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Emeline Jacqueline TOSSOU

emejacquie@yahoo.fr

University of Abomey-Calavi (CRE-UAC)

Dimitri TCHAKOUNTE

Ecole Internationale du Management et de l'Entrepreneuriat (EIME)-YSCHOOLS

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^{1*}Emeline Jacqueline TOSSOU and Dimitri TCHAKOUNTE²

¹ Center for Economic Research at the University of Abomey-Calavi (CRE-UAC), Cotonou, Benin ; Email : emejacquie@yahoo.fr

² International Laboratory for Research on Innovation and Entrepreneurship (LIRIE) Ecole Internationale de Management et de l'Entrepreneuriat-YSCHOOLS, Yaoundé, Cameroon
Email : tchakountedimitri@gmail.com

*Corresponding author : Emeline Jacqueline TOSSOU
Tel : +229 01 95 20 48 14
Email : emejacquie@yahoo.fr

Abstract

This study assesses the associations between couples' attitudes toward domestic violence and reproductive health care use in sub-Saharan Africa. The data used come from demographic and health surveys conducted between 2018 and 2024 in twenty-one countries. Reproductive health care utilization is measured through contraceptive use, attendance at prenatal care services assessment, and assessing the place of delivery. Couples' attitudes toward domestic violence are assessed based on the concordance or discordance between women's responses and their husbands' responses regarding the rejection of such violence, as this study takes a dyadic perspective on attitudes towards domestic violence to analyze reproductive health outcomes. Empirically, the multilevel logit model was estimated given the hierarchical structure of the data relating to women nested within couples. Estimates results suggest that women living in households where both partners jointly reject domestic violence are more likely to attend at least four prenatal visits and give birth in a health facility, compared to those living in households where both partners jointly justify such violence. Furthermore, rejection of violence by the husband alone appears to be a better predictor of contraceptive use. Robustness analysis, performed by estimating a logit model and carrying out analyses incorporating a disaggregated version of spousal agreement and disagreement towards approval of violence, lead to the same conclusions. Thus, in order to increase reproductive health services use, public policies should adopt and enforce stricter laws against domestic violence, accompanied by sensitization campaigns with the aim of creating awareness targeting couples, with a focus on male partners.

Keywords : Couples' attitudes, domestic violence, reproductive health care, multilevel logistic regression, sub-Saharan Africa.

1. Introduction

Intimate partner violence (IPV) is a public health issue that particularly affects women around the world. It encompasses physical, psychological, and sexual abuse inflicted between intimate partners (1,2). Globally, it is estimated that 736 million women, or about one in three, aged 15 or older than that, have experienced physical and/or sexual violence from an intimate partner at least once in their lifetime (3). Regional estimates show that South Asia with (35%) and Sub-Saharan Africa with (33%) have some of the highest rates of domestic violence against married or cohabiting women aged 15 to 49 (3). In Sub-Saharan Africa, the prevalence of physical and/or sexual violence perpetrated by an intimate partner against women aged 15 and beyond during their lifetime is estimated at 31.7% (4). This high prevalence of domestic violence has harmful effects on health, as well as intergenerational, economic, and social effects for both victims and society (5). In terms of health, women who are victims of IPV are at increased risk of unwanted pregnancy, multiple abortions, sexually transmitted infections, difficulties accessing contraception, and complications during childbirth (6–8). IPV is also associated with mental health problems such as depression and suicide (9,10).

Several studies have highlighted women's attitudes toward the justification of violence and such attitudes could be predicted earlier by their exposure to violence (11–13). Indeed, in many societies, gender norms and roles are often the root causes of the acceptance of violence against women within the household (14). Patriarchal and cultural norms often attribute to men a power of domination over their wives, who are considered intrinsically inferior or subordinate. Based on these norms, violence appears to be a means of asserting their authority or reprimanding their wives for any behavior that they deem inappropriate (15,16). Furthermore, gender roles encourage women to be submissive and accept abuse, while men are socialized to exercise dominance and aggression. Women's rejection of domestic violence strengthens their self-esteem, autonomy, and sense of control over their lives (17,18). Conversely, a tolerant attitude on the part of women, who justify violence by their intimate partners, leads to low self-esteem and a weak sense of entitlement, which can be a barrier against the use of reproductive health services.

Despite a growing number of studies establishing a link between attitudes toward domestic violence and women's ability to access reproductive health services, the majority of these studies have adopted an individual-centered approach, focusing primarily on women's perceptions of acceptance or rejection of domestic violence (19–21). This analytical framework,

although relevant, has neglected couple dynamics and has not explored how shared attitudes within the couple influence the use of reproductive health services. Our study enriches this literature by adopting a dyadic approach, which jointly examines both partners' attitudes toward domestic violence and their impact on the use of reproductive health services. Indeed, some recent studies have adopted this dyadic approach to analyze couples' attitudes toward women's autonomy and decision-making within the household (22–24). This research has shown that agreement between couples on women's decision-making autonomy is positively associated with favorable health outcomes, such as contraceptive use (24,25) and access to prenatal care (22).

