2014; Yaya et al., 2017). Higher educational attainment may empower women to make informed health decisions, navigate healthcare systems, and advocate for appropriate care.

2.1.5 Wealth Index

Studies regarding wealth index, centred on the impact of wealth index on mother's access to antenatal care (ANC) and its link to birth outcomes (Asefa et al., 2023; Ngandu et al., 2019). Further to this, South Africa was found to be one of the counties among 16 sub-Saharan African countries where women (84.1%) completed ANC regardless of wealth index (Asefa et al., 2023). This indicated an overall higher standard of health care in the country.

Thermidor et al., (2024) showed that women who resided in a low-income neighbourhood more likely to experience APOs, as opposed to those in wealthier neighbourhoods. Additionally, Reynolds et al., 2020) have shown that socio-economic disadvantages such as employment status have been associated with adverse outcomes to a pregnancy, including stillbirths and preterm births. Collectively, these studies suggest that economic inequality can influence maternal health through its effects on living conditions, health service access, and psychosocial stressors.

2.2 IPV

Globally, Intimate Partner remains a public health concern. A study that used the Egypt Demographic Health Survey (EDHS), found that the prevalence of IPV between the years 2005 and 2014 was 19.6% for women whose male partners had 'pushed/shook/thrown something' at them (Yaya et al., 2021). Religion was found to be a significant determinant of IPV, as Muslim women had elevated levels of violence compared to Christian women. A study in Pakistan determined from the Pakistan Demographic Health Survey (PDHS 2012-13) that overall prevalence for IPV was 36.4% and 18.4% for emotional and physical violence, respectively, among married women (Iqbal and Fatmi, 2021). A European Union (EU)-wide survey of 28 states determined that 7.8% of partnered women reported physical violence in the region (Reichel, 2017). This study admittedly did not account for cultural and other explanatory factors, as there were varying differences in prevalence, ranging from 2% in Austria and 14.1% in Romania (Reichel, 2017).

South Africa has been named as a country with the highest reports of IPV (Mpondo et al., 2016). In 2015, South Africa was reported to have a femicide rate of 8.8/100,000, which was the highest on the globe (Groves et al., 2015). A study conducted among 716 adolescent girls and young women who were never married (AGYW) found that the prevalence of violence was 13.1% (Mthembu et al., 2021). Furthermore, provincially, the Gauteng province had the highest prevalence of 44.8% (Mthembu et al., 2021).

Moreover, violence against women can sometimes have fatal effects. A 2023 study found that there were 278,638 femicides between 2003 and 2014 (Whittington et al., 2023). Additionally, Whittington and colleagues reported that the country of El Salvador is one

with the highest femicides at 12.4/100,000 among 66 other countries, excluding South Africa (Whittington et al., 2023). This indicated a disparity in corroborated data during this period in research. IPV encompasses a range of abusive behaviors including physical, emotional, sexual violence, and coercive control, which vary by cultural context and measurement.

2.3. APOs and IPV

This section addresses the established relationship between intimate partner violence and adverse pregnancy outcomes in literature. The literature reviewed here is also limited to quantitative research methods and peer-reviewed articles. The breakdown has global, sub-Saharan African, and South African perspectives. The section has a focus on prevalence and resultant APOs.

In Nepal, the prevalence of intimate partner violence was 30%, ranging from controlling behaviour to physical violence (Sharma and Kaphle, 2023). A US based study showed that women who experienced IPV were associated with preterm births, low birth weight, and neonatal intensive care (Chen et al., 2018). In France, a study showed that women who had experienced a form of IPV were most likely to also experience an induced abortion (Maciel et al., 2019). In Sweden, children born of women with previous exposure to IPV were likely to be premature (Finnbogadottir *et al.,*2020).

It is estimated that women who have experienced IPV during their pregnancies ranged between 4 and 29% in lower and middle-income countries (LMICs) (Ahinkorah, 2021). Further, among other health consequences, IPV during pregnancies has the risk of termination of pregnancies, posttraumatic disorder, and spontaneous loss of pregnancies (Stockl et al., 2012; Ahinkorah, 2021). A study in Malawi found that women who had experienced IPV had a higher likelihood of adverse pregnancy outcomes due to preceding IPV incidences in the duration of the pregnancy (Rao et al., 2017). However, a study in Ethiopia found that women who reported IPV were 3 times more likely to experience a stillbirth (Gebreslasie et al., 2020). Tamirat et al., (2021) found that women in sub-Saharan Africa had 1.18 (95% CI: 1.14-1.22) times higher odds of adverse birth outcomes than mothers with no history of partner violence.

South Africa has a longstanding battle with intimate partner violence. One in four women in South Africa experience intimate partner violence over their life, compared to one in three globally (Fapohunda et al., 2021). A study in KwaZulu-Natal province, South Africa asserts that stigma and abuse, including intimate partner violence may contribute to adverse outcomes following the gestation period (Amoadu et al., 2022b). A study conducted in Durban, which is in the province of KwaZulu-Natal, South Africa, found that IPV, particularly sexual violence, increases risk (aRR: 4.43; 95% CI: 1.31–14.97) for postpartum sexually transmitted infections (STIs) among adolescent mothers (Gebrekristos et al., 2020). Another Durban-based study revealed that 29.1% of women reported an APO with miscarriage being the most reported (19.9%) (Abrahams et al., 2021)

A large body of literature concerning APOs in South Africa was studied in public health facilities across specific provinces, including Gauteng and KwaZulu Natal in the country (Abrahams et al., 2021; Mthembu et al., 2021). Many of the papers focused on the consequences of unintended teenage pregnancy (Hoque et al., 2014; Haffajee et al., 2018; Amoadu et al., 2022). Several papers also took on a longitudinal study design. Further, an observational study done in Soweto, South Africa, found that stillbirths occurred who had hypertension, existing HIV infections, Syphilis and a bacterial infection known as E. faecalis (Madhi et al., 2019).

Some European studies have sought to clarify such pathways, such as Cantrutti and syphilis, stating that low socio-economic status (SES) can be linked to delayed prenatal, a link associated with low education too (Cantarutti et al., 2017). Intimate partner violence of a physical or sexual nature during pregnancy in Europe is relatively low, averaging around 6.1% as one 2018 article reports (Sanz-Barbero et al., 2018). A more recent study found much conflicting data, indicating that the general prevalence of IPV in the European Union (EU) was 20% and 8.4% for physical and sexual violence, respectively (Barbier et al., 2022). Although there is a notable contrariety in European data, these figures are comparatively lower than the SSA and still demonstrate a need for much nuanced research in the African region.

Conclusion:

This literature review has summarised the available studies on the factors that determine APOs and IPV across the global, SSA, and South African contexts. There exists an overwhelming burden in low- and middle-income countries of APOs and IPV. The study looked at demographic factors such as place of residence, population group, maternal age, educational level, and wealth index. The prevalence of APOs was highest in low- and middle-income countries. Black women have been found to be most vulnerable to APOs due to various factors including low socio-economic status, depressive disorders, and lack of social support.

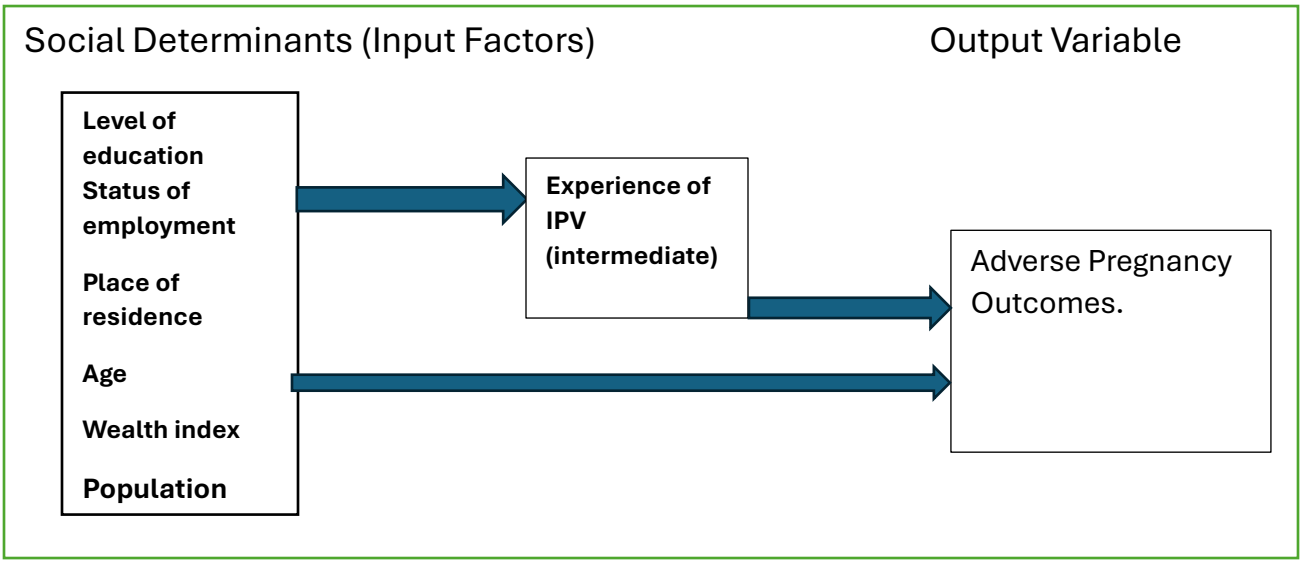
The relationship between IPV and APOs has been widely established across global and regional literature. The average prevalence for IPV in SSA was approximately 29%. Several studies in SSA established that women who were exposed to IPV during pregnancy were likely to bear children who were premature or stillborn. The review revealed that much work on the sub-continent and in South Africa needs to be done to curb detrimental birth outcomes and strengthen maternal health.

