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DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS
MASTER OF SCIENCES IN FIELD EPIDEMIOLOGY

Prevalence and factors associated with intimate partner physical violence among pregnant women in Rwanda, using secondary data from RDHS 2019-2020

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DECLARATION

This is a thesis report submitted to the Department of Epidemiology and Biostatistics in the School of Public Health at the University of Rwanda, in partial fulfillment of the requirement for the reward of a Master of Science in Field Epidemiology.

I, Dr. Annet Mulungi, declare that this research is my original work and has not been presented at any other university.

Signature……...

Date……

DEDICATION

I dedicate this book to all women survivors of domestic violence, and those still experiencing it. You can put an end to this when you speak up and be helped. Together, we can end domestic violence.

ACKNOWLEDGEMENT

My utmost gratitude goes to the Africa Field Epidemiology Network, Rwanda Biomedical Center, and the University of Rwanda which awarded me the scholarship to pursue this degree.

I am also grateful to Professor Joseph Ntaganira and Mr. Hinda Ruton for their advice, support, and guidance.

ABSTRACT

Background:

Intimate partner physical violence during pregnancy is a public health concern and a breach of human rights. Physical violence has major consequences for the mother, fetus, and newborn child. This study aims to investigate the prevalence of intimate partner physical violence towards pregnant women and associated factors in Rwanda.

Methodology

This cross-sectional study used secondary data from the Rwanda Demographic Health Survey 2019-2020. A total of 1,849 women aged 15-49 years were included in this study.

Descriptive analysis was used to determine the prevalence and a multivariate logistic regression model using manual backward stepwise regression was used to identify the factors associated with Intimate partner physical violence toward pregnant women. Adjusted Odds Ratio (AOR)s and 95% CI were used to report the magnitude of the association between socio-demographic characteristics, reproductive characteristics, history of IPPV, and related characteristics with IPPV among pregnant women. Stata 16 was used for analysis and survey commands were applied to all analyses.

Results

The prevalence of intimate partner physical violence towards pregnant women in Rwanda was 4.5% and the associated factors include the partner's alcohol drinking habits; drinks sometimes drunk (AOR 3.68, 95% CI (1.3-10.1), drinks often drunk (AOR 14.67 95% CI (5.2-41.4), living children 3-5 (AOR 2.64 95% CI (1.2-5.6), and polygamous couple (AOR 2.81 95% CI (1.2-6.4).

Conclusion

Intimate partner physical violence toward pregnant women is still high in Rwanda. Having a male partner that drinks alcohol and gets drunk, polygamy, and 3-5 children were associated with intimate partner physical violence during pregnancy. We recommend that the government of Rwanda should address the issue of substance abuse, refine social norms and attitudes that promote gender inequalities through several stereotypes in families, empower women, and encourage them to use contraceptives so that to give birth to children they can afford to take care of without added pressure and stress.

Keywords

Intimate partner physical violence, pregnancy, Rwanda

Kigali, April 2023

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List of abbreviations

AOR: Adjusted Odds Ratio

CI: Confidence Interval

COR: Crude Odds Ratio

DHS: Demographic Health Survey

GBV: Gender-Based Violence

HIV: Human Immunodeficiency Virus

IP: Intimate partner

IPPV: Intimate Partner Physical Violence

IPV: Intimate Partner Violence

IRB: Institutional Review Board

RBC: Rwanda Biomedical Center

RDHS: Rwanda Demographic Health Survey

SDG: Sustainable Development Goals

WHO: World Health Organization

Definition of key terms

Intimate partner violence Is a woman's self-reported experience of one act or more of physical or sexual assault, or both since the age of 15 years, perpetrated by the current or ex-husband or male intimate partner (1).

Intimate partner physical violence PPV: acts that can cause physical harm to the victim including but not limited to slapping, kicking, hitting with a fist or anything else, beating or dragging, chocking, burning one intentionally, threatening with or actually having a gun, knife or other weapon used, by an intimate partner (1).

Pregnancy: is the physiologic process of a developing fetus within the maternal body (2)

Chapter 1: **Introduction**

1.1. **Background**

Violence against women is a breach of human rights, a public health concern, and a hindrance to sustainable development (3). Intimate partner violence (IPV) comprises of physical, sexual, and emotional abuse and obsessive or being controlled by an intimate partner (4). According to national surveys, physical violence comprises actions of beating, hitting, kicking, choking, burning, or threats using a weapon (5). The WHO reported that one in three women globally suffer a minimum of one type of IPV once in their life (6). The worldwide lifetime prevalence of violence (physical and/ or sexual) against married or ever-partnered women of 15-49 years of age was 27%, and a 10% prevalence in 2018 (1).

Sub-Saharan Africa had an IPV prevalence of 33%, which is the next highest after Asia with 35%(1).

The prevalence of IPPV against pregnant women was 14.1% in Iran (7), 20.6% in Ethiopia (8), and 5% in Ghana (9).

In Rwanda, a study showed that 33.6% of women had suffered physical violence from their current or previous partner, with 41.4% of women and 17,9% of men believing that wife beating is justified for different reasons (10). Another study in Rwanda revealed that a 35.1% prevalence among pregnant women (11).

.There have been various measures to stop or reduce IPV in Sub-Saharan Africa, including programs created for women empowerment, men and boys engagement, and changing community norms that turn a blind eye to violence and support male supremacy (12). The government of Rwanda effected a law for the prevention and punishment of Gender-Based Violence in 2008, and this includes all types of violence with six months minimum imprisonment sentence (13). Several interventions have been supported by the government of Rwanda to fight GBV and IPV and these include prevention clubs in secondary schools and universities, community-level prevention committees, Parents' evening meetings (akagoroba k'ababyeyi) to promote awareness, identify and help victims of GBV and IPV (14). Isange one-stop centers have been established since 2009, by the Rwanda National Police and Ministry of Health to provide medical care, psychosocial support, short-term shelter and legal assistance to victims of IPV and child abuse (13).

1.2. **Problem Statement**

IPV towards women during pregnancy is a threat to their health because it is associated with serious complications to the mother and the fetus (15).

The prevalence of intimate partner violence against women in Rwanda was 40% in 2015 and 46% in 2020 (14). A study in Rwanda also revealed that IPV prevalence among pregnant women was 35.1%, with women living with HIV (Human Immunodeficiency Virus) having higher rates of IPV compared to those who didn't have HIV (11). Gender-Based Violence is punishable by law in Rwanda, as one of the ways to fight against this public health issue countrywide.

Intimate partner violence against women is pertained to socioeconomic vulnerability and cultural factors (16), that promote gender inequality and giving more power and control to the men over the women. Other factors associated with IPV include young age, low education level, poor socioeconomic status, poor social support, family history of violence, unwanted pregnancy, partner's age, partner alcohol consumption and drug abuse and unemployment (17,18).