Our study contributes to this literature by adopting a dyadic perspective on attitudes toward domestic violence, particularly with regard to its influence on reproductive health outcomes such as contraceptive use, access to prenatal care, and in addition, the use of childbirth care. This approach provides a better understanding of how shared attitudes within couples influence not only the management of intimate partner violence, but also how couples access reproductive health services, which is a crucial aspect for improving public health policies in sub-Saharan Africa (26–28). The objective of this research is therefore to assess the associations between couples' attitudes toward domestic violence and the use of reproductive health care based on data from the most recent demographic and health surveys from 21 countries in sub-Saharan Africa.

The remainder of the paper is structured into five sections : Section 2 presents the literature review. The methodology and methods used are presented in Section 3. Section 4 presents and discusses the results, and Section 5 concludes the paper.

2. Lessons from the literature

Early economic studies on marriage, describe the union as an altruistic institution in which spouses allocate their resources to maximize a common family welfare function (29,30). However, more recent approaches, notably the bargaining models, challenge this view by considering spouses as individuals with distinct interests and preferences who must find a compromise or mutual agreement to maintain their stability in a union (31,32). These models introduced the concept of the “threat point,” which corresponds to the level of utility that a spouse could achieve in the absence of marriage. In this context, domestic violence can appear as a strategic tool, often used by the husband, to strengthen his position in negotiations. Some

authors argue that non-cooperative models are more appropriate for analyzing the dynamics of violence within households (33). According to these models, a woman's level of tolerance for violence depends on her bargaining power, which is itself influenced by her own resources, the availability of external support (such as shelters or social services), and the possibility of divorce. Consequently, the greater a woman's bargaining power, the less likely she is to tolerate violence (34).

Other theories have been used to explain some women's tolerance of domestic violence, including social learning theory and feminist theory. Social learning theory, argues that violence develops in individuals exposed to a family or community environment where such behaviors can be observed and then replicated (35–38). Thus, children who grow up in a violent home, for example by seeing their father hit their mother or by being victims of this violence themselves, are more likely to adopt the same behaviors as adults. Violence then appears to them as a legitimate means of resolving conflicts or imposing control in a relationship. Feminist theory, for its part, explains the dynamics of domestic violence in terms of gender-related power imbalances (39). It argues that, in a context of patriarchal beliefs, men exercise domination over their partners, which is the main source of violence.

Several studies have examined the link between the incidence of intimate partner violence and poor maternal health outcomes (40–45). In contrast, little research has examined the effect of women's tolerant attitudes toward domestic violence. Studies conducted in South Asia, notably in Bangladesh and Indonesia, have examined the effect of rejection of domestic violence on the use of reproductive health services. In Bangladesh, the effect of women's attitudes toward the justification of domestic violence on the use of reproductive health services, including contraception, prenatal care, delivery in facilities with a qualified health professional, and postnatal care is examined (19). By constructing a composite score categorized into three levels of rejection of violence (low, moderate, and high), the authors demonstrate, using multivariate regression applied to a sample of 9,632 women, that women who moderately or strongly reject domestic violence are more likely to seek prenatal care. In addition, the probability of seeking postnatal care and having a skilled birth attendant is higher among those who moderately reject violence than among those who strongly reject it. Other authors confirm that Bangladeshi and Indonesian women who held a favorable attitude toward domestic violence were less likely to attend four or more prenatal visits and to give birth at health centers than those who rejected violence (46,47).

On a regional scale, this study extends the analysis to four South Asian countries, namely Afghanistan, Bhutan, Nepal, and Pakistan, using the 2010 and 2015 MICS surveys for a sample of 26,029 women in unions (48). By combining a generalized linear random effects model and multivariate logistic regression, the findings indicate that women's justification of violence is strongly associated with lower use of modern contraceptives, low use of prenatal care, and a lower probability of receiving postnatal care. In addition, women who justify violence tend to delay their first prenatal visit. In several sub-Saharan African countries, evidence showed that women with medium or high levels of justification for domestic violence are less likely to receive adequate prenatal care than those with low levels of justification for violence (49). In another study of a larger sample of 80,055 women aged 15 to 49 from the 2009 and 2011 MICS surveys in seven countries in West and Central Africa, a multinomial logistic regression model was used to show that women with low tolerance for domestic violence are less likely to use traditional or modern contraceptive methods than those with zero tolerance for violence (20). Furthermore, women who are highly tolerant of violence are 28% less likely to use traditional contraceptives and 38% less likely to use modern methods. Similarly, in a study conducted in East Africa, particularly in Ethiopia, women living in communities where a higher percentage of women oppose domestic violence are significantly more likely to use maternal health services (50). Furthermore, another study examined the effect of women's attitudes toward domestic violence on their reproductive choices using a sample of 17,968 women from demographic and health data from eight southern African countries for the period 2011-2018 (51). The results of the logistic regression showed that women who opposed domestic violence were more autonomous in their reproductive decisions, while those who justified domestic violence were less autonomous.

Other recent studies have found no significant association between the justification of domestic violence against women and the use of reproductive care. In examining the association between women's empowerment and contraceptive use among married mothers in Ethiopia, the authors found that women's justification of domestic violence does not significantly influence the use of modern contraceptives (52). Thus, although research has already highlighted these relationships, much of the literature is based on women's attitudes alone, without taking into account the dynamics within the couple. It is precisely this gap that our study seeks to fill by adopting a dyadic approach to attitudes toward domestic violence.