2.4 The Theoretical Framework

The Social Determinants of Health (SDH) underpin the current study. The social determinants of health refer to the existing social conditions that can influence health, either directly or indirectly (Krieger, 2001). The World Health Organisation refers specifically to the place in which people may be “born, grow, live, work, and age” (WHO, 1). Braverman and Gottlieb (2014) expand on the definition, stating that these social conditions may involve the availability of recreational infrastructure and access to healthy or nutritional foods. These definitions point to the social privileges an individual may access, which may determine their health well into their old age.

The theory relates to the current research investigation due to the assumption that social conditions can determine health outcomes. The social conditions defined include the experience of IPV in intimate relationships, which are hypothesised to determine the outcome of a pregnancy and subsequent health of the mother and child. The theory has been used in the sphere in studies with varying scopes ranging from cancer to pregnancy

outcomes (Amjad et al., 2019; Maness et al., 2016; Wang *et al., 2020*). This theory was selected to guide the conceptualization of the current study This theory does not have a visually representative product of its own. Its application in this study is illustrated in the conceptual framework presented below (Figure 2.4).



The conceptual framework illustrates how structural determinants such as socioeconomic status, educational attainment, and environmental conditions influence the likelihood of experiencing IPV within a marital context. IPV, in turn, is posited to increase the risk of adverse pregnancy outcomes (APOs) through both direct (physical harm) and indirect (psychological stress, lack of healthcare access) mechanisms.

2.5 Research Hypotheses

Hypothesis. The following hypothesis will be tested. Grounded in the SDH framework, the hypothesis assumes that IPV functions as a key social determinant capable of shaping maternal health outcomes, including the incidence of APOs.

- **H0**: There is not a relationship between IPV and APOs among married women in South Africa.
- **H1**: There is a relationship between IPV and APOs among married women in South Africa.

***Significance level**: α=0.05*

Chapter 3: Methodology

Introduction:

This chapter outlines the methodology used in the current investigation. This includes a description of the study area, population size, and how the subset was selected. Additionally, the chapter details the variables used, including the formation of the predictor through indexes as well as other independent variables and the outcome. Finally, ethical considerations and limitations are discussed.

3.1 Description of Study Area:

The current investigation is based in South Africa. The country is known for a rich cultural, religious, and racial diversity (South African Government, 2021). The population of 62 million people is made up of 51.5% females and 48.5% males, according to the recent census (StasSA, 2022). Additionally, 81.4% of the population are Black Africans, making up the majority (StatsSA, 2022). The official 2022 Census recorded a Coloured population of 8.2%, Whites at 7.3%, and the lowest were Indians at 2.7% (StatsSA, 2022). In South Africa, 1 in every 4 women is likely to experience IPV, which is often heightened during pregnancy (South African Government, 2017). Given the high rate of IPV and the country's socio-demography diversity, South Africa provides a compelling setting for this investigation.

3.2 Study Design and Data Source:

The study utilises secondary cross sectional data from the South African Demographic Health Survey (SADHS) 2016. This is a cross-sectional, secondary-source survey. The survey aims to gather information on various topics with demographic themes, including fertility, maternal and child health, among others (StatsSA, 2019). The cross-sectional design allows for a large pool of subject, and differences from groups within the population can be established (Hunziker, 2024). The SADHS plays a key role as an informant to the public, researchers, and public health policy makers alike on the state of public health in the country (StatsSA, 2019). The data for the current investigation was sourced via an online system on the DHS website that requires registration and lodging a formal request for a particular data, i.e., the South African dataset. Upon registration and selection of a

topic of interest, the DHS approves the account, allowing for free and accessible download.

3.3 Study Population:

The study focused on married women aged 15-49 who have experienced intimate partner violence in the past or in the duration of their pregnancy. The focus on married woman was a result of the scope of the study. The response rate was 86% for the questionnaire with an overall of 9878 women aged 15-49. The final subset was 4001 women, unweighted, and a weighted sample of 4059. The weighted sample of 4059 was used in this study for generalizability.

3.3.2 Sampling design:

The SADHS 2016 employed the Statistics South Africa Master Sampling Frame (MSF), an adaptation of the Enumeration Areas (EAs) based on the 2011 census (StatsSA, 2019). Primary Sampling Units (PSUs) are sub-areas that are demarcated from EAs. This allows for small neighbourhoods and creates single, manageable PSUs (Stats SA, 2019). Dwelling units (DUs) were estimated by type of residence, which is divided into urban, rural, and traditional areas (StatsSA, 2019).

A bi-stratified system consisting of two stages was used in the SADHS 2016 (Stats SA, 2019). The bi-stratification between rural and urban setting helps determine the extent of the problem, allowing for tailored policy approaches. The system involved performing a probability proportional to size sampling of PSUs at the first stage, followed by the sampling of DUs (Stats SA, 2019). Out of 750 PSUs, 468 were urban, 224 were traditional, and 58 were farm areas (Stats SA, 2019).

3.4 Variables:

3.4.1 The Outcome variable

The outcome variable is adverse pregnancy outcomes, which is measured as a binary variable. It is determined by an answer of yes or no to the question of whether the women experienced any of the possible adverse outcomes namely, an abortion (termination of pregnancy), stillbirth, miscarriage(spontaneous abortion).

3.4.2. Independent Variables

The predictor variable is given by Intimate Partner Violence (IPV). This variable was created through a combination of index variables on the status. The index variables were based on questions answered on IPV experience, such as “Has your partner pushed, shoved, or beat you?” among other questions that highlight physical, emotional, and sexual violence. This variable was created by combining several index variables found in the domestic violence questionnaire of the SADHS. The variables were d104, d107, d108 representing emotional, physical and sexual violence, respectively. All the indexes were binary with yes/no variations. These were finally recoded into a single variable “IPV”, a binary variable. In addition to IPV, other relevant independent variables include age (grouped), educational level, population group (race), place of residence, province, and wealth index. Age is grouped according to adolescents and young adult women (age group 15-24), adults (25-34), and older adults (35 and older women). Variable definitions are explained in detail in Table 3.1 below.

Table 3.1: A description of variables used in the current study.

Variable:	Definition/Question	DHS Measure	Study Measure
Adverse Pregnancy Outcome	*Have you **ever** had a pregnancy that miscarried, was terminated, or ended in stillbirth?*	Stillbirth_1 Miscarriage_2 Other_3	No_0 Yes_1 **Categorical**
Intimate Partner Violence (IPV) (Explanatory)	*Experienced violence from husband/partner.*	D104 Physical D106 Emotional D107 Mental D108 Sexual	No_0 Yes_1 **Categorical**

Age in 5-year Groups	*What is your date of birth?*	15-24 25-34 35-44 45-49	**Categorical**
Population Group	*Which population group do you consider yourself: black, white, coloured, Indian or something else?*	Black/ African_1 White_ 2 Coloured_ 3 Indian/ Asian_4	Black/ African _1 White_ 2 Coloured_ 3 Indian/ Asian_4 **Categorical**
Highest Level of Education	*Have you ever attended an education institution?* *What is the highest level you completed at that level?*	No Schooling (0) Primary (1) High School (2) Tertiary (3)	No Schooling (0) Primary (1) High School (2) Tertiary (3) **Categorical**
Place of Residence	*The residence of the participants.*	Urban Rural	Yes_0 No_1 **Categorical**
Wealth Index	*Household wealth accumulation.*	Poorest (1) Poorer (2) Middle (3) Richer (4) Richest (5)	Poor (1) Middle (2) Rich (3) **Categorical.**

Province	*Province where respondent was living.*	Western Cape (1) Eastern Cape (2) Mpumalanga (3) Limpopo (4) Northern Cape (6) Gauteng (7) North West (8) Kwa-Zulu Natal (9)	**Categorical**

3.5 Data Analysis:

A basic descriptive analysis was done to assess the prevalence of APOs, i.e., miscarriage, stillbirth, or termination of pregnancy. This analysis produced data that showed the extent of APOs in South Africa. Secondly, a chi-squared test was performed to determine the association between the dependent variable and the independent variables. The variables were determined to be significant and included in a binary logistic regression model. APOs is a binary outcome, a yes or no response. A binary logistic regression model was therefore used to determine whether there is a relationship between IPV and APOs and answer the research question.