Several readings have stressed the effects of intimate partner violence on women and the need to screen for it during antenatal care. As a result of physical violence, women experience injuries such as lacerations, head injuries, fractures and pain disorders (19,20).

Pregnant women who suffer violence may experience serious obstetric complications, mental illnesses, postpartum depression, and insufficient antenatal care utilization. IPPV towards pregnant women increases their likelihood to suffer from pregnancy related hypertension, cesarean section, pain killer use during delivery and after delivery (21). IPV during pregnancy may also result in preterm labor and low birth weight babies (22). Exposure of women to physical violence is associated with increased antenatal hospitalizations (23).

Considering all the consequences of Intimate partner physical violence on women that are pregnant, fetus, and newborn; this study's goal is to investigate the prevalence of intimate partner physical violence against pregnant women and explore the related factors.

Understanding the prevalence of IPPV during pregnancy and the associated factors may have important reproductive and maternal health implications and inform important interventions in Rwanda.

1.3. **Justification**

Physical violence against pregnant women puts the life of the mother and fetus at risk of non-fatal and fatal consequences. Rwanda has put in place measures to reduce violence against women through law enforcement, setting up Isange one-stop centers where victims of violence go to seek care and safety. Intimate physical violence against women remains a public health challenge in Rwanda despite the continuous efforts to end violence. There is a paucity of data about intimate partner physical violence against pregnant women in Rwanda. This study will contribute to the growing literature about violence among pregnant women. The results will enable policymakers to develop long term solutions to address the factors associated with intimate partner violence against pregnant women, thus promoting maternal and child health.

1.4. **Objectives**

General objective

To assess the prevalence of IPPV and associated factors among pregnant women in Rwanda to promote maternal and child health.

Specific objectives

i. To assess the prevalence of IPPV among pregnant women in Rwanda
ii. To assess the socio-demographic factors associated with IPPV among pregnant women in Rwanda.
iii. To assess the reproductive factors associated with IPPV among pregnant women in Rwanda.
iv. To assess the IPPV history and related characteristics associated with IPPV among pregnant women in Rwanda.

1.5. **Research questions**

i. What is the prevalence of IPPV among pregnant women in Rwanda?
ii. What is the socio-demographic factors associated with IPPV among pregnant women in Rwanda?
iii. What are the reproductive factors associated with IPPV among pregnant women in Rwanda?

iv. What are the IPPV history and related characteristics associated with IPPV among pregnant women in Rwanda?

1.6. **Organization of the Dissertation**

This study is made of six (06) chapters including:

(i) Chapter one describes the Background, problem statement, justification of the study, research objectives and research questions.

(ii) Chapter two which deals with the review of the literature.

(iii) Chapter three highlights the methodology.

(iv) Chapter four will describe the results.

(v) Chapter five contains the discussion.

(vi) Chapter six has the conclusion and recommendation.

Chapter 2: **Literature Review**

2.1. Theoretical Literature

Some indicators of intimate partner violence among women include physical injuries such as lacerations, contusions, and fractures (more so in the head, neck and face), that are often reported by patients as home accidents (24).

Violence against women during any time of pregnancy may lead to serious medical and social problems (25). Studies have shown that women who experienced physical violence during pregnancy were at a higher risk of premature rapture of membrane, vaginal bleeding (7), preterm labor, unwanted pregnancy and antenatal hospitalization (26), poor weight gain (27), postpartum depression (28), poor mental health quality of life (29), pre-eclampsia, hypertension and spontaneous abortion (20). Women who suffered intimate partner violence have a doubled risk of delayed prenatal visit till the third trimester compared to those who did not (30) .

IPV during pregnancy can lead to severe and deadly outcomes such as homicides and suicide (31).

Babies born to mothers who experienced physical violence are more likely to be born before term (preterm birth), and have low weight at birth (LBW) (32). Studies also have shown that babies born to women who suffered Intimate partner violence were more at risk of perinatal mortality and neonatal mortality (9).

Interventions to prevent IPV towards women.

A study conducted in Rwanda revealed that male engagement approaches such as “Bandebereho intervention” are effective in changing the long established gender inequalities and thus contributing to violence prevention (33).

The government of Rwanda acknowledged that men and couples’ involvement approaches are crucial in promoting gender equality, decision making power for women and the reduction of IPV, thus promoting reproductive and maternal health (34).

Rwanda has high crisis centers known as ISANGE One Stop Centre in all public hospitals in Kigali, which provide quality medical and forensics services to survivors of violence (35).

Abunzi community mediation system introduced in 2004 is the alternative to One Stop Center, and this handles the excess cases in court system. This was made formal with the introduction of the Abunzi secretariat that monitors mediator training and coordination with the Ministry of

justice. This system supports couples to communicate well through their misunderstandings in order to prevent violence from happening again (36).

One of the many initiatives against gender-based violence in Rwanda is the Men's Resource Center (RWAMREC) which is facilitated by men who are champions of gender equity and encourage non-violent standards of masculinity. These men inform the communities of IPV laws during umuganda (monthly National Day of Service), oversee dialogues about IPV in umugoroba w'abashakanye (five to ten couples' meeting). More of these initiatives should be introduced so as to fight against gender based violence (37).

The One-Stop Centers are also implemented in Kenya and Zambia and were reported to be helpful to the victims (38).

The WHO recommends the following interventions that should be scaled up when suitable to prevent IPV (1);

1. Mend family laws that promote inequalities in gender
2. Oppose social norms and practices that promote male dominancy based on power and control over women thus supporting violence against females.
3. Give strength to the economic rights of women.
4. Combat substance abuse
5. Do away with gender unfairness in obtaining secondary education and formal employment payment.
6. Develop and implement tactics that combat attitudes which condone violence against women and support gender stereotypes in families.
7. Reduce violence exposure during childhood.