3. Materials and methods

Data source

The data used comes from demographic and health surveys (DHS) conducted in 21 countries in sub-Saharan Africa, as these countries have recent data on perceptions of domestic violence. For each country, we use data from the latest available survey conducted between 2018 and 2024¹. In fact, DHS surveys are household surveys that are representative of the national population and include reliable and up-to-date indicators on fertility, family planning, the nutritional status of women and children under five, breastfeeding practices, maternal and infant mortality, anemia, noncommunicable diseases, women's decision-making power, and domestic violence.

At the end of the survey, eight modules were generated : woman, man, child, birth, household, household members, fieldworker, and couple. In this article, the couple module is used insofar as the analysis focuses on couples (married or cohabiting) in which each partner answered questions about their attitudes toward domestic violence. This module consists of a total sample of 69,700 couples. However, with regard to contraceptive use, the sample is limited to couples whose women were not pregnant at the time of the survey, for a total of 60,906 couples. With regard to the use of maternal health services, the study focuses on women who had given birth at least once in the five years prior to the survey, corresponding to a sample of 44,614 couples.

Measurement of variables

The dependent variable

The use of reproductive health care is measured by three variables : contraceptive use, prenatal care use, and place of delivery. Contraceptive use is a binary variable that takes the value 1 if the woman used a contraceptive method (modern or traditional) and 0 if otherwise. The use of prenatal care is a binary variable that takes the value 1 if the woman had at least four prenatal visits during her last pregnancy and 0 if otherwise. The place of delivery is measured by a binary variable that takes the value 1 when the delivery took place in a health facility (public or private) and 0 if otherwise (home).

¹The sample includes the following countries: Benin (2017-18), Burkina Faso (2021), Cameroon (2018), Côte d'Ivoire (2021), Gabon (2019-2021), Gambia (2019-20), Ghana (2022), Guinea (2018), Kenya (2022), Lesotho (2023-24), Liberia (2019-20), Madagascar (2021), Mauritania (2019-21), Mali (2018), Mozambique (2022-2023), Nigeria (2018), Rwanda (2019-20), Senegal (2023), Sierra Leone (2019), Tanzania (2022), Zambia (2018).

Independent variables

The variable of interest is couples' attitudes toward domestic violence. This variable measures the agreement or disagreement between women and their husbands in rejecting domestic violence. In DHS surveys, women and their husbands are asked separate questions about the justification or acceptance of physical violence by their spouses against them for the following five reasons : the woman goes out without informing her husband ; (ii) the woman neglects the children ; (iii) the woman argues with her husband ; (iv) the woman refuses to have sex with her husband ; and (v) the woman burns the meal. First, in line with the literature (53,54), we create a binary variable for each of the five reasons that takes the value 1 if the woman/husband rejects domestic violence and 0 otherwise. Second, we create a composite measure separately for women and their husbands by adding the five dichotomous variables. This composite measure ranges from 0 to 5, with a value of 0 indicating that the woman/husband justifies or accepts domestic violence for all 5 reasons and a value of 5 indicating that the woman/husband rejects violence for all 5 reasons.

The Cronbach's alpha coefficients for the composite measures are 0.87 for women and 0.82 for husbands, indicating strong internal consistency and good reliability of these indices. Thirdly, we obtain two binary indicators of acceptance of domestic violence at the individual level from the composite measures. They take the value 1 for a score of 5 (the woman/husband rejects domestic violence for all five reasons) and the value 0 for a score of 0 to 4 (the woman/husband justifies or accepts domestic violence for at least one of the five reasons). Fourth, we obtain a categorical variable that assesses the concordance and discordance of couples in rejecting domestic violence based on the spouses' cross-referenced responses on the justification of domestic violence. The different categories are as follows: (i) both spouses justify domestic violence (agreement in accepting violence), (ii) only the woman rejects domestic violence (disagreement), (iii) only the husband rejects domestic violence (disagreement), and (iv) both spouses reject domestic violence (agreement in rejecting violence) (27). The couples' cross-responses on the justification of violence against women are summarized in Table 1.

Empirical methods

We analyze the effect of couples' attitudes toward domestic violence (DV) on the use of reproductive health services (RHS) by married or cohabiting women. More specifically, we examine whether the type of attitude : rejection by both spouses, rejection by the husband only, rejection by the wife only, or justification by both spouses, influences the use of contraceptive

methods and prenatal care. Each reproductive health indicator is modeled separately as a binary variable. Given the hierarchical structure of the data, with individuals (women) nested within couples, we estimate a multilevel logit model, specified as follows :

$$\text{logit}\left(\frac{P(Z_{ij}=1)}{1-P(Z_{ij}=1)}\right) = \delta + \gamma Y_{ij} + \varphi W_{ij} + \mu_j + \epsilon_{ij} \quad (1)$$

Where Z_{ij} is a binary variable indicating whether woman i belonging to couple j uses a given reproductive health care service. The variable Y_{ij} is a categorical variable representing the couple's attitude toward domestic violence. The vector W_{ij} is a vector of control variables including individual characteristics of the woman, namely age, education level, employment and characteristics of the couple at the household level (household wealth, place of residence). The parameter μ_j is the fixed effect at the couple level, capturing unobserved heterogeneities between couples. The parameter ϵ_{ij} is the error term at the individual level, which is assumed to be independently and identically distributed. The term δ is a constant.