3.6 Ethical Considerations:

This study made use of secondary data, the SADHS 2016, where respondents' identifiable characteristics, including names or other personal details, are not included. Ethical clearance for this study was requested and granted by the Ethics Committee of the University of the Witwatersrand, Johannesburg. An ethics waiver was approved on August 23rd, 2024, with a clearance number of WDEMG2024/07/07.

3.7 Limitations of the Study:

One of the limitations of the current study is the cross-sectional design. In a study of IPV and pregnant women, a longitudinal design could offer a more accurate representation

by recruiting women in the early stages of pregnancy and tracking their experience of IPV over time. This design is also affected by recall bias. Participants may not accurately present information such as dates or past events in line with the time of their gestation period. This might make it harder to draw formal conclusions in the results and discussion. Hence, the study makes a caveat in relation to this.

Chapter 4: Results

Introduction:

The objective of the investigation was to determine the relationship between intimate partner violence and adverse pregnancy outcomes among married women in South Africa. The purpose of this chapter is to present the empirical findings of the study. Firstly, the chapter presents the descriptive statistics of the study in the form of univariate findings of the sample. Secondly, the bivariate analysis. Finally, the logistic regression was conducted to determine the relationship between the two main variables of the study, i.e., IPV and APO.

4.1 Univariate analysis - Descriptive Statistics

The current investigation included a weighted sample of 4,056 married women of reproductive age (15-49).

The first objective of the investigation was to determine the prevalence of APOs in South Africa. **Figure 4.1** shows 12% (493) of women in South Africa have ever experienced an adverse pregnancy outcome, while 88% (3566) have not**. Figure 4.2** shows that 20.3% (823) of women experienced IPV, whereas 79.7% (3,234) did not.

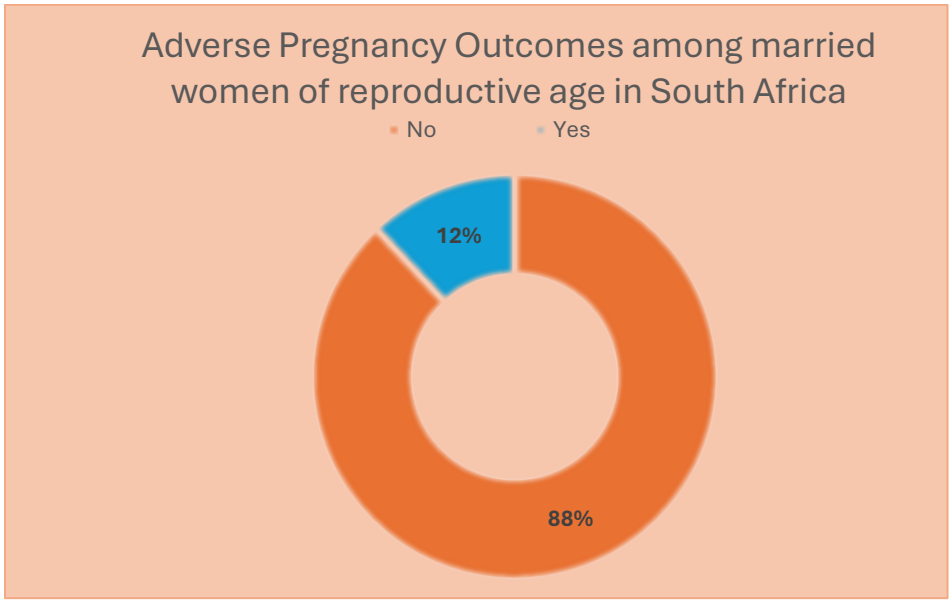


Figure 4.1: Prevalence of APOs in South Africa among married women of reproductive age.

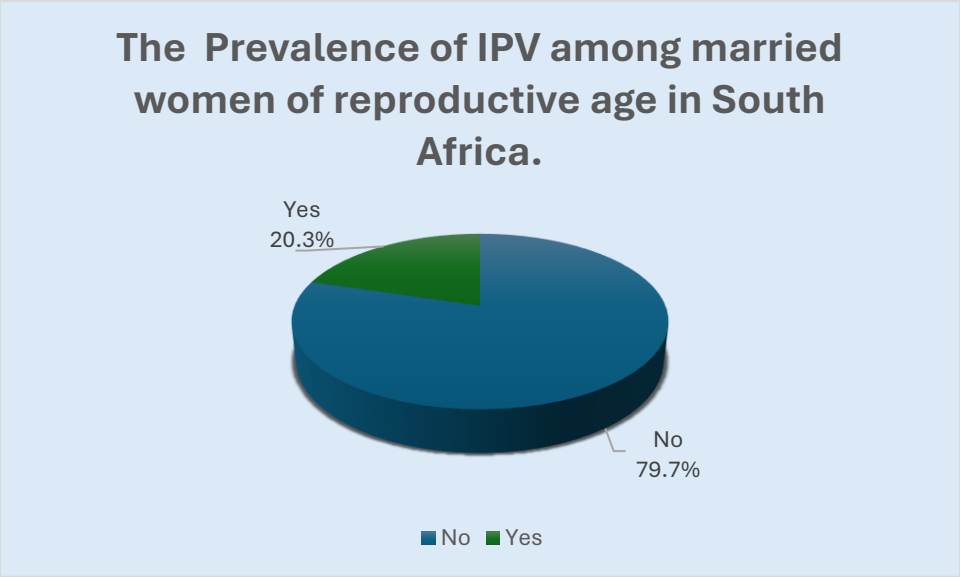


Figure 4.2 Prevalence of IPV among married women of reproductive.

The results indicate that 20.3% of women indicated that they experienced intimate partner violence.

Table 4.1: Frequency and percentage (weighted distribution) of married women included in the SADHS 2016 interviews for Domestic Violence.

Variables	***Frequency Distribution (N=4059)***	***Percentage Distribution (%)***
Dependent variable:		
APO No Yes	 3566 493	 87.9 12.1
Independent variables:		
IPV No Yes	 3234 823	 79.7 20.3

Missing: 2		
Age in Group 15-24 25-34 35-44 45-49 *Missing:3*	 813 1564 1200 479	 20 38.5 29.5 11.8
Education Level No schooling Primary Secondary Tertiary *Missing:3*	 95 369 3014 578	 2.4 9.1 74.3 14.2
Population Group Black (African) Coloured Indian White *Missing: 2*	 3529 147 341 40	 86.9 3.6 8.4 0.9
Residence (*type*) Rural Urban *Missing:1*	 2833 1225	 69.8 30.1

Province		
Western Cape	482	11.8
Eastern Cape	426	10.5
Northern Cape	87	2.14
Free State	210	5.18
KwaZulu Natal	628	15.4
North West	290	7.14
Gauteng	1195	29.4
Mpumalanga	326	8.0
Limpopo	412	10.1
Missing: 3		
Wealth Index		
Poor	1673	41.2
Middle	879	21.7
Rich	1505	37.0
Missing:2		

Table 4.1 further shows 20% of married women were aged between 15-24, 38.5% were aged between 25-34, 29.5% were aged 35-44, and 11.8% were aged between 44-49. On education, a large proportion women had a secondary level education (74.3%); 14% reported having a higher education; 9% had some form of primary education, and only 2.3% of women had no formal education.

The Black population represented 86.9%, while the Coloured population accounted for 3.6%. The Indian population represented 8.4%, and the White population made up less than 1%(0.9%). Additionally, 69.8% of the population resided in rural areas, while 30.1% lived in urban areas.

By provincial residence, Gauteng and Kwa-Zulu Natal represented large proportions of the sample, with 29.4% and 15.4%, respectively. The Northern Cape had the fewest participants, with only 87 people, representing 2.14%. The Eastern Cape and Limpopo

had similar proportions, with 10.5% and 10.1%, respectively. Finally, the Western Cape, represented 11.5% of the sample, Mpumalanga 8%, and the Free State province 5.18%.

Many married women included in the study were poor (41.2%). The wealth index further showed that the middle class was 21.7% of the sample and the rich represented 37% of participants.

4.2 Bivariate Analysis—Chi-squared test

The bivariate analysis was done to determine the association between the outcome variable and independent variables. This relationship establishes whether the independent variables have a statistically significant association with the outcome variable. This was done by means of the chi-square test with a significance level set to $p<0.05$.

Table 4.2 Bivariate Associations between Independent Variables and APO in South Africa (n=4057, Weight).