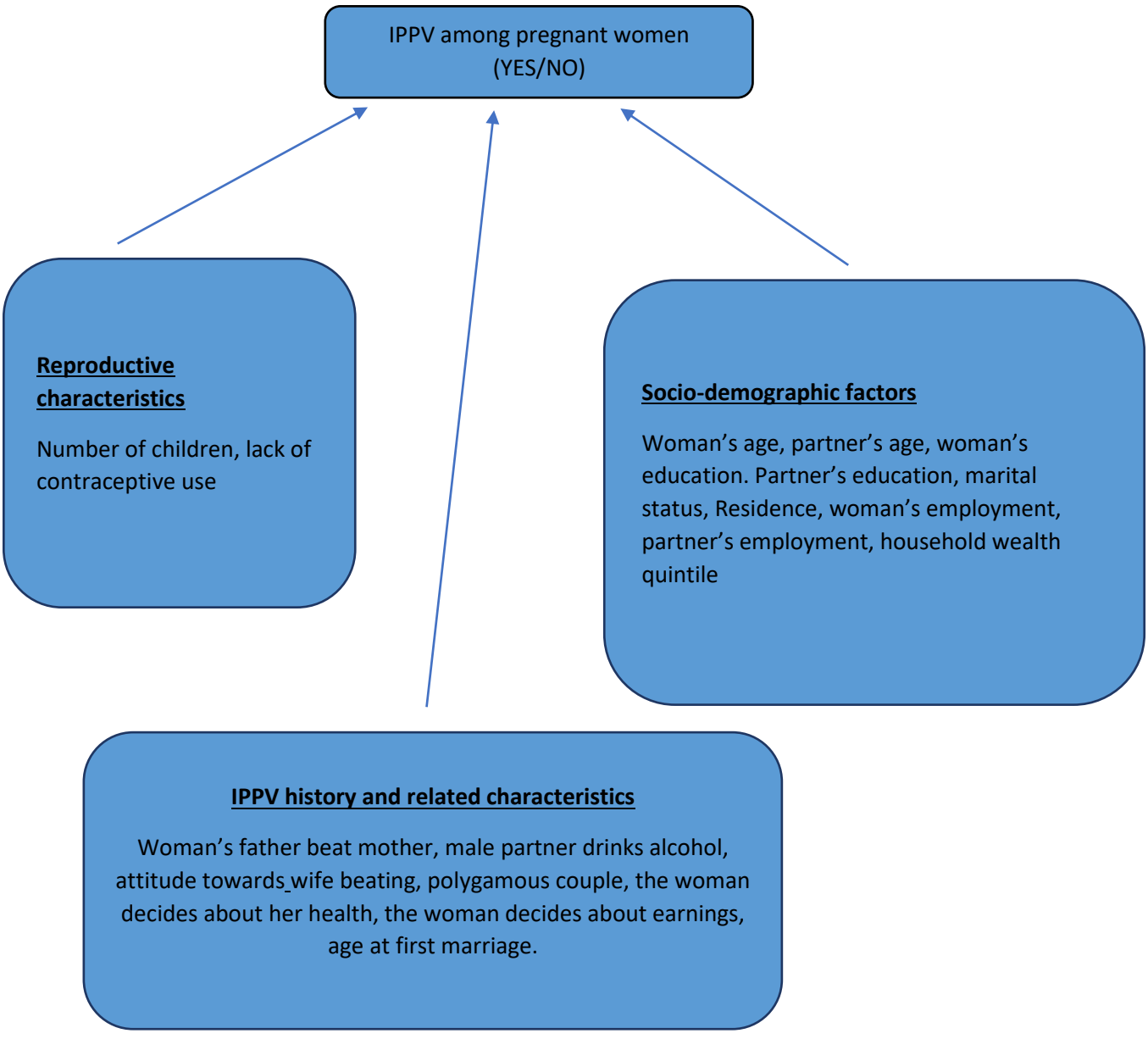
2.2. **Theoretical Framework**

According to a previous study in Rwanda, IPV among pregnant women was associated with being HIV positive, male partner who drinks alcohol, sexual abuse before 14 years of age, a male partner has other sexual partners (11).

Another study done in Jordan revealed that violence against women during pregnancy was associated with the woman's perception of the husband violent behavior and low self-esteem(39).

IPV among pregnant women was also associated with lower education status of the partners, rural residency, choice of partner by women only (40), age at first marriage, women without formal education(8), being in a polygamous marriage or union, multiparity, witnessing maternal abuse in childhood (15) occupation of the partner, women involvement in decision making about their health and purchases (14), greater number of children in the family, separated or divorced marital status (41), lack of contraceptive use (30), and employment status of the woman (42). Another study conducted in Rwanda showed that women who witnesses IPV against mother, believe that IPV is justified, in polygamous marriage were more likely to suffer IPV (5).

2.3. Conceptual Framework



Chapter 3: **Methodology**

3.1. Study design

A cross-sectional study utilizing secondary data on women of age 15-49 years who answered and filled the domestic violence module during the RDHS 2019-2020.

It was a cross-sectional survey carried out through multistage cluster sampling of villages and households, with stratification of all the 30 districts. Women of age 15-49 years from 13,000 households were included in this study.

3.2. Study population

The low-income and landlocked country of Rwanda was the location where the research was carried out. The country contains five regions which is home to 13,246,394 people, with 6,429,326 males and 6,817,068 females. The average household consists of 4 persons (43).

3.3. **Sample size**

1,849 aged 15-49 years women who responded to the special module on domestic violence during the RDHS 2019-2020 were used in this study.

Inclusion criteria

All aged 15-49 years with complete data on the outcome variable.

3.4. **Sampling and data collection procedure**

Secondary data of women aged 15-49 years was downloaded using Stata 16.

The RDHS 2019-2020 was the sixth DHS carried out in Rwanda and data collection was done in the period 9th November 2019 to 20th July 2020.

From 21st March 2019 to 7th June 2020, data collection was interrupted due to a Nationwide lockdown because of the Covid-19 pandemic.

It was a cross-sectional survey carried out through multistage cluster sampling of villages and households, with stratification of all the 30 districts. Women of age 15-49 years from 13,000 households were included in this study.

Women were selected and accepted to fill the questionnaire on domestic violence. A woman per household was picked for this module to avoid any other person in the household knowing about the delicate questions that could risk her safety.

The interviewers were given specific training to carry out safe and confidential interviews. The interviews were conducted face-to-face in the respondent's homes, and they skipped the module if the interviewing environment could not allow confidentiality.

Women were interviewed about physical violence experiences during pregnancy and the outcome was a binary variable.

3.5. **Variables**

Independent variables

- Age of wife; categorized as 15-19, 20-24, 25-29, 30-39,40-49 years.
- Age of partner: categorized as below 30, 30-39, 40 and above.
- Woman's education; categorized as no education, primary education, secondary and above.
- Partner's education; categorized as no education, primary education, secondary and above.
- Woman's employment status; categorized as non-employed, formal, and informal employment.
- Partner's employment status; categorized as non-employed, formal, and informal employment.
- Age at first marriage; categorized as 20 years and below, 21 years and above.
- The number of children categorized as less than 3, 3-5, and above 5 children.
- Attitude towards husband beating wife justified; categorized as Yes coded as 0, and no coded as 1.
- Household wealth quintile; categorized as poorest, poorer, middle, richer, richest.
- Residence; (urban/ rural)
- Marital status; categorized as never in union, currently in union/living with a man, formerly in union/ living with a man.
- Decision making involvement at home for women about her health; Yes, coded as 0, and no coded as 1.
- Woman involved in decision making about her earnings; was categorized as Yes coded as 0, and no coded as 1.

- Partner alcohol consumption: categorized as doesn't drink, drinks and never drunk, drinks and sometimes drunk, drinks and drunk often.
- woman's father beat mother; was categorized as Yes coded as 0, and no coded as 1.
- Polygamous couple; was categorized as Yes coded as 0, and no coded as 1.
- Lack of contraceptive use; was categorized as Yes coded as 0, and no coded as 1.