4. Results

4.1 Results of descriptive statistics

Table 2 presents the results of descriptive statistics for the variables in the study. It shows that among women in a relationship who had at least one pregnancy in the five years prior to the survey, 62.73% had at least four prenatal visits during their last pregnancy and 73.31% gave birth in a specialized health facility.

Table 1 : Couples' attitudes toward domestic violence

Couple's attitude toward domestic violence		Woman's response	
		The woman justifies violence	The Woman rejects violence
Husband's response	The husband justifies violence	(A) Agreement : both justify domestic violence	(B) Disagreement : only the woman rejects domestic violence
	The husband rejects violence	(C) Disagreement : only the husband rejects domestic violence	(D) Agreement : both reject domestic violence

Source : Authors, with reference to Behrman et Frye (2021).

With regard to domestic violence, the results show that more than half of the women (57.59%) and 76.05% of husbands in the sample reported rejecting domestic violence. Furthermore, 46.82% of couples agreed in their rejection of DV and 13.18% of couples agreed in their acceptance of DV.

Regarding individual sociodemographic characteristics, the average age of women is 29. In terms of education level, 40.42% of women are not educated, 28.84% have completed primary school, 25.89% have completed secondary school, and 4.85% have a higher education degree. Approximately 66% of women were reported to have worked in the past 12 months. In addition, 55.16% of women are exposed to radio, while 45% are exposed to television.

In terms of couples, the average household size is seven people. The wealth index reveals that 22.94% of couples are classified as very poor, 21.14% are poor, 19.55% belong to the middle class, 19.26% are rich, and 17.11% are considered wealthy. Finally, 63.98% of couples live in rural areas, compared to 36.02% in urban areas.

Table 2: Descriptive statistics

Variables	Average	Standard deviation	Minimum	Maximum
Use of contraceptives (modern or traditional)				
No	0.6161	0.4863	0	1
Yes	0.3839	0.4863	0	1
Number of prenatal visits				
Less than 04	0.3727	0.4835	0	1
At least 04	0.6273	0.4835	0	1
Place of delivery				
Hospital	0.2669	0.4423	0	1
Home	0.7331	0.4423	0	1
Individual attitude of women toward domestic violence (DV)				
Woman accepts DV	0.4241	0.4942	0	1
Woman rejects DV	0.5759	0.4942	0	1
Individual attitude of husbands toward domestic violence (DV)				
Husband accepts DV	0.2395	0.4268	0	1
Husband rejects DV	0.7605	0.4268	0	1
Couple's attitudes toward domestic violence				
Agreement: both spouses accept violence	0.1318	0.3383	0	1
Disagreement: husband rejects violence	0.2922	0.4548	0	1
Disagreement: wife rejects violence	0.1077	0.3100	0	1
Agreement: both reject violence	0.4682	0.4990	0	1
Individual-level variables				
Age of the woman	29.45	6.917	15	49
Woman's education				
None	0.4042	0.4907	0	1
Primary	0.2884	0.4530	0	1
Secondary	0.2589	0.4380	0	1
Higher	0.0485	0.2147	0	1
Woman worked in past 12 months				
No	0.3316	0.4708	0	1
Yes	0.6684	0.4708	0	1
Exposure to radio				

	No	0.4484	0.4973	0	1
	Yes	0.5516	0.4973	0	1
Exposure to television	No	0.5500	0.4975	0	1
	Yes	0.4500	0.4975	0	1
Couple-level variables (characteristics of the couple or household)					
Household size		6.948	4.433	2	98
Wealth index					
	Very poor	0.2294	0.4204	0	1
	Poor	0.2114	0.4083	0	1
	Middle	0.1955	0.3966	0	1
	Rich	0.1926	0.3943	0	1
	Very rich	0.1711	0.3766	0	1
Place of residence					
	Urban	0.3602	0.4800	0	1
	Rural	0.6398	0.4800	0	1

Source : Authors, based on EDS data from the 21 countries in the study.

Table 3 shows the distribution of explanatory variables according to contraceptive use, completion of at least four prenatal visits, and place of delivery (health facility or non-health facility). Following the results in the table, It shows that the use of reproductive health care varies significantly depending on couples' attitudes toward domestic violence. The proportion of couples using contraception is higher among couples who jointly reject domestic violence (40.15%), followed by those where only the woman rejects such violence (38.15%) and those where the husband alone rejects it (37.55%). Similarly, the proportion of women who have had at least four prenatal visits is highest among couples who jointly reject domestic violence (67.67%), followed by couples where only the woman expresses this rejection (61.09%) and couples where the husband alone rejects it (58.18%). Finally, the proportion of women who gave birth in a health facility is highest among couples where both spouses jointly reject domestic violence (77.99%), followed by those where only the husband rejects it (70.71%) and those where the wife alone expresses this rejection (69.47%).

In terms of couples, the average household size is seven people. The wealth index reveals that 22.94% of couples are classified as very poor, 21.14% are poor, 19.55% belong to the middle class, 19.26% are rich, and 17.11% are considered wealthy. Finally, 63.98% of couples live in rural areas, compared to 36.02% in urban areas.