Variables	***APO (%) "No"***	***APO (%) "Yes"***	***P-Value (0.05)***
Predictor Variable			
IPV			
No	2879 (89.28)	355 (10.9)	0.00***
Yes	686 (83.33)	137(16.67)	
Socio-demographic Variables			
Age in Group			
15-24	745 (94.18)	46 (5.82)	
25-34	1324 (88.15)	178 (11.85)	*0.00***
35-44	1018 (85.26)	176 (14.74)	
45-49	435 (84.63)	79 (15.37)	
Education Level			
No schooling	98 (87.50)	14 (12.50)	*0.07 ns*

Primary	353 (84.65)	64 (15.35)	
Secondary	2635 (85.68)	334 (11.25)	
Tertiary	436 (86.68)	67 (13.32)	
Race			
Black (African)	3055 (88.42)	400 (11.25)	
Coloured	98 (80.33)	24 (19.67)	*0.05**
Indian	344 (87.09)	51 (12.91)	
White	25 (86.21)	4 (13.79)	
Residence (*type*)			
Urban	2057 (88.47)	268 (11.53)	*0.31 ns*
Rural	1465 (87.41)	211 (12.59)	
Province			
Western Cape	278 (86.88)	42 (13.12)	
Eastern Cape	411 (86.53)	64 (13.47)	
Northern Cape	323 (91.24)	31 (8.76)	
Free State	366 (91.27)	35 (8.73)	
KwaZulu Natal	473 (88.25)	63 (11.47)	*0.21 ns*
North West	345 (83.33)	69 (16.67)	
Gauteng	399 (88.27)	53 (11.73)	
Mpumalanga	441 (87.85)	61 (12.51)	
Limpopo	486 (88.85)	61 (11.15)	
Wealth Index			
Poor	1516 (87.94)	208 (12.06)	
Middle	856 (88.80)	108 (11.20)	*0.67 ns*
Rich	1150 (87.59)	163 (12.41)	
*Level of significance: *p<0.05; **p<0.01, ***p<0.001; ns not significant*			

Table 4.2 presents findings, showing that married women in the older age categories, 45-49 (15.37%) and 35-44 (14.74%), experienced the highest rates of APOs compared to

younger women aged 34 years and below. Figure 4.2.1 illustrates that women in the younger age group are less likely to experience APOs than their older counterparts.

Figures 4.2.1-3 show the prevalence of APOs by the significant predictors identified through the Chi-Square Test, namely age, IPV, and population group.

Figure 4.2.1 shows that women aged 25-34 had the highest prevalence of APOs at 37.2%, while women aged 15-24 had the lowest prevalence at 9.6%. Women aged 35-44 had a prevalence of 36.7%. **Figure 4.2.2** shows the prevalence of APOs by population group, revealing that Black women had the highest prevalence at 83.51%, followed by Coloured women at 10.65%. The prevalence in White women was 5.01%, and Indian women had the lowest prevalence at 0.84%. **Figure 4.2.3** shows that the prevalence of APOs was 29.9% among women with a history of IPV, compared to 19.9% among those without such a history.

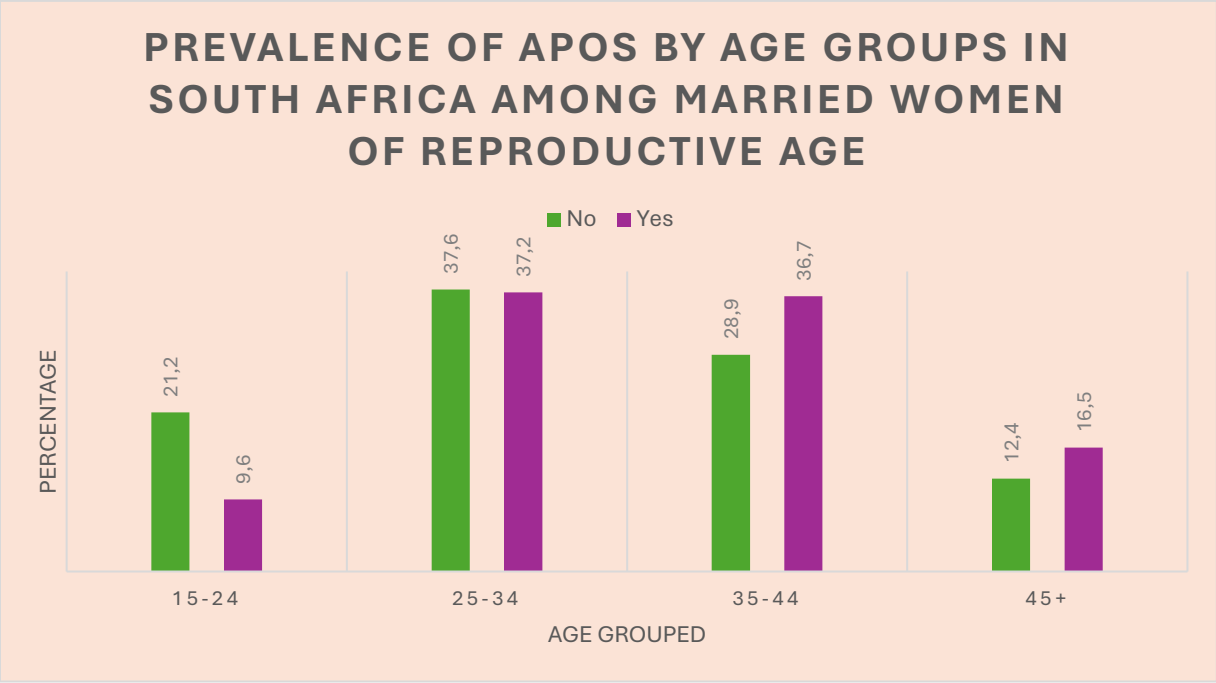


Figure 4.2.1: Prevalence of APOs by age groups in South Africa among married women of reproductive age.

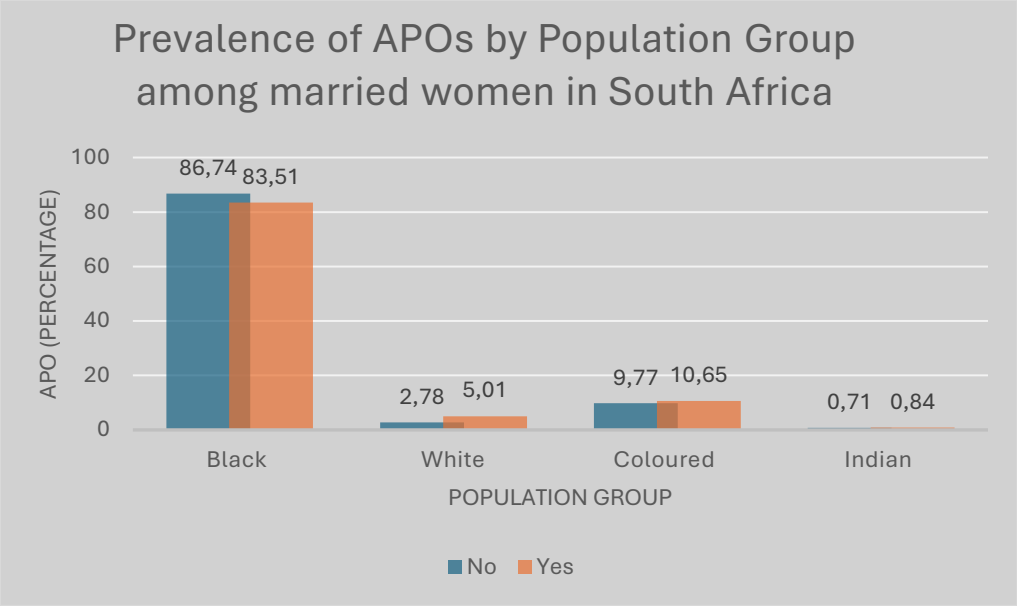


Figure 4.2.2 Prevalence of APOs by Population Groups in South Africa among married women.

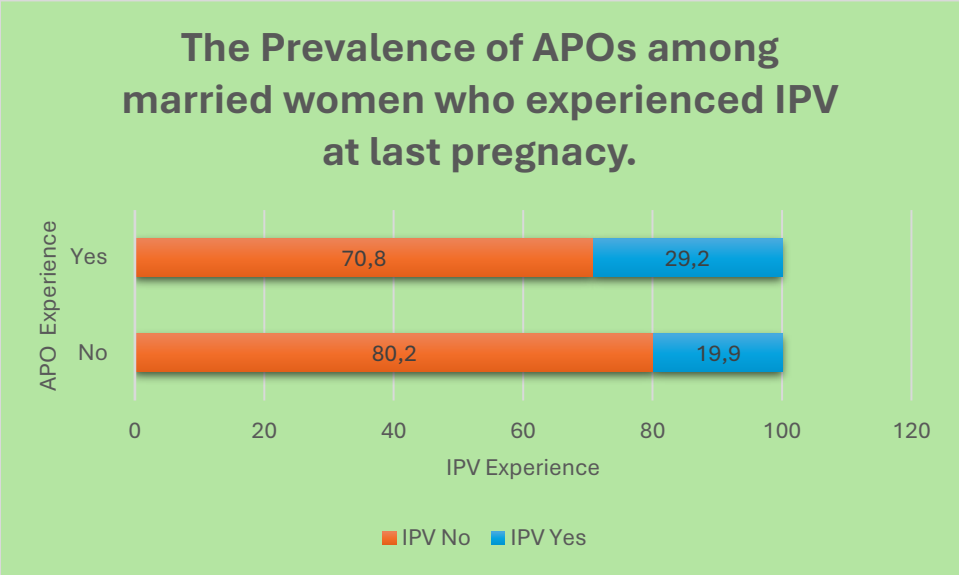


Figure 4.2.3 The Prevalence of APOs by Population Groups in South Africa among married women.