Outcome variable

Intimate partner physical violence during pregnancy (Yes/No)

3.6. **Data analysis**

Secondary data for women of age 15-49 years was downloaded using Stata 16. Stata 16 was also used for analysis.

Descriptive analysis using percentages, and frequencies was used to describe the sociodemographic, reproductive characteristics, history of IPPV and related characteristics of the study participants. To test the significance of association between the sociodemographic characteristics, reproductive characteristics, IPPV history and related characteristics, with IPPV during pregnancy, bivariate logistic regression at 95% confidence interval was applied.

For multivariate logistic regression analysis, factors with $p<0.05$ in the design-based chi-square for categorical variables were regarded as statistically significant. Collinearity was assessed for all variables.

To construct the final multivariate logistic regression model of the risk factors for IPPV among pregnant women in Rwanda, manual backward stepwise regression was used.

To record the magnitude of association between sociodemographic characteristics, reproductive characteristics, IPPV history and related characteristics with IPPV among pregnant women, Adjusted Odds Ratio (AOR) and 95% confidence interval were used.

For all analyses, sampling weights and adjustments for clustering and stratification of observations were applied.

To adjust for oversampling of urban primary sampling units and alteration for clustering of observations within primary sampling units (PSUs) and districts' stratification, svyset commands to apply inverse probability weights were used.

3.7. **Ethical consideration**

The Institutional Review Board (IRB) approved this study and granted permission to retrieve data from the DHS database. As secondary data was utilized, informed consent was not necessary. However, a confidentiality agreement was signed.

To preserve confidentiality and anonymity, de-identified data was downloaded with consent.

The findings of this research will be communicated with the Maternal and Child Health Division at Rwanda Biomedical Center, the school of public health at the University of Rwanda or submitted for publication.

Chapter 4: **Results**

4.1. **Descriptive analysis**

From our study sample, majority of women were aged 30-39 years (789; 42.7%), 1,545 (83.6%) of women were from rural areas, 1,392 (75.3%) were in union/ living with a man, 1,303 (70.5%) had informal employment, 942 (68.2%) had primary level education, 1,186 (64.1%) had a partner with primary level education, and 1,028 (55.6%) had a partner with informal employment.

This study included a total of 1,849 study participants and the overall prevalence of Intimate partner physical violence towards pregnant women in Rwanda was **4.5**%. According to age, women aged 20-24 had the highest proportion prevalence of 5.5%.

The highest proportion prevalence based on all characteristics of the study sample were in women; with a partner who drink alcohol and get drunk often (16.1%), and those in polygamous partnership (10.5%).

(Table **1,2** and **3)** show the difference of proportion between women who experienced PV and those who didn't.

Table 1; Sociodemographic characteristics of the women who experienced intimate partner physical violence (IPPV) during pregnancy.

Sociodemographic characteristics of the participants	Did not experience IPPV in pregnancy	Experienced IPPV in pregnancy
	% (95% CI)	% (95% CI)
Respondent's age group(n=1,849)		
15-19 (n=43)	95,8[75,4-99,4]	4,2[0,6-24,6]
20-24 (n=204)	94,5[86,9-97,8]	5,5[2,2-13,1]
25-29 (n=301)	96,9[94,5-98,2]	3,1[1,8-5,5]
30-39 (n=789)	95,6[93,8-96,9]	4,4[3,1-6,2]
40-49 (n=512)	95,0[91,8-97,0]	5,0[3,0-8,2]
Residence(n=1,849)		
Urban (n=304)	95,4[94,0-96,4]	4,6[3,6-6,0]
Rural (n=1,545)	95,5[94,2-96,5]	4,5[3,5-5,8]
Marital status(n=1,849)		
Never in union (n=189)	97,8[86,3-99,7]	2,2[0,3-13,7]
Currently in union/living with a man (n=1392)	95,3[93,9-96,3]	4,7[3,7-6,1]
Formerly in union/living with a man (n=268)	95,5[94,2-96,5]	4,5[3,5-5,8]
Partner's Occupation(n=1,849)		
Not employed (n=556)	93,3[90,2-95,4]	6,7[4,6-9,8]
Formal (n=265)	97,0[90,7-99,1]	3,0[0,9-9,3]
Informal (n=1,028)	96,4[94,9-97,4]	3,6[2,6-5,1]
Respondent Occupation (n=1,849)		
Not employed (n=267)	95,3[89,7-97,9]	4,7[2,1-10,3]
Formal (n=279)	96,7[93,3-98,4]	3,3[1,6-6,7]
Informal (n=1,303)	95,3[93,8-96,5]	4,7[3,5-6,2]
Woman's educational level(n=1382)		
No Education (n=185)	95,7[91,7-97,8]	4,3[2,2-8,3]

Primary (n=942)	95,7[94,1-96,8]	4,3[3,2-5,9]
Secondary and Above (n=255)	96,9[90,2-99,0]	3,1[1,0-9,8]
Husband/partner's education level(n=1849)		
No Education (n=247)	95,0[91,3-97,1]	5,0[2,9-8,7]
Primary (n=1186)	95,4[94,0-96,5]	4,6[3,5-6,0]
Secondary and Above (n=416)	94,4[89,5-97,1]	5,6[2,9-10,5]
Wealth index combined (n=1,849)		
Poorest (n=384)	95,7[93,3-97,2]	4,3[2,8-6,7]
Poorer (n=364)	96,0[93,7-97,6]	4,0[2,4-6,3]
Middle (n=359)	94,0[90,4-96,3]	6,0[3,7-9,6]
Richer (n=392)	95,9[92,6-97,7]	4,1[2,3-7,4]
Richest (n=350)	96,0[90,6-98,4]	4,0[1,6-9,4]
Partner's Age group (n=1392)		
Below 30 (n=219)	98,8[96,3-99,6]	1,2[0,4-3,7]
30-39 (n=592)	95,6[93,6-97,0]	4,4[3,0-6,4]
40 and above (n=580)	95,2[92,4-97,0]	4,8[3,0-7,6]

Table 2; IPPV history and related characteristics of women who experienced intimate partner physical violence during pregnancy.