Table 3: Cross-tabulation between the reproductive health services and explanatory variables

Variables	Contraception use		Number of prenatal visits		Place of delivery	
	No	Yes	Less than 4	At least 4	Home	Hospital
	Proportion		Proportion		Proportion	
Woman's attitude toward domestic violence (DV)						
Woman accepts DV	63.67	36.33***	42.30	57.70 ***	30.88	69.12 ***
Woman rejects DV	60.21	9.79***	33.56	66.44 ***	23.60	76.40 ***
Husband's attitude toward domestic violence (DV)						
Husband accepts DV	64.36	35.64***	42.58	57.42 ***	32.67	67.33 ***
Husband rejects DV	60.80	39.20***	35.60	64.40 ***	24.81	75.19 ***
Couple's attitudes toward domestic violence	66.59	33.41***	45.58	54.42 ***	34.42	65.58 ***
Agreement: both spouses accept violence	62.45	37.55	40.82	59.18 ***	29.29	70.71 ***
Disagreement: husband rejects violence	61.85	38.15	38.91	61.09 **	30.53	69.47 ***
Disagreement: wife rejects violence	59.85	40.15***	32.33	67.67 ***	22.01	77.99 ***
Agreement: both reject violence						
Woman's education						
None	78.36	21.64 ***	49.21	50.79 ***	39.25	60.75 ***
Primary	52.02	47.98***	38.44	61.56	24.54	75.46 ***
Secondary	50.79	49.21***	22.46	77.54 ***	13.74	86.26 ***
Higher	45.83	54.17***	9.83	90.17 ***	3.94	96.06 ***
Woman worked in past 12 months						
No	67.47	32.53***	41.61	58.39 ***	27.52	72.48 ***
Yes	59.04	40.96***	35.12	64.88 ***	26.28	73.72 ***
Exposure to radio						
No	69.98	30.02 ***	43.03	56.97 ***	34.34	65.66 ***
Yes	55.37	44.63 ***	32.59	67.41 ***	20.47	79.53 ***
Exposure to television						
No	67.02	32.98 ***	45.10	54.90 ***	37.10	62.90 ***
Yes	55.71	44.29 ***	27.70	72.30 ***	13.96	86.04 ***
Wealth index						
Very poor	74.01	25.99 ***	51.47	48.53 ***	45.77	54.23 ***
Poor	66.99	33.01 ***	44.32	55.68 ***	34.64	65.36 ***
Middle	60.06	39.94 **	37.35	62.65	25.43	74.57 ***
Rich	54.33	45.67 ***	29.68	70.32 ***	14.33	85.67 ***
Very rich	52.45	47.55 ***	17.97	82.03 ***	6.64	93.36 ***
Place of residence						
Urban	58.39	41.61 ***	25.47	74.53 ***	12.27	87.73 ***
Rural	63.60	36.40 ***	43.91	56.09 ***	34.81	65.19 ***
	Mean		Mean		Mean	
Age of the woman	31.98	31.84**	29.319	29.576***	29.270	29.558***
Household size	7.13	6.37***	7.298	6.962***	7.402	6.970***

Source: Authors, based on EDS data from the 21 countries in the study.

Note: Stars indicate significance levels for Chi-square and Student's t-tests: *** $p < 0.01$, ** $p < 0.05$.

The use of contraceptive methods, attendance at least four prenatal visits, and delivery in a health facility are also significantly associated (at the 1% threshold) with demographic and socioeconomic variables such as age, household size, educational attainment, occupational status, wealth index, place of residence, and exposure to media (radio and television).

4.2 Econometric results

Associations between couples' attitudes toward violence and the use of reproductive health care

Table 4 shows that couples' attitudes toward domestic violence are significantly associated (at the 1% or 5% threshold) with the use of reproductive health services. Taking as a reference couples in which both spouses accept violence, the results indicate that disagreement between partners (where only the husband rejects violence) significantly increases the probability that the woman will use a contraceptive method (traditional or modern) by 2.63%, that she will attend at least four prenatal visits by 2.17%, and the probability of giving birth in a health facility by 2.01%. These results highlight the central role of male partners in the use of reproductive health services through their rejection of domestic violence. On the other hand, when only the woman rejects violence, the effect is weaker on the use of contraceptive methods (2.33%) or insignificant for giving birth in a health facility, with the exception of attending four prenatal visits, the probability of which increases by 2.80%. Mutual rejection of domestic violence by both spouses is associated with a 4.32% increase in the probability of having at least four prenatal visits and a 3.09% increase in the probability of giving birth in a health facility.

When comparing the effects of different categories of couples' attitudes toward domestic violence on reproductive health service use indicators, the results show that, for contraceptive use, rejection of violence by the husband alone has a slightly stronger effect than that observed when only the woman rejects violence, with an increase in probability of 2.63% versus 2.33%, respectively. With regard to attending at least four prenatal visits, the results show that the greatest effect is observed when both partners jointly reject domestic violence. However, the individual attitude of women who reject domestic violence on their own also has a significantly greater effect than that of husbands who reject violence on their own. With regard to giving birth in a health facility, the results indicate that the highest effect is observed when both spouses jointly reject domestic violence. In addition, the individual attitude of spouses when they reject domestic violence alone has a significant effect, unlike the rejection of violence by the woman alone.