Intimate Partner Violence (IPV) was found to be a significant predictor of APOs among women in South Africa (P=0.00). The results revealed that 10.9% of women without a history of IPV experienced an APO. In contrast, 16.67% of women with a history of IPV

experienced an APO, with a significantly higher prevalence among those who had experienced partner violence. The results indicated that the likelihood of experiencing an APO increases with age, with older women of reproductive age showing a higher risk. The highest prevalence of APOs was observed among women in the 45-49 age group, where 15.37% experienced an APO. This group was followed by women in the 35-44 age group, with a prevalence of 14.74%. The 25-34 age group had a prevalence of 11.85%. In contrast, adolescent girls and young women (15-24) had the lowest prevalence of APOs, at only 5.47%. This study further revealed that race is a significant predictor of APOs experienced by women in South Africa. The results indicate that Coloured women had the highest prevalence of APOs, with 19.67% of them reporting such experiences, compared to other race groups. White women followed with a prevalence of 13.79%, while 12.91% of Indian women experienced APOs. Black African women had lowest prevalence of APOs, at 11.25%

4.3 Multivariate analysis—regression model

The main objective of this study was to determine the relationship between IPV and APOs in South Africa. This objective was fulfilled using a regression model. The binary regression model was used with the significance level set to $p<0.05$. This adjusted model was run, which included all the predictors next to the outcome variable. Using the results of the bivariate analysis, only independent variables that were determined to be statistically significant were included in the adjusted binary logistic regression presented below.

Table 4.3.2: Adjusted logistic regression adjusted ratios between predictor variables and APOs in South Africa.

Variables	***OR***	***P Value (0.5)***	***95% Confidence Interval***
IPV			
No (R.C)		***	
Yes	1.63	0.000	1.30 - 2.08

Age in Group			
15-24 (R.C)		***	
25-34	1.88	0.007	*1.21-3.01*
35-44	2.86	0.000	*1.90 - 4.51*
45+	2.48	0.000	*1.60- 4.12*
Population Group (race)			
Black (African) (R.C)		*ns*	
Coloured	1.47	0.219	
Indian	1.30	0.592	0.88 - 2.98
White	1.22	0.863	0.84 - 1.87
			0.36 - 4.04
*Level of significance: *p<0.05; **p<0.01, ***p<0.001; ns not significant*			

Table 4.3.2 presents the results of the adjusted binary regression model, which was used to examine the relationship between the outcome and the significant predictors. The findings indicate that IPV remains a significant predictor of APOs among married women in South Africa, even when accounting for other independent variables. The adjusted model shows that women who experienced IPV were 63% more likely to experience an APO compared to those who did not (AOR: 1.63, 95% CI: 1.30–2.08). The results for age show that women aged 25-34 years were 88% more likely to experience an APO compared to those 15-24 years old (AOR: 1.88; CI95%: 1.21-3.01). Women aged 35-44 were 2.9 times more likely to experience an APO than those aged 15-24 years (AOR: 2.91; CI 1.88-4.51). Additionally, women aged 45-49 were 2.5 times more likely to experience an APO compared to those aged 15-24 years (AOR: 2.56; p=0.000; CI95% 1.60-4.12).

In the regression model, population group (race) was also found to have an insignificant relationship with APOs

4.4 Testing the Hypothesis

The following hypotheses were tested in the current study using the adjusted binary regression:

- **H0**: There is not a relationship between IPV and APOs among married women in South Africa.
- **H1**: There is a relationship between IPV and APOs among married women in South Africa.

***Significance level**: α*=0.05

The current study rejects the null *(H0)* hypothesis in favour of the alternative *(H1),* which states that there is a relationship between IPV and APOs among married women in South Africa.

Chapter 5: Discussion, Implications, Recommendations and Conclusions.

Introduction:

This chapter is a discussion of the findings of this investigation. The sections will relay the findings according to the objectives outlined in this investigation: the levels of APOs among married women in South Africa and the relationship between IPV and APOs. The chapter then discusses the applicability of the investigation to the framework used and in relation to existing studies. Implications, recommendations for further research, and finally, conclusions are drawn.

5.1 The Prevalence of APOs among married women aged 15-49 in South Africa

The first objective of the investigation was to determine the prevalence of APOs in South Africa among married women of reproductive age. The findings in this study have indicated that 12% of women in South Africa have ever experienced an APO. These results are consistent with those found in literature. Mpolokeng and Musekiwa (2024) found the prevalence of APOs to be 14.6% in a sample of 3507 women who became pregnant 5 years prior to the administration of the SADHS. Another study conducted by Cutland et al., (2024) used randomly selected birth charts for the July 2017 to June 2018 period in Soweto; this investigation reported that 16% of women experienced preterm labour. As indicated, the findings from the current study are in line with what has been reported by previous researchers in the country.

Socio-demographic factors that were included in this investigation were informed by previous studies and the SDOH theoretical framework which had indicated their relevance. Factors such as education (Cantarutti et al., 2017; Rogne et al., 2024), urban/rural residence (Harrington *et al.,* 2023; Shan et al., 2018), province, and wealth index (Asefa et al., 2023; Ngandu et al., 2019; Joyce et al., 2019) were found not to be statistically significant predictors of APOs in the current investigation. The current study did not find any significant association between these independent factors and outcome, APOs. One such variable, education, did not yield statistically significant results as a

predictor of APO. This was an unexpected result, as it has extensively been linked to APOs in previous studies (Cantarutti et al., 2017; Rogne et al., 2024).

Cantarutti and colleagues demonstrated that in Italy, a country with universal health care provision for everyone, women with higher levels of education were still less likely to experience an APO (Cantarutti et al., 2017). The results of the current study showed that 74.3% of women in South Africa had a secondary education. Higher levels of education have been linked to lower chances of low birth weight (Rogne et al., 2024). Additionally, higher levels of educational attainment have also been linked to higher uptake of antenatal services by women. This increased uptake of antenatal services might explain education's limited role in the current study. Asefa et al., (2023) study corroborates this possible explanation for the finding as the investigation indicated that South Africa has a relatively high uptake of antenatal services at 84.3% despite contrasts in wealth index. This current study supports the assertion made by Cantarutti and colleagues (2017): pregnant women in South Africa have increased access to health care regardless of wealth, education, and place of residence, including province.

Moreover, the South African Department of Health has put in place policies that allow for basic antenatal care for women. The Basic Antenatal Care (BANC) handbook outlines the purpose of ANC and how it should be administered to women in South Africa (South African Government, 2017). The handbook also establishes that at least 95% of pregnant women have accessed some form of BANC during their pregnancy, based on SADHS data (South African Government, 2017). Therefore, the establishment of BANC, coupled with relatively high levels of education, further supports educational attainment and negligible inclusion in the current study.

5.2 The relationship between IPV and APOs married women in South Africa

The second objective of the current study was to determine the relationship between IPV and APOs in South Africa. The current study was able to determine a statistically significant relationship between IPV and APOs. The results shown in **Table 4.3.2 show** that women who experience IPV are more likely (AOR: 1.63, CI95% 1.30-2.08) to experience an APO compared to those who did not experience partner violence even with

the inclusion of confounding factors such as age and population group. This result confirmed the hypothesis of the study, leading to the conclusion of rejecting the null hypothesis and accepting the alternative, which states that there is a relationship between IPV and APOs among married women in South Africa. These results are reconcilable with those found in literature concerning this subject. Studies conducted in South Africa have shown similar findings, which indicated that women who had experienced sexual and physical violence during pregnancy were at risk for preterm birth outcomes (Abrahams et al., 2021; Amoadu et al., 2022b)

Age was also found to be a significant confounder in the relationship between IPV and APOs. The study was able to confirm a widely established notion in research; APOs may increase with age. Several studies have indicated that advanced age may contribute significantly to the occurrence of APOs (Londero et al., 2019; Tembo et al., 2019). In a study conducted in Ethiopia, Gataneh et al., (2021) explain that the advanced age of mothers poses the risk for further medical complications during childbirth.

5.3 Applicability of the Framework

The current research report was underpinned by the Social Determinants of Health Theory. The theory posits that the social conditions in which people reside, work, and play can determine their health. These social conditions may include the natural environment, workplaces, places of leisure, and general living conditions. The study determined that race was a determining factor in the prevalence of APOs. Black women were more likely to experience an APO compared to their other racial counterparts.