IPPV history and related characteristics of the participants	**Did not experience IPPV in pregnancy**	**Experienced IPPV in pregnancy**
	% (95% CI)	**% (95% CI)**
Polygamous Couple (n=1,392)		
No (n=1,268)	97,2[96,0-98,0]	2,8[2,0-4,0]
Yes (n=124)	89,5[78,8-95,1]	10,5[4,9-21,2]
Husband's drinking habits (n=1,660)		
Doesn't drink (n=605)	97,9[95,7-99,0]	2,1[1,0-4,3]
Drinks, never drunk (n=223)	99,3[94,9-99,9]	0,7[0,1-5,1]
Drinks, sometimes drunk (n=623)	95,1[93,0-96,6]	4,9[3,4-7,0]
Drinks, often drunk (n=209)	83,9[77,2-88,9]	16,1[11,1-22,8]
Respondent decision about Earnings (n=807)		
No (n=70)	95,2[87,0-98,3]	4,8[1,7-13,0]

Yes (n=737)	97,1[95,6-98,1]	2,9[1,9-4,4]
Respondent decision about Health(n=1,392)		
No (n= 249)	96,3[92,9-98,1]	3,7[1,9-7,1]
Yes (n=1,143)	96,5[95,0-97,6]	3,5[2,4-5,0]
Age at first Marriage (n=1,660)		
20 years and below (n=700)	94,6[92,5-96,1]	5,4[3,9-7,5]
21 years and above (n=959)	95,8[93,9-97,1]	4,2[2,9-6,1]
Beating is justified (n=1,849)		
No (n=916)	95,2[92,9-96,7]	4,8[3,3-7,1]
Yes (n=933)	95,9[94,3-97,0]	4,1[3,0-5,7]
Father beat respondent's mother (n=1,726)		
No (n=1,064)	96,6[95,0-97,6]	3,4[2,4-5,0]
Yes (n=662)	93,9[91,2-95,8]	6,1[4,2-8,8]

Table 3: Reproductive characteristics of women who experienced intimate partner physical violence during pregnancy.

Reproductive characteristics of the participants	**Did not Experience IPPV during pregnancy**	**Experience IPPV during pregnancy**
	% (95% CI)	**% (95% CI)**
Use of contraceptive (n=1,849)		
No (n=750)	94.6 [92.1-96.3]	5.4[3.7-7.9]
Yes (n=1,099)	96.2 [94.6-97.3]	3.8[2.7-5.4]
Living children (n=1,849)		
Less than 3 (n=830)	96.3[94.2-97.6]	3.7[2.4-5.8]
3-5 (n=634)	93.7[91.2-95.6]	6.3[4.4-8.8]
Above 5 (n=384)	94.9[91.5-97.0]	5.1[3.0-8.5]

4.2. **Bivariate analysis**

In the unadjusted model, the factors which were statistically significant ($p < 0.05$) include: **partner's age group** 40 and above ($p=0.026$), **marital status**: formerly in union ($p<0.001$), **partner's occupation**: unemployed ($p=0.004$), **partner's alcohol drinking habits**: drinks sometimes drunk ($p=0.039$), drinks often drunk ($p<0.001$), **living children**: 3-5 children ($p=0.036$), and **polygamous couple** ($p=0.002$) (Table 4).

Women with a partner in age group 40 and above (COR 3.96, 95% CI (1.18-13.30) were 3.96 times more likely to suffer IPPV during pregnancy, compared to those with partners aged 30 years and below.

Women who were formerly in union/ living with a man (COR 4.23, 95% CI (2.70-6.69) were 4.23 times more likely to suffer IPPV during pregnancy, compared to those who were currently in union/ living with a man.

Having an unemployed partner (COR 4, 95%% CI (1.52-8.70) had four times higher odds of IPPV during pregnancy compared to having a partner with formal employment.

Women with a partner who drinks alcohol and gets drunk sometimes (COR 2.38, 95% CI (1.05-5.41) were 2.38 times, drink alcohol and gets drunk often (COR 8.87, 95% CI (3.82-20.60) were 8.87 times more likely to suffer IPPV during pregnancy compared to those with a partner that doesn't drink alcohol.

Having 3-5 living children (COR 1.67, 95% CI (1.04-2.69) had 1.67 times more risk of IPPV during pregnancy than having less than 3 children.

Women in a polygamous partnership (COR 4.01, 95% CI (1.63-9.87) were 4.01 times more likely to suffer IPPV during pregnancy compared to those who were not.

Table 4: Bivariate analysis of sociodemographic, reproductive, history of IPPV and related characteristics, and IPPV among pregnant women

Characteristics	COR	95%CI	P-value
Sociodemographic			
Age group (n=1,849)			
15-19 (n=43)	**Reference**		
20-24 (n=204)	1.16	[0.14-9.57]	0.891
25-29 (n=301)	1.21	[0.15-9.51]	0.856
30-39 (n=789)	1.35	[0.18-10.20]	0.769
40-49 (n=512)	1.64	[0.21-12.52]	0.633
Partner's Age group (n=1392)			
Below 30 (n=219)	**Reference**		
30-39 (n=592)	3.1	[0.93-10.4]	0.067
40 and above (n=580)	3.96	[1.18-13.30]	**0.026**
husband/partner's education level(n=1849)			
No Education (n=247)	2.32	[0.76-7.01]	0.138
Primary (n=1186)	1.81	[0.70-4.62]	0.223
Secondary and Above (n=416)	**Reference**		
marital status(n=1,849)			
Never in union (n=189)	0	[0.02-1.29]	0.089
Currently in union/living with a man (n=1392)	**Reference**		
Formerly in union/living with a man (n=268)	4.23	[2.70-6.69]	**<0.001**
Respondent Occupation (n=1,849)			
Not employed (n=267)	1	[0.43-2.30]	0.999
Formal (n=279)	**Reference**		
Informal (n=1,303)	1.08	[0.56-2.09]	0.808
Woman's educational Level(n=1382)			
No Education (n=185)	1	[0.69-3.22]	0.312

Primary (n=942)	1	[0.72-2.37]	0.378
Secondary and Above (n=255)	**Reference**		
Partner's Occupation(n=1,849)			
Not employed (n=556)	4	[1.52-8.70]	**0.004**
Formal (n=265)	**Reference**		
Informal (n=1,028)	1.67	[0.70-3.96]	0.25
wealth index combined (n=1,849)			
Poorest (n=384)	**Reference**		
Poorer (n=364)	1	[0.46-1.79]	0.789
Middle (n=359)	1.4	[0.70-2.79]	0.337
Richer (n=392)	1	[0.45-2.06]	0.911
Richest(n=350)	1	[0.33-2.56]	0.874
Residence			
Rural (n=1,545)	**1.34**	[0.74-2.45]	0.338
Urban (n=304)	**Reference**		
IPPV history and related characteristics			
Husband's drinking habits (n=1,660)			
Doesn't drink (n=605)	**Reference**		
Drinks, never drunk (n=223)	0.35	[0.04-2.81]	0.32
Drinks, sometimes drunk (n=623)	2.38	[1.05-5.41]	**0.039**
Drinks, often drunk (n=209)	8.87	[3.82-20.60]	**<0.001**
Age at first Marriage (n=1,660)			
20 years and below (n=700)	**Reference**		
21 years and above (n=959)	0.67	[0.43-1.03]	0.069
Respondent decision about Earnings (n=807)			
No (n=70)	1.56	[0.53-4.60]	0.418
Yes (n=737)	**Reference**		
Respondent decision about Health(n=1,392)			
No (n= 249)	1.09	[0.54-2.19]	0.819
Yes (n=1,143)	**Reference**		

Beating is justified(n=1,849)			
No (n=916)	**Reference**		
Yes (n=933)	0.96	[0.62-1.48]	0.842
Father beat respondent's mother(n=1,726)			
No (n=1,064)	**Reference**		
Yes (n=662)	1.52	[0.97-2.37]	0.068
Polygamous Couple (n=1,392)			
No (n=1,268)	**Reference**		
Yes (n=124)	4.01	[1.63-9.87]	**0.002**
Reproductive characteristics			
living children(n=1,849)			
Less than 3 (n=830)	**Reference**		
3-5 (n=634)	1.67	[1.04-2.69]	**0.036**
Above 5 (n=384)	1.22	[0.64-2.32]	0.538
Use of contraceptive(n=1,849)			
No (n=750)	0.69	[0.41-1.19]	0.184
Yes (n=1,099)	**Reference**		

4.3. **Multivariate analysis**

After adjusting for confounding variables, IPPV was associated with partner's alcohol drinking habits, number of living children and polygamy (Table 5).