Table 4: Marginal effects of couples' attitudes toward domestic violence on the use of reproductive health services: Results of the multilevel logit model

Variables	Use of contraceptive methods	At least four prenatal visits	Delivery in a health facility
Couple's attitudes toward domestic violence (Reference=Agreement: both spouses accept violence)			
Disagreement: Husband rejects violence	0.0263*** (0.0069)	0.0217*** (0.0078)	0.0201*** (0.0065)
Disagreement: Wife rejects violence	0.0233*** (0.0085)	0.0280*** (0.0096)	-0.0001 (0.0082)
Agreement: Both reject violence	0.0093 (0.0066)	0.0432*** (0.0075)	0.0309*** (0.0063)
Age of the woman	-0.0004 (0.0003)	0.0013*** (0.0004)	0.0017*** (0.0003)
Woman's education (Ref=None)			
Primary	0.2381*** (0.0050)	0.0839*** (0.0061)	0.1016*** (0.0050)
Secondary	0.2297*** (0.0058)	0.1832*** (0.0064)	0.1252*** (0.0058)
Higher	0.2690*** (0.0117)	0.2711*** (0.0118)	0.1869*** (0.0128)
Woman worked in past 12 months (Ref=No)	0.0661*** (0.0045)	0.0547*** (0.0051)	-0.0027 (0.0044)
Exposure to radio (Ref=No)	0.0894*** (0.0044)	0.0213*** (0.0051)	0.0367*** (0.0044)
Exposure to television (Ref=No)	0.0041 (0.0051)	0.0346*** (0.0059)	0.0755*** (0.0049)
Wealth index (Ref=Poorest)			
Poorer	0.0353*** (0.0061)	0.0426*** (0.0073)	0.0695*** (0.0064)
Middle	0.0726*** (0.0064)	0.0672*** (0.0077)	0.1066*** (0.0067)
Richer	0.1079*** (0.0071)	0.0908*** (0.0087)	0.1557*** (0.0074)
Richest	0.1097*** (0.0085)	0.1471*** (0.0100)	0.2020*** (0.0090)
Place of residence (Ref=Urban)	0.0598*** (0.0052)	-0.0375*** (0.0063)	-0.0659*** (0.0053)
Household size	-0.0029*** (0.0005)	-0.00001 (0.0005)	-0.0008* (0.0005)
Observations	60,906	44,614	44,614
Prob > chi2	0.0000	0.0000	0.0000
Log likelihood	-34119.593	-25312.207	-21036.494
Variance (cons)	10.052 (0.3827)	7.650 (0.3305)	7.625 (0.3999)
LR test	6343.43	3427.24	2641.09
chibar2(01)			
Prob >= chibar2	0.0000	0.0000	0.0000

Source : Authors, based on DHS data from the 21 countries in the study. *** p<0.01, ** p<0.05, * p<0.1

5. Discussions

5.1. Interpretation within the context of the wider literature

The results show the need to adopt a dyadic measure of attitudes toward domestic violence, as is the case in some studies (55–57). Indeed, as some studies have shown, a dyadic perspective in the study of attitudes toward the acceptability of domestic violence provides a better understanding of women's statements regarding their actual experiences of domestic violence (55,56).

The slightly stronger effect of the husband's rejection of violence, compared to the wife's rejection alone, on contraceptive use suggests that the male partner's commitment to rejecting domestic violence is a key lever for improving contraceptive use. Indeed, in many households, men hold most of the decision-making power, so their opposition to domestic violence can encourage negotiation on contraceptive use or greater openness to their partner's reproductive autonomy. This result is consistent with previous studies (58), which also found that men with more equitable attitudes toward gender (which implies opposition to domestic violence) were more likely to discuss family planning with their wives and to use condoms. Other studies have also found that women whose husbands have very egalitarian attitudes toward gender are more likely to use contraceptives than those whose husbands have moderate and less egalitarian attitudes toward gender (59).

When both partners jointly reject domestic violence, they are more likely to attend at least four prenatal visits and give birth in a health facility. Thus, a shared consensus within the couple regarding the rejection of domestic violence further encourages the use of reproductive health services. However, compared to cases where only husbands reject domestic violence, the individual attitude of women who alone reject domestic violence has a slightly greater effect on the use of prenatal care. Thus, these results indicate that, while both spouses' rejection of domestic violence is essential for both the use of prenatal care and giving birth in a health facility, women's individual stance against domestic violence plays an important role in access to prenatal care. Furthermore, the significant effect of the husband's individual rejection of domestic violence on the probability of giving birth in a health facility highlights the importance of the husband's role in decision-making regarding the place of delivery. Existing studies analyzing the impact on the use of reproductive health services often focus on a single partner, usually the woman and less often the man (50,60). Our findings on disagreement in the rejection of domestic violence are similar to those obtained with individual analysis. Indeed, as indicated

in the studies in Cameroon (60) and Ethiopia (50), women who reject domestic violence are more likely to have at least four prenatal visits and to give birth in a health facility.