The findings are similar to those in other racialised countries such as the United States, where a study determined that Black women were more susceptible to APOs (Grobman et al., 2018). This finding is particularly interesting because of South Africa's heavily racialised history. The framework remains relevant to current research. This investigation determined results contrary to those common in literature concerning racial and ethnic determinants of APOs, the study showing a perspective unique to South Africa. Further to this, most studies conducted in the sub-Saharan region did not focus much on race as a determining factor. Race has been linked to other determinants such as SES, inequality,

and access to health such as ANC, which determine one's quality of life (Thermidor et al., 2024; Reynolds et al., 2020). inequality,

Concerning IPV, women who have experienced IPV were found to be more likely to experience an APO. This factor also indicates the results of one's social environment, where women might reside in a high-stress environment as a result of violence from their intimate partner. Tadese et al., (2022) have indicated that IPV can lead to a host of other issues, such as psychological and physiological conditions that may affect an adverse outcome of the gestation period. Therefore, IPV was a large determining factor in this research and aligns well with the assertions of the Social Determinants of Health Theory

5.5 Policy Implications

The findings of this study have potential implications for policy. The findings in this research, particularly the prevalence of APOs in the country, remain a matter of concern for public health officials and researchers in the field. The prevalence determined in the current study points to a need for continued work and the development of suitable programs that support the reduction of APOs in South African maternal wards and health facilities. Programs such as Every Newborn Action Plan (ENAP) and The Global Strategy for Women's, Children's, and Adolescent Health (GSWCAH), both of which essentially intend to prevent the loss of avoidable deaths of infants by 2030 through a plan that is supported by evidence (South African Government, 2021).

This research advocates for and presents the need for a policy that supports women who are in intimate relationships where violence is present during pregnancy. This policy may create safe houses specifically designed for such women, allowing these houses to be accessible in high-risk areas as identified through further research, particularly in areas of low socio-economic status. Literature has established the link between APOs and IPV during pregnancy, which has been linked to low socio-economic status (Cantrutti et al., 2017). Such a policy will also support actionable recognition of women's rights to exist in safe societies as per SDG 5, which calls for gender equality. Furthermore, the protection of women's rights and their newborns allows them to thrive and be self-determined. This

also promotes viable social mobility to prevent perpetual poverty for women residing in low socio-economic conditions.

5.6 Suggestions for further research and strengths and limitations

Based on the current study's limitations of the cross-sectional design, a suggestion for further research includes a longitudinal component that is also nationally representative. This component could also account for the recall bias that affects the results of the current investigation. This study was also limited by its inability to study which APO or form of violence was most prevalent in the sample studied. A study that shows the contrast in the prevalence of types of APOs and associated factors is equally important in South Africa.

The role of public health facilities in South Africa could also be explored concerning its association with APOs. This study might be beneficial to the public health sector to allow for accountability and improvement in the treatment of women in maternal wards. This could also lead to the exploration of other factors that may be associated with APOs in South Africa. Another possible research focus could be the exploration of the prevalence of APOs in public health facilities in comparison to those in private health facilities.

Despite inconclusive results on the role of residence type and provincial residence, a study that focuses on these two variables is recommended. This study may also employ geographic measures. This is important because it will allow policy makers to have a possible map indicating high-risk areas to allow for targeted solutions Based on existing literature, Gauteng and Kwa-Zulu Natal have so far been identified as places of interest for understanding the role of IPV in APO occurrence (Abraham et al., 2021; Amoadu et al., 2022). Such a study also plays a role in highlighting possible disparities between urban and rural environments concerning APOs and IPV in the country.

Conclusions:

The current study has investigated the relationship between IPV and APOs in South Africa, leading to a positive association. Adverse pregnancy dealing with outcomes (APOs) are a recognised public health concern across the globe. The South African public health system is presented with the task of curbing the growth of APOs in women while

dealing with the compounded effects of intimate partner violence. Various literature has shown the same positive associations between IPV and APOs across different contexts, both global and regional.

The findings of this investigation reveal that there is a level of considerable risk to mothers and children as far as APOs are concerned. While government programs such as ENAP and the Global Strategy for Women's, Children's, and Adolescent Health (GSWCAH) work to save the loss of babies in the neonatal stages, further inclusion of evidence-based research such as the current study, which considers factors not commonly considered in the death of infants, may guide new paths for policy.

The consideration of intimate partner violence in the country's current climate in terms of women's safety, where women are largely at risk, poses new challenges for public health policy makers. The need to continue to work towards actionable recognition of women's and children's health and safety is highlighted. When women and children live in safe environments, they thrive. This is highlighted in the SDOH theory and further supported by the findings of the current study.

References:

Abrahams, N., Jewkes, R., & Mohlabane, N. (2021). Adverse pregnancy outcomes and intimate partner violence: Evidence from a cohort study in KwaZulu-Natal, South Africa. *Journal of Pregnancy and Child Health, 8*(3), 123-132. https://doi.org/10.4172/2376-127X.100123

Ahinkorah, B. O. (2021). Intimate partner violence and adverse pregnancy outcomes in low- and middle-income countries: A global perspective. *International Journal of Women's Health, 13*, 343-354. https://doi.org/10.2147/IJWH.S324234

Ahinkorah, B. O., Seidu, A. A., Ameyaw, E. K., Budu, E., Bonsu, F., & Mwamba, B. (2021). Beyond counting induced abortions, miscarriages, and stillbirths to understanding their risk factors: analysis of the 2017 Ghana maternal health survey. *BMC Pregnancy and Childbirth*, *21*, 1-10.

Alhusen, J. L., Ray, E., Sharps, P., & Bullock, L. (2015). Intimate partner violence during pregnancy: maternal and neonatal outcomes. *Journal of women's health*, *24*(1), 100-106.

Amjad, S., MacDonald, I., Chambers, T., Osornio-Vargas, A., Chandra, S., Voaklander, D., & Ospina, M. B. (2019). Social determinants of health and adverse maternal and birth outcomes in adolescent pregnancies: a systematic review and meta-analysis. *Paediatric and perinatal epidemiology*, *33*(1), 88-99.

Amjad, S., MacDonald, I., Chambers, T., Osornio-Vargas, A., Chandra, S., Voaklander, D., & Ospina, M. B. (2019). Social determinants of health and adverse maternal and birth outcomes in adolescent pregnancies: a systematic review and meta-analysis. *Paediatric and perinatal epidemiology*, *33*(1), 88-99.

Amoadu, D., Osei, A. D., & Ofori, A. (2022b). The role of intimate partner violence in adverse pregnancy outcomes in South Africa. *Health Research Journal, 20*(1), 45-53. https://doi.org/10.36971/HRJ.2022.0045

Amoadu, M., Hagan, D., & Ansah, E. W. (2022). Adverse obstetric and neonatal outcomes of adolescent pregnancies in Africa: a scoping review. *BMC pregnancy and childbirth*, *22*(1), 598. https://doi.org/10.1186/s12884-022-04821-w

Amoadu, M., Hagan, D., & Ansah, E. W. (2022). Adverse obstetric and neonatal outcomes of adolescent pregnancies in Africa: a scoping review. *BMC pregnancy and childbirth*, *22*(1), 598.

Asefa, A., Gebremedhin, S., Marthias, T., Nababan, H., Christou, A., Semaan, A., ... & Beňová, L. (2023). Wealth-based inequality in the continuum of maternal health service utilisation in 16 sub-Saharan African countries. *International journal for equity in health*, *22*(1), 203.

Asefa, A., Gebremedhin, S., Marthias, T., Nababan, H., Christou, A., Semaan, A., Banke-Thomas, A., Tabana, H., Al-beity, F. M. A., Dossou, J.-P., Gutema, K., Delvaux, T., Birabwa, C., Dennis, M., Grovogui, F. M., McPake, B., & Beňová, L. (2023). Wealth-based inequality in the continuum of maternal health service utilisation in 16 sub-Saharan African countries. *International Journal for Equity in Health*, *22*(1), 203. https://doi.org/10.1186/s12939-023-02015-0

Babalola, S. (2014). Women's education level, antenatal visits and the quality of skilled antenatal care: a study of three African countries. *Journal of health care for the poor and underserved*, *25*(1), 161-179.

Bediako, P. T., BeLue, R., & Hillemeier, M. M. (2015). A Comparison of Birth Outcomes Among Black, Hispanic, and Black Hispanic Women. *Journal of Racial and Ethnic Health Disparities*, *2*(4), 573–582. https://doi.org/10.1007/s40615-015-0110-2

Bolarinwa, O. A., & Boikhutso, T. (2022). A mixed-method analysis of inequalities associated with adverse sexual and reproductive health outcomes and the requisite interventions among young women in Durban informal settlements, South Africa. *Frontiers in public health*, *10*, 810216

Braveman, P., Egerter, S., & Williams, D. R. (2011). The social determinants of health: coming of age. *Annual review of public health*, *32*, 381-398.