From this analysis, women with partners that drink alcohol and got drunk sometimes had 3.68 times (AOR 3.68, 95% CI (1.3-10.1), drink alcohol and got drunk often had 14.67 times (AOR 14.67, 95%% CI (5.2-41.4), higher odds of IPPV during pregnancy compared to those with partners who don't drink alcohol and those who drink but never get drunk.

Women who had 3-5 living children (AOR 2.64 95% CI (1.2-5.6) had 2.64 times higher odds of IPPV during pregnancy compared to those who had less than 3 children.

Women in a polygamous partnership (AOR 2.81 95% CI (1.2-6.4) had 2.81 times higher odds of IPPV during pregnancy compared to women who were not.

Table 5: Multivariate logistic regression analysis of factors associated with Intimate partner physical violence among Pregnant women in Rwanda.

Factors	AOR	95% CI	P-value
Husband's drinking habits (n=1,660)			
Doesn't drink (n=605)	**Reference**		
Drinks, never drunk (n=223)	0.35	0.04-2.81	0.32
Drinks, sometimes drunk (n=623)	3.68	1.3- 10.1	**0.011**
Drinks, often drunk (n=209)	14.67	5.2-41.4	**<0.001**
Living children(n=1,849)			
Less than 3 (n=830)	**Reference**		
3-5 (n=634)	2.64	1.2-5.6	**0.011**
Above 5 (n=384)	2.13	0.8-5.6	0.126
Polygamous Couple (n=1,392)			
No (n=1,268)	**Reference**		
Yes (n=124)	2.81	1.2-6.4	**0.014**

Chapter 5: **Discussion**

The prevalence of intimate partner physical violence towards pregnant women in Rwanda was 4.5%. This is almost similar to a study conducted in Ghana 5% but lower than other compared to other studies conducted in Ethiopia 20.60% (8) and 11.9% (44), Kenya 10% (15). The lower rate IPPV in Rwanda may be due to the difference in study design. The studies conducted in Rwanda and Ghana were national cross-sectional surveys while those conducted in Ethiopia and Kenya were facility based cross sectional studies using systemic random sampling technique.

IPPV towards pregnant women in Rwanda was associated with intimate partner alcohol consumption. Women with intimate partners who consumed alcohol and got drunk were more likely to be assaulted physically by their intimate partners. This finding is similar to those from Ethiopia (8). Another study conducted in Kenya indicated that men who consumed alcohol were more likely to be perpetrators of violence against pregnant women (15). This could be because of reduced inhibition or control of their emotions after drinking alcohol and thus becoming aggressive towards their partners. Alcohol consumption can also cause financial stress in the family which may affect the relationship between partners thus increasing the likelihood of intimate partner violence towards pregnant women.

IPPV towards pregnant women in Rwanda was also associated with polygamy. This is consistent with other study conducted in Rwanda (11), Kenya (15) and Pakistan (45) that showed that women with partners that had other sexual partners were more likely to be violated. This is most likely due to the unequal attention and love for their partners which results in neglect. This leads to relationship disputes for the neglected partner resulting in quarrels and violence.

Number of living children was also significantly associated with IPPV towards pregnant women. This is similar to a study conducted in Uganda (46). Having more than three children requires a lot of attention from the parents, especially the mothers, and financial support to provide for them. This may strain the relationship between couples thus increasing the likelihood of violence. However, having more than five children was not significant in our study as was having three to five children. It could be that IPPV during pregnancy may not only be related to the parental or economic stress associated with the number of children in a home, but other factors may come into play such as child neglect by the mother and this may require further research. Studies revealed that homes with several types of domestic violence including child

abuse, violence against women was increased in case the women were aggressive or neglecting their children or tried to protect children from violence (47).

Unlike other studies, the level of education was not significant in this study. Other studies indicated that women with no formal education and those with primary level education were more likely to be assaulted by their partners during pregnancy (7,8). This is because less educated women lack knowledge and skills for women empowerment that are usually acquired through formal education. This leaves them vulnerable and susceptible to violence from their partners. Majority of women in our study sample had primary level of education and are exposed to the poor social norms in their communities that support patriarchy and tolerance towards IPPV against these pregnant women. Therefore, their education level may have minimal effect on the risk of IPPV towards pregnant women.

Employment status and the combined wealth index of the respondents were not associated with IPPV towards pregnant women. This is similar to a study conducted in Ethiopia(40) which showed that there was no significant association between these two factors and IPPV towards pregnant women. This is most likely because majority of the women in this study sample had informal jobs with low pay which may in turn reinforce male superiority towards these pregnant women, and the social norms that tolerate violence.

Chapter 6: **conclusion and recommendation**

6.1. Conclusion

From this study, we reported on prevalence of IPPV among pregnant women. IPPV among pregnant women in Rwanda remains a public health issue. This was associated with having a male partner who drinks and gets drunk, having 3-5 children, and polygamy.

6.2. Recommendation

This and other study findings indicated that women who had more children were more likely to report IPPV during pregnancy. Therefore, we recommend that Ministry of Health in Rwanda should promote family planning use among women so that they can give birth to children that they can afford to take care of financially and mentally without any added stress. This can be done through mass campaigns to promote family planning and life skills classes and school-based programs to educate girls about their sexual and reproductive rights and body autonomy. Girls should be educated and empowered right from childhood to make informed choice related to childbirth. Evidence has also shown that measures that include both microfinance and gender equality training empower women especially in decision making such as the number of children to bare, may be impactful in reducing IPV(48).

The government should put effort in addressing the issue of substance and alcohol abuse as several studies including this one has shown that partner alcohol abuse is a risk factor for IPPV during pregnancy. This can be done through legal and policy reforms that make alcohol expensive by increasing prices and taxation and making It less accessible through limiting access in hours and days of sale and quantity bought per individual. This may in turn reduce alcohol associated IPPV towards pregnant women. Male engagement in the communities in the fight against IPV may enable them to reflect and change their behavior such as alcohol abuse which results into decline in violence towards women.