Other factors influence the use of reproductive health services. Women's education is a determining factor in the use of contraceptive methods. Women who have completed primary, secondary, or higher education are more likely to use contraceptive methods than those who have no education. This is because educated women understand the importance of contraception for fertility control. Household wealth has a positive effect on the likelihood of contraceptive use, meaning that the less poor a household is, the more likely a woman is to use contraception. These results are consistent with those reported in the literature (61), which show that women's level of education and standard of living are significantly associated with the use of modern contraception. Exposure to radio significantly influences contraceptive use, demonstrating that it is an effective means of communication for raising awareness about family planning issues in general. Similar results are also reported in 29 countries in Sub-Saharan Africa, indicating that women exposed to printed press media and radio are more likely to use modern contraceptives (62). Household size is a significant determinant of contraceptive use in that the more individuals there are in the household, the greater the likelihood of contraceptive use. Similarly, compared to urban areas, rural areas have a positive effect on contraceptive use. This result can be explained by the fact that rural areas are increasingly more targeted by family planning promotion and counseling campaigns.

With regard to attending at least four prenatal visits, the determining factors are age, education level, wealth index, employment status, exposure to radio, exposure to television, and place of residence. In fact, a woman's age increases the likelihood that she will seek prenatal care. The older the woman, the more likely she is to seek appropriate maternity services. However, some authors have indicated that age is not a significant predictor of prenatal care utilization (63). A woman's education also has a positive and significant effect on the likelihood of attending at least four visits during pregnancy. Women with primary, secondary, or higher education are more likely to attend at least four prenatal visits than those with no education. Household wealth is also a factor influencing the use of prenatal care. Wealthy households have sufficient financial resources to cover the costs of prenatal care, which is not the case for poor households. These results are consistent with those documented in the literature based on data from 26 sub-Saharan African countries, which show that higher levels of education and improved wealth indices are significantly associated with a greater likelihood of attending at least four prenatal consultations (64). Women who have worked in the last 12 months are more likely to make at least four

prenatal visits than their counterparts who are unemployed. This result shows the importance of women's financial independence in accessing health services. In addition, women exposed to media such as radio and television are more likely to seek prenatal care because the media raises their awareness and encourages them to use prenatal care services. These findings are consistent with those reported in Somalia, which indicate that women who have not worked in the last 12 months are significantly less likely to use prenatal care services than their employed counterparts (63). Their study also indicates that exposure to the media has a significant impact on the use of prenatal care.

As for giving birth in a health facility, other determining factors include the woman's age, education, wealth index, exposure to radio, exposure to television, and place of residence. Women with primary, secondary, or higher education are more likely to give birth in a health facility. Other studies have also reported a positive and significant relationship between a woman's level of education and giving birth in a health facility (65,66). Women from wealthier households are more likely to give birth in a health facility. This is confirmed by studies conducted in Ethiopia (67) and Ghana (65). The positive effect of media exposure, particularly radio and television, reflects the importance of media campaigns to raise awareness and educate the population about the benefits of giving birth in a health facility. This result align with that of (68), which finds that media exposure is a determining factor in the decision to give birth in a health facility.

5.2. Strengths and limitations

We recognize the existence of potential endogeneity biases related to the couple's attitude toward domestic violence in the equation of reproductive health service use. Indeed, unobservable factors, such as community-level gender norms, may simultaneously influence the couple's attitudes toward domestic violence and the use of reproductive health services. However, this bias could not be corrected in our analysis due to the difficulty of identifying a valid instrument in the DHS survey data a valid instrument capable of capturing the different configurations of spousal attitudes (rejection by the woman alone, by the husband alone, or by both), based on the respective perceptions of spouses about domestic violence, while satisfying the necessary exclusion conditions for a rigorous instrumental estimation. Despite these limitations, one of the main strengths of this study is that it provides new empirical evidence based on a dyadic approach to attitudes toward domestic violence and their influence on reproductive health outcomes, such as contraceptive use, access to prenatal care, and childbirth.

5.3. Implications for policy, practice and research

The results of this study highlight the importance of involving men in reproductive health promotion policies in sub-Saharan Africa. Awareness programs should target couples as a whole, emphasizing the need to reject domestic violence and promote more egalitarian relationship norms. Health communication campaigns should deconstruct patriarchal norms that legitimize male dominance in order to strengthen women's reproductive autonomy. In addition, public health strategies would benefit from integrating a couple-centered approach into family planning and prenatal care, encouraging men's active participation in pregnancy monitoring. Finally, policies to combat violence against women must be recognized not only as a moral and legal imperative, but also as a lever for improving maternal and child health.

6. Robustness of results

The robustness of our results consisted initially in not considering the hierarchical structure of the data, which led us to estimate a simple logit model rather than a multilevel logit model. In a second step, we will take into account a disaggregated measure of concordance and discordance in the rejection of domestic violence.

Logit model estimation

Table A1 in the appendix presents the results of the logit model estimation, which does not take into account the hierarchical structure of the data, with individuals (women) nested within couples. These results show that the conclusions drawn above remain unchanged, insofar as couples' attitudes toward domestic violence have a positive and significant effect on each indicator of reproductive health service use. Indeed, as previously established, the rejection of domestic violence by the husband alone has a slightly stronger effect on the use of contraceptive methods than that observed when only the woman rejects domestic violence. With regard to attending at least four prenatal visits and giving birth in a health facility, the strongest effect is observed when both spouses jointly reject domestic violence. In addition, the other determinants of reproductive health service use are almost similar to those obtained by estimating the multilevel logit model.