Cantarutti, A., Franchi, M., Monzio Compagnoni, M., Merlino, L., & Corrao, G. (2017). Mother's education and the risk of several neonatal outcomes: an evidence from an Italian population-based study. *BMC pregnancy and childbirth*, *17*, 1-10.

Chen, J., Wu, X., & Li, Y. (2018). Intimate partner violence and adverse birth outcomes in the United States: A systematic review. *American Journal of Obstetrics and Gynecology, 219*(6), 659-672. https://doi.org/10.1016/j.ajog.2018.08.004

Cutland, C. L., Sawry, S., Fairlie, L., Barnabas, S., Frajzyngier, V., Roux, J. le, Izu, A., Kekane-Mochwari, K. E., Vika, C., de Jager, J., Munson, S., Jongihlati, B., Stark, J. H., & Absalon, J. (2024). Obstetric and neonatal outcomes in South Africa. *Vaccine*, *42*(6), 1352–1362. https://doi.org/10.1016/j.vaccine.2024.01.054

Demissie, G. D., Akalu, Y., Gelagay, A. A., Alemnew, W., & Yeshaw, Y. (2022). Factors associated with decision-making power of married women to use family planning in sub-Saharan Africa: a multilevel analysis of demographic health surveys. *BMC public health*, *22*(1), 837.

Fapohunda, E., Raji, O., & Adeyanju, E. (2021). Prevalence of intimate partner violence among women in South Africa: A nationwide survey. *African Journal of Public Health, 10*(4), 10-18. https://doi.org/10.1016/j.afjph.2021.02.005

Finnbogadottir, M., Bohn, P., & Berglund, A. (2020). Effects of intimate partner violence on premature births: A cohort study in Sweden. *European Journal of Obstetrics & Gynecology and Reproductive Biology, 252*, 102-108. https://doi.org/10.1016/j.ejogrb.2020.02.029

Gebrekristos, H., Khoso, A., & Shafique, N. (2020). Sexual violence and its impact on post-partum sexually transmitted infections: Evidence from South Africa. *South African Medical Journal, 110*(12), 1155-1162. https://doi.org/10.7196/SAMJ.2020.v110i12.14901

Gebreslasie, M., Tesfaye, S., & Tegegne, T. (2020). Intimate partner violence and stillbirth risk in Ethiopia. *International Journal of Women's Health, 12*, 15-23. https://doi.org/10.2147/IJWH.S224559

Getaneh, T., Asres, A., Hiyaru, T., & Lake, S. (2021). Adverse perinatal outcomes and its associated factors among adult and advanced maternal age pregnancy in Northwest Ethiopia. *Scientific reports*, *11*(1), 14072.

Govender, I. (2023). Gender-based violence–An increasing epidemic in South Africa. *South African Family Practice*, *65*(3).

Grobman, W. A., Parker, C. B., Willinger, M., Wing, D. A., Silver, R. M., Wapner, R. J., Hyagriv,& Eunice Kennedy Shriver National Institute of Child Health. (2018). Racial disparities in adverse pregnancy outcomes and psychosocial stress. *Obstetrics & Gynecology*, *131*(2), 328-335.

Groves, A. K., Moodley, D., McNaughton-Reyes, L., Martin, S. L., Foshee, V., & Maman, S. (2015). Prevalence, rates, and correlates of intimate partner violence among South African women during pregnancy and the postpartum period. *Maternal and child health journal*, *19*, 487-495.

Groves, M., Li, L., & Beales, S. (2015). Global femicide rates: South Africa among the highest in the world. *World Health Organization, Global Health Statistics, 13*, 22-29. https://doi.org/10.15537/whstats.2015.003

Haffejee, F., Govender, N., Reddy, P., Sibiya, M. N., Ghuman, S., Ngxongo, T., ... & O'Connor, L. (2018). Factors associated with unintended pregnancy among women attending a public health facility in KwaZulu-Natal, South Africa. *South African Family Practice*, *60*(3), 79-83.

Harrington, K. A., Cameron, N. A., Culler, K., Grobman, W. A., & Khan, S. S. (2023). Rural–urban disparities in adverse maternal outcomes in the United States, 2016–2019. *American journal of public health*, *113*(2), 224-227.

Hoque, M. E., Towobola, O. A., Mashamba, T. J., & Monokoane, T. (2014). Comparison of adverse pregnancy outcome between teenage and adult women at a tertiary hospital in South Africa. *Biomed Res*, *25*(2), 167-172.

Iqbal, N., & Fatmi, Z. (2021). Intimate partner violence among married women in Pakistan: Findings from the Pakistan Demographic Health Survey 2012-13. *BMC Women's Health, 21*(1), 123. https://doi.org/10.1186/s12905-021-01345-2

Izugbara, C. O., Obiyan, M. O., Degfie, T. T., & Bhatti, A. (2020). Correlates of intimate partner violence among urban women in sub-Saharan Africa. *PloS one*, *15*(3), e0230508.

Jeena, P. M., Asharam, K., Mitku, A. A., Naidoo, P., & Naidoo, R. N. (2020). Maternal demographic and antenatal factors, low birth weight and preterm birth: findings from the mother and child in the environment (MACE) birth cohort, Durban, South Africa. *BMC pregnancy and childbirth*, *20*, 1-11.

Kebede, A. S., Muche, A. A., & Alene, A. G. (2018). Factors associated with adverse pregnancy outcome in Debre Tabor town, Northwest Ethiopia: a case control study. *BMC research notes*, *11*, 1-6.

Khatlani, K., Azam, I., Baqir, M., Mehmood, A., Duke, C., & Pasha, O. (2016). Assessing the Link Between Intimate Partner Violence in Pregnancy and Stillbirths [1F]. *Obstetrics & Gynecology*, *127*, 50S-51S.

Krieger, N. (2001). Theories for social epidemiology in the 21st century: an ecosocial perspective. *International journal of epidemiology*, *30*(4), 668-677.

Londero, A. P., Rossetti, E., Pittini, C., Cagnacci, A., & Driul, L. (2019). Maternal age and the risk of adverse pregnancy outcomes: a retrospective cohort study. *BMC pregnancy and childbirth*, *19*, 1-10.

Maciel, M. I., Silva, E. M., & Ribeiro, R. D. (2019). Intimate partner violence and abortion: A retrospective study in France. *Reproductive Health, 16*(1), 52. https://doi.org/10.1186/s12978-019-0739-4

Madhi, S. A., Jones, S., & Gunda, N. (2019). The impact of hypertension and infections on stillbirth rates in South Africa. *Lancet Global Health, 7*(3), 392-399. https://doi.org/10.1016/S2214-109X(19)30050-7

Maness, S. B., Buhi, E. R., Daley, E. M., Baldwin, J. A., & Kromrey, J. D. (2016). Social determinants of health and adolescent pregnancy: An analysis from the national longitudinal study of adolescent to adult health. *Journal of Adolescent Health*, *58*(6), 636-643.

McCloskey, L. A., Doran, K. A., & Gerber, M. R. (2017). Intimate partner violence is associated with voluntary sterilization in women. *Journal of Women's Health*, *26*(1), 64-70.

McClure, E. M., Saleem, S., Goudar, S. S., Garces, A., Whitworth, R., Esamai, F., ... & Goldenberg, R. L. (2020). Stillbirth 2010–2018: a prospective, population-based, multi-country study from the Global Network. *Reproductive health*, *17*, 1-9.

Meazaw, M. W., Chojenta, C., Muluneh, M. D., & Loxton, D. (2020). Factors associated with hypertensive disorders of pregnancy in sub-Saharan Africa: A systematic and meta-analysis. *PloS one*, *15*(8), e0237476.

Mehrnoush, V., Ranjbar, A., Banihashemi, F., Darsareh, F., Shekari, M., & Shirzadfardjahromi, M. (2023). Urban-rural differences in the pregnancy-related adverse outcome. *Gynecology and Obstetrics Clinical Medicine*, *3*(1), 51-55.

Mpolokeng, L., & Musekiwa, A. (2024). Prevalence and factors associated with adverse pregnancy outcomes in South Africa: Evidence from the 2016 Demographic and Health Survey. *SAMJ: South African Medical Journal*, *114*(6B), 14-18.

Mpondo, B. C., Kamanzi, G. I., & Lukhele, B. T. (2016). Intimate partner violence and its impact on women in South Africa. *South African Journal of Public Health, 6*(2), 15-22. https://doi.org/10.7196/SAPH.2016.004

Mthembu, T., Dlamini, N., & Nkosi, L. (2021). Prevalence and patterns of intimate partner violence among adolescent girls and young women in South Africa. *Journal of Adolescent Health,* *68*(2), 285-293. https://doi.org/10.1016/j.jadohealth.2020.09.027

Naik, J., Kumar, R., Mathurkar, M. P., Jain, S., Jailkhani, S., & Thakur, M. S. (2016). Sociodemographic determinants of pregnancy outcome: A hospital-based study. *Int J Med Sci Public Health*, *5*(9), 1937-1941.