Based on our findings, and other literature, polygamy has been shown to be a risk factor for IPPV towards pregnant women. This should be addressed by the policy makers including local leaders through amending social norms that promote patriarchy based on power and control over women, develop strategies that combat attitudes which reinforce gender stereotype roles in a

family. Antiviolence campaigns to empower women through educating them about their human rights, should be done regularly and nationwide.

6.3. Limitations

The data for this study was obtained through self-reporting by women who participated in the survey, and therefore there may intentionally misreport resulting into under reporting. IPPV during pregnancy is still a sensitive issue and women may be afraid to report it due to fear of being judged by society, so under reporting or over reporting was very likely, which affects the data collected. This is secondary data based on a national health survey that is conducted every five years and therefore recall bias was very likely, which may affect the data. We could not explore the perceptions of IPPV during pregnancy, and the trimester during which IPPV occurred among women.

This study was cross-sectional and causal relationships could not be established (49).

A qualitative study to explore the perceptions of women on IPPV during pregnancy and to identify the trimester of pregnancy during which IPPV occurred should be conducted in Rwanda. This can aid in developing interventions to prevent IPPV.

REFERENCES

1. Nations U, Group IW, Against V, Estimation W. Violence Against Women Prevalence Estimates ,. 2018.
2. Bernstein HB, VanBuren G. Chapter 6. Normal Pregnancy and Prenatal Care. In: DeCherney AH, Nathan L, Laufer N, Roman AS, editors. CURRENT Diagnosis & Treatment: Obstetrics & Gynecology, 11e [Internet]. New York, NY: The McGraw-Hill Companies; 2013. Available from: http://accessmedicine.mhmedical.com/content.aspx?aid=56964326
3. Geneva: World Health Organization. RESPECT women: Preventing violence against women. RESPECT Women Prev violence against women Ginebra WHO [Internet]. 2019;14. Available from: https://apps.who.int/iris/bitstream/handle/10665/312261/WHO-RHR-18.19-eng.pdf?ua=1
4. Devries KM, Kishor S, Johnson H, Stöckl H, Bacchus LJ, Garcia-Moreno C, et al. Intimate partner violence during pregnancy: analysis of prevalence data from 19 countries. Reprod Health Matters [Internet]. 2010 Jan 1;18(36):158–70. Available from: https://doi.org/10.1016/S0968-8080(10)36533-5
5. Thomson DR, Bah AB, Rubanzana WG, Mutesa L. Correlates of intimate partner violence against women during a time of rapid social transition in Rwanda: Analysis of the 2005 and 2010 demographic and health surveys. BMC Womens Health [Internet]. 2015;15(1):1–13. Available from: http://dx.doi.org/10.1186/s12905-015-0257-3
6. Global and regional estimates of violence against women Prevalence and health effects of intimate partner violence and non-partner sexual violence. 2013;51.
7. Delavar M, Abdollahi F, Abhari F, Charati J. Physical violence against pregnant women by an intimate partner, and adverse pregnancy outcomes in Mazandaran Province, Iran. J Fam Community Med. 2015;22(1):13.
8. Gebrezgi BH, Badi MB, Cherkose EA, Weldehaweria NB. Factors associated with intimate partner physical violence among women attending antenatal care in Shire Endaselassie town, Tigray, northern Ethiopia: A cross-sectional study, July 2015. Reprod Health. 2017;14(1):1–10.
9. Pool MS, Otupiri E, Owusu-Dabo E, De Jonge A, Agyemang C. Physical violence during pregnancy and pregnancy outcomes in Ghana. BMC Pregnancy Childbirth. 2014;14(1):1–8.
10. (NISR), Ministry of Health (MOH) [Rwanda], ICF International. Rwanda Demographic and Health Survey 2014-2015. 2015. 1–615 p.
11. Ntaganira J, Muula AS, Masaisa F, Dusabeyezu F, Siziya S, Rudatsikira E. Intimate partner violence among pregnant women in Rwanda. BMC Womens Health. 2008;8:1–7.
12. Kerr-Wilson A, Gibbs A, McAslan Fraser E, Ramsoomar L, Parke A, Khuwaja H, et al. What works to prevent violence against women and girls. A rigorous Glob Evid Rev Interv to Prev violence against women girls Pretoria, South Africa What Work to Prev Violence Against Women Girls. 2019;
13. Dunkle K, Stern E, Chatterji S, Heise L. Indashyikirwa programme to reduce intimate partner violence in Rwanda: report of findings from a cluster randomized control trial. Pretoria South African Med Res Counc. 2019;
14. Bahati C, Izabayo J, Munezero P, Niyonsenga J, Mutesa L. Trends and correlates of intimate partner violence (IPV) victimization in Rwanda: results from the 2015 and 2020 Rwanda Demographic Health Survey (RDHS 2015 and 2020). BMC Womens Health

[Internet]. 2022;22(1):368. Available from: https://doi.org/10.1186/s12905-022-01951-3
15. Makayoto LA, Omolo J, Kamweya AM, Harder VS, Mutai J. Prevalence and Associated Factors of Intimate Partner Violence Among Pregnant Women Attending Kisumu District Hospital, Kenya. Matern Child Health J [Internet]. 2013;17(3):441–7. Available from: https://doi.org/10.1007/s10995-012-1015-x
16. Bessa MMM, Drezett J, Rolim M, de Abreu LC. Violence against women during pregnancy: sistematized revision. Reprodução Clim. 2014;29(2):71–9.
17. Menezes TC, Amorim MMR de, Santos LC, Faúndes A. Violência física doméstica e gestação: resultados de um inquérito no puerpério. Rev Bras Ginecol e Obs. 2003;25:309–16.
18. Audi CAF, Segall-Corrêa AM, Santiago SM, Andrade M da GG, Pèrez-Escamila R. Violência doméstica na gravidez: prevalência e fatores associados. Rev Saude Publica. 2008;42:877–85.
19. Chisholm CA, Bullock L, Ferguson II JEJ. Intimate partner violence and pregnancy: epidemiology and impact. Am J Obstet Gynecol. 2017;217(2):141–4.
20. Han A, Stewart DE. Maternal and fetal outcomes of intimate partner violence associated with pregnancy in the Latin American and Caribbean region. Int J Gynecol Obstet [Internet]. 2014;124(1):6–11. Available from: https://www.sciencedirect.com/science/article/pii/S0020729213005067
21. Abujilban S, Mrayan L, Al-Modallal H, Damra JK. Physical Intimate Partner Violence and Maternal Outcomes in a Hospital-Based Sample of Pregnant Women in Jordan. Florence Nightingale J Nurs. 2022;
22. Hill A, Pallitto C, McCleary-Sills J, Garcia-Moreno C. A systematic review and meta-analysis of intimate partner violence during pregnancy and selected birth outcomes. Int J Gynecol Obstet. 2016;133(3):269–76.
23. Martin-de-las-Heras S, Velasco C, Luna-del-Castillo J de D, Khan KS. Maternal outcomes associated to psychological and physical intimate partner violence during pregnancy: A cohort study and multivariate analysis. PLoS One [Internet]. 2019 Jun 13;14(6):e0218255. Available from: https://doi.org/10.1371/journal.pone.0218255
24. Mazza M, Marano G, Gonsalez A, Chieffo D, Monti L, Janiri D, et al. Intimate partner violence: A loop of abuse, depression and victimization. 2021;11(6):215–21.
25. Humphreys J, Parker B, Campbell JC. Intimate partner violence against women. Annu Rev Nurs Res. 2001;19(1):275–306.
26. Meiksin R, Meekers D, Thompson S, Hagopian A, Mercer MA. Domestic Violence, Marital Control, and Family Planning, Maternal, and Birth Outcomes in Timor-Leste. Matern Child Health J [Internet]. 2015;19(6):1338–47. Available from: http://dx.doi.org/10.1007/s10995-014-1638-1
27. Alhusen JL, Ray E, Sharps P, Bullock L. Intimate partner violence during pregnancy: maternal and neonatal outcomes. J women's Heal. 2015;24(1):100–6.
28. Islam MJ, Broidy L, Baird K, Mazerolle P. Intimate partner violence around the time of pregnancy and postpartum depression: the experience of women of Bangladesh. PLoS One. 2017;12(5):e0176211.
29. Tiwari A, Chan KL, Fong D, Leung WC, Brownridge DA, Lam H, et al. The impact of psychological abuse by an intimate partner on the mental health of pregnant women. BJOG An Int J Obstet Gynaecol. 2008;115(3):377–84.
30. Dunn LL, Oths KS. Prenatal predictors of intimate partner abuse. J Obstet Gynecol