Ngandu, C.B., Momberg, D., Magan, A., Chola, L. 2019. The association between household socio-economic status, maternal socio-demographic characteristics and adverse birth and infant growth outcomes in sub-Saharan Africa: a systematic review. Journal of Developmental Origins of Health and Disease. 11(4):1-18. DOI:10.1017/S2040174419000680

O'Neill, S. M., Kearney, P. M., Kenny, L. C., Khashan, A. S., Henriksen, T. B., Lutomski, J. E., & Greene, R. A. (2013). Caesarean delivery and subsequent stillbirth or miscarriage: systematic review and meta-analysis. *PLoS one*, *8*(1), e54588.

Rao, P. S., Kumar, R., & Manohar, A. (2017). IPV and pregnancy outcomes in Malawi: A longitudinal study. *International Journal of Obstetrics and Gynecology, 137*(6), 415-423. https://doi.org/10.1002/ijgo.12340

Reichel, A. (2017). Intimate partner violence in the European Union: A comparative study across 28 countries. *European Journal of Gender Studies, 25*(1), 44-57. https://doi.org/10.1080/09589236.2017.1289285

Reynolds, C. M., McMahon, L. E., O'Malley, E. G., O'Brien, O., Sheehan, S. R., & Turner, M. J. (2020). Maternal employment and pregnancy outcomes in a large European maternity hospital. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, *250*, 86-92.

Rogne, T., Gill, D., Liew, Z., Shi, X., Stensrud, V. H., Nilsen, T. I. L., & Burgess, S. (2024). Mediating factors in the association of maternal educational level with pregnancy outcomes: a Mendelian Randomization Study. *JAMA Network Open*, *7*(1), e2351166-e2351166.

Shan, D., Qiu, P. Y., Wu, Y. X., Chen, Q., Li, A. L., Ramadoss, S., Wang, R.R and Hu, Y. Y. (2018). Pregnancy outcomes in women of advanced maternal age: a retrospective cohort study from China. *Scientific reports*, *8*(1), 1-9.

Sharma, K., and Kaphle, H. (2023). Prevalence of intimate partner violence in Nepal: Findings from a national survey. *Asian Journal of Women's Health, 30*(1), 50-59. https://doi.org/10.2147/AJWH.S315454

South African Government. 2011. National Development Plan. devplan2.pdf (www.gov.za)

South African Government. 2020. Saving mothers and babies 2017-2019. South African Department of Health. SAVING-MOTHERS-SAVING-BARIES-REPORT-2017-2019.pdf (health.gov.za)

South African Government. 2021. South African maternal, perinatal and neonatal health policy. Accessed 20 March 2025: ttps://knowledgehub.health.gov.za/system/files/elibdownloads/2021-06/SA%20MPNH%20Policy%2014-6-2021%20v9%20signed%20Web%20Version.pdf

Statistics South Africa. 2019. Demographic Health Survey Report 2016. Accessed 15 January 2025: https://www.dhsprogram.com/pubs/pdf/FR337/FR337.pdf

Stockl, H., Watts, C., & MacLennan, M. (2012). The global burden of intimate partner violence in women: Consequences for pregnancy and maternal health. *Lancet Global Health, 10*(3), 175-183. https://doi.org/10.1016/S2214-109X(12)70034-0

Tadele, A., Tesfay, A., & Kebede, A. (2019). Factors influencing decision-making power regarding reproductive health and rights among married women in Mettu rural district, south-west, Ethiopia. *Reproductive health*, *16*(1), 155.

Tadese, M., Dagne, K., Wubetu, A. D., Abeway, S., Bekele, A., Misganaw Kebede, W., and Baye Mulu, G. (2022). Assessment of the adverse pregnancy outcomes and its associated factors among deliveries at Debre Berhan Comprehensive Specialized Hospital, Northeast Ethiopia. *Plos one*, *17*(7), e0271287.

Tadese, M., Dagne, K., Wubetu, A. D., Abeway, S., Bekele, A., Misganaw Kebede, W., & Baye Mulu, G. (2022). Assessment of the adverse pregnancy outcomes and its

associated factors among deliveries at Debre Berhan Comprehensive Specialized Hospital, Northeast Ethiopia. *Plos one*, *17*(7), e0271287

Tadese, M., Tessema, S. D., Taye, B. T., & Mulu, G. B. (2022). Adverse obstetric outcome and its associated factors in public hospitals of North Ethiopia: does parity make a difference? *BMC Pregnancy and Childbirth*, *22*(1), 693.

Tamirat, A., Gudina, E. K., & Shewangizaw, A. (2021). Adverse pregnancy outcomes and intimate partner violence in Sub-Saharan Africa: A review. *Journal of Women's Health, 15*(3), 17-23. https://doi.org/10.1089/jwh.2021.0123

Tamirat, K. S., Sisay, M. M., Tesema, G. A., & Tessema, Z. T. (2021). Determinants of adverse birth outcome in sub-Saharan Africa: analysis of recent demographic and health surveys. *BMC Public Health*, *21*(1), 1092. https://doi.org/10.1186/s12889-021-11113-z

Tembo, T., Koyuncu, A., Zhuo, H., Mwendafilumba, M., & Manasyan, A. (2020). The association of maternal age with adverse neonatal outcomes in Lusaka, Zambia: a prospective cohort study. *BMC pregnancy and childbirth*, *20*, 1-10**.**

Thermidor, S., Gaballa, D., Hentz, R., Fishbein, J., Vaidean, G., Weinberg, C., Pachtman, S., Blitz, M. J., Grayver, E., & Gianos, E. (2024). Clinical, Sociodemographic, and Neighborhood Characteristics Associated with Adverse Pregnancy Outcomes. *Journal of Women's Health*, *33*(3), 308–317. https://doi.org/10.1089/jwh.2023.0032

United Nations. 2012. Sustainable Development Goals. Goals 5: Gender Equality. SDG Goal 5: Gender Equality - UNICEF DATA

United Nations. 2020. Stillbirths. Stillbirths and stillbirth rates - UNICEF DATA

Whittington, C. A., Johnson, S. R., & Johnson, T. L. (2023). The global femicide crisis: Prevalence and country-level disparities. *International Journal of Violence and Victims, 38*(2), 117-134. https://doi.org/10.1177/08862605221111072

World Health Organisation. 2021. Social Determinants of Health. Social determinants of health (who.int)

Yaya, S., Bishwajit, G., Ekholuenetale, M., & Shah, V. (2017). Inadequate utilization of prenatal care services, socioeconomic status, and educational attainment are associated with low birth weight in Zimbabwe. Frontiers in public health, 5, 35.

Yaya, S., Okonofua, F. E., & Afolabi, E. (2021). Intimate partner violence in Egypt: A study of prevalence and patterns. *BMC Women's Health, 21*(1), 138. https://doi.org/10.1186/s12905-021-01403-x

Zhang, Q., Lu, X. M., Zhang, M., Yang, C. Y., Lv, S. Y., Li, S. F., Zhong C.Y & Geng, S. S. (2021). Adverse effects of iron deficiency anemia on pregnancy outcome and offspring development and intervention of three iron supplements. *Scientific reports*, *11*(1), 1347.

Appendix 1: Plagiarism Declaration

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

FACULTY OF HEALTH SCIENCES

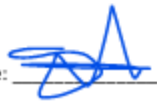
PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

SENATE PLAGIARISM POLICY: APPENDIX ONE

I S'hlengiwe Melonie (Student number: 2142990) am a student registered for the degree of Masters of Arts Health Demography in the academic year 2025.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.
- I have included as an appendix a report from "Turnitin" (or other approved plagiarism detection) software indicating the level of plagiarism in my research document.

Signature:  Date: 2025/03/28

Annexure A: Ethical Clearance Waiver

Demography and Population Studies

School of Social Sciences • Private Bag 3, Wits, 2050, South Africa • Tel: +27 11 717-4054 • Fax: +27 11 717-4336
E-mail: demopopstudies@social.wits.ac.za •
http://web.wits.ac.za/Academic/humanities/socialsciences/demographyandpopulationstudies

Ethics Waiver Approval Letter - 2024

Dear S'hlengiwe Ndebele (2142290)

This letter serves as confirmation that your application for an Ethics Waiver for your research project titled "*The relationship between Intimate Partner Violence and Adverse Pregnancy Outcomes among married women in South Africa.*"

Your ethics number is: **WDEMG2024/07/07**

Please cite this number of all Faculty of Humanities submission forms, your proposal and final manuscript and any submissions of your research made to journals or book editors.

Rebaone Petlele		14 August 2024
Supervisor Name	Supervisor Signature	Date
Clifford Odimegwu		14 August 2024
Ethics Committee member	Signature	Date
Lorena Nunez Carrasco		23 August 2024
Head of School, Social Sciences	Signature	Date