Neonatal Nurs. 2004;33(1):54–63.
31. Organization WH. Intimate partner violence during pregnancy: Information sheet. World Health Organization; 2011.
32. Hoang TN, Van TN, Gammeltoft T, Meyrowitsch DW, Thuy HNT, Rasch V. Association between intimate partner violence during pregnancy and adverse pregnancy outcomes in Vietnam: A prospective cohort study. PLoS One. 2016;11(9):1–14.
33. Doyle K, Levtov RG, Barker G, Bastian GG, Bingenheimer JB, Kazimbaya S, et al. Gender-transformative bandebereho couples' intervention to promote male engagement in reproductive and maternal health and violence prevention in Rwanda: Findings from a randomized controlled trial. PLoS One. 2018;13(4):1–17.
34. Kigali R, Health M of. Government of Rwanda. Third Health Sector Strategic Plan: July 2012 ±June 2018. 2012.
35. GarcõÂa-Moreno C, Jansen HAFM, Ellsberg M, Heise L WC. WHO multi-country study on women's health and domestic violence against women: initial results on prevalence, health outcomes and women's responses. Geneva: World Health Organization; 2005.
36. Mutisi M. Local conflict resolution in Rwanda: the case of abunzi mediators. Integr Tradit Mod Confl Resolut Exp from Sel cases East Horn Africa Durban, South Africa Accord. 2012;41–74.
37. Carlson K, Randell S. Gender and development: Working with men for gender equality in Rwanda. Agenda. 2013;27(1):114–25.
38. Ashburn K, Kerner B, Ojamuge D, Lundgren R. Evaluation of the responsible, engaged, and loving (REAL) fathers initiative on physical child punishment and intimate partner violence in Northern Uganda. Prev Sci. 2017;18(7):854–64.
39. Oweis A, Gharaibeh M, Alhourani R. Prevalence of violence during pregnancy: Findings from a jordanian survey. Matern Child Health J. 2010;14(3):437–45.
40. Azene ZN, Yeshita HY, Mekonnen FA. Intimate partner violence and associated factors among pregnant women attending antenatal care service in Debre Markos town health facilities, Northwest Ethiopia. PLoS One. 2019;14(7):1–17.
41. Sabri B, Renner LM, Stockman JK, Mittal M, Decker MR. Risk Factors for Severe Intimate Partner Violence and Violence-Related Injuries Among Women in India. Women \& Heal [Internet]. 2014;54(4):281–300. Available from: https://doi.org/10.1080/03630242.2014.896445
42. Rayhan I, Akter K. Prevalence and associated factors of intimate partner violence (IPV) against women in Bangladesh amid COVID-19 pandemic. Heliyon [Internet]. 2021;7(3):e06619. Available from: https://www.sciencedirect.com/science/article/pii/S2405844021007222
43. (NISR) NI of S of R. Rwanda Statistical Yearbook 2022.
44. Ashenafi W, Mengistie B, Egata G, Berhane Y. Prevalence and Associated Factors of Intimate Partner Violence During Pregnancy in Eastern Ethiopia. Int J Womens Health [Internet]. 2020;12:339–58. Available from: https://www.tandfonline.com/doi/abs/10.2147/IJWH.S246499
45. Karmaliani R, Irfan F, Bann CM, Mcclure EM, Moss N, Pasha O, et al. Domestic violence prior to and during pregnancy among Pakistani women. Acta Obstet Gynecol Scand. 2008;87(11):1194–201.
46. Kabwama SN, Bukenya J, Matovu JKB, Gwokyalya V, Makumbi F, Beyeza-Kashesya J, et al. Intimate partner violence among HIV positive women in care - Results from a

national survey, Uganda 2016. BMC Womens Health. 2019;19(1):1–10.
47. Jouriles EN, McDonald R, Slep AMS, Heyman RE, Garrido E. Child abuse in the context of domestic violence: Prevalence, explanations, and practice implications. Violence Vict. 2008;23(2):221–35.
48. Spangaro J. Intimate partner violence. Handb Gend Violence. 2019;265–78.
49. Emenike E, Lawoko S, Dalal K. Intimate partner violence and reproductive health of women in Kenya. Int Nurs Rev. 2008;55(1):97–102.

APPENDICE

CMHS INSTITUTIONAL REVIEW BOARD (IRB)

Kigali, 20th/02/2023
Ref: CMHS/IRB/**115**/2023

MULUNGI Annet

Field Epidemiology Training Program (FLTP)
School of Public Health, CMHS, UR

Dear MULUNGI Annet

RE: ETHICAL CLEARANCE

Reference is made to your application for ethical clearance for the study entitled ***"Prevalence and Factors Associated with Intimate Partner Physical Violence among Pregnant Women in Rwanda, Using Secondary Data from RDHS 2019-2020."***

Having reviewed your application and been satisfied with your protocol, your study is hereby granted ethical clearance. The ethical clearance is valid for one year starting from the date it is issued and shall be renewed on request. You will be required to submit the progress report and any major changes made in the proposal during the implementation stage. In addition, at the end, the IRB shall need to be given the final report of your study.

We wish you success in this important study.

Prof. Stefan JANSEN
Ag Chairperson Institutional Review Board,
College of Medicine and Health Sciences, UR

Cc:

- Principal, College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate studies, UR