Agreements and disagreements in the rejection of domestic violence

The disaggregated measure of agreement and disagreement in rejecting domestic violence consists of considering separately the five questions addressed to spouses on the justification of violence against women within the household. These questions ask whether violence is

justified when : the woman goes out without informing her spouse (item 1), the woman neglects the children (item 2), the woman argues with her husband (item 3), the woman refuses to have sex with her husband (item 4), and the woman burns the meal (item 5). For each response, we obtain a binary variable that takes the value 1 if the woman or husband rejects domestic violence and 0 if otherwise. The agreement and disagreement of couples in rejecting domestic violence is assessed based on the cross-referenced responses of spouses defined as follows for each item : both spouses justify domestic violence, only the woman rejects domestic violence, only the husband rejects domestic violence, both reject domestic violence. Tables A2, A3, A4, A5, and A6 in the appendix presenting the results of the effect of couples' attitudes toward domestic violence regarding item 1, item 2, item 3, item 4, and item 5 on the use of reproductive health services. The results show that couples' attitudes toward domestic violence for each item have a positive and significant influence on the use of reproductive health services.

With regard to attending at least four prenatal visits, the results show a greater effect when both spouses jointly reject domestic violence on all five items. Similarly, the individual attitude of women who reject domestic violence on items 3 and 4 alone has a significantly greater effect than that of husbands who reject violence alone. These results are the same as those obtained with the aggregate indicator of couples' attitudes toward domestic violence. Furthermore, for the other items, particularly 1 and 2, the husband's rejection of violence alone has a greater effect on the use of at least four visits than the wife's rejection of violence alone. With regard to giving birth in a health facility, the results also show that the highest effect is observed when both spouses jointly reject domestic violence for all items except item 4. These results are similar to those obtained with the aggregate indicator of couples' attitudes toward domestic violence. With regard to the use of contraceptive methods, the results show that mutual rejection of domestic violence by both spouses for each item has a significantly higher effect on the use of contraception.

All of the results obtained are consistent with the conclusions established in sections 4.1 and 4.2, which confirms the robustness of our results.

7. Conclusion

The objective of this article was to assess the associations between couples' attitudes toward domestic violence and the use of reproductive health care, based on demographic and health surveys (DHS) from 21 countries in sub-Saharan Africa. Reproductive health care utilization is measured by the use of modern or traditional contraceptive methods, prenatal care, and delivery

in a health facility. Couples' attitudes toward domestic violence are analyzed according to whether women and their spouses agree or disagree in their rejection of such violence. Given the hierarchical structure of the data, with women nested within couples, a multilevel logit model was estimated.

The results show that couples' attitudes toward domestic violence are significantly associated with the use of reproductive health services. Rejection of violence solely by the husband is a better predictor of contraceptive use. In patriarchal societies, where men hold most of the decision-making power within the household, their opposition to violence may reflect greater openness to their spouse's reproductive autonomy. Furthermore, mutual rejection of domestic violence by both partners is a stronger predictor of the use of maternal health services, particularly prenatal care. Concordant attitudes within the couple in rejecting domestic violence thus promote better use of maternal health services.

Declarations

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Ethics and consent to participate declarations: This study is a secondary analysis of de-identified, publicly archived data from the Demographic and Health Surveys (DHS) Program, covering 21 countries in sub-Saharan Africa. The DHS survey protocols and questionnaires for each country were reviewed and approved by the ICF Institutional Review Board (ICF IRB, Rockville, Maryland, USA; Federalwide Assurance FWA00000845), and separately by the relevant national ethics committee or Institutional Review Board in each participating country, in accordance with national regulations and international standards for the protection of human subjects. All procedures involving human participants in the original data collection were performed in accordance with the ethical standards of the institutional and/or national research committees and with the 1964 Declaration of Helsinki and its later amendments. Informed consent was obtained from all individual participants in the original surveys prior to their participation, including separate consent immediately before administration of the domestic violence module. As the authors did not collect any primary data and used only de-identified secondary data obtained through registered access to the DHS Program archive, no additional ethics approval or participant consent was required for the present study; this is consistent with standard practice and with the DHS Program's own data access and ethics policies.

Consent for publication: Not applicable

References

1. United Nations. In-depth study on all forms of violence against women : Report of the Secretary-General [Internet]. A61/122/Add.1. 2006 [cited 2025 Nov 27];A61/122/Add.1. Available from: <https://www.un.org/womenwatch/daw/vaw/SGstudyvaw.htm>
2. World Health Organization. Intimate partner violence. Series: Understanding and addressing violence against women [Internet]. 2012. Available from: https://apps.who.int/iris/bitstream/handle/10665/77432/WHO_RHR_12.36_eng.pdf?sequence=1&isAllowed=y
3. World Health Organization. Violence Against Women Prevalence Estimates, 2018 ; Global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women. 2021.
4. World Health Organization. Violence against women prevalence estimates, 2023 : global, regional and national prevalence estimates for intimate partner violence against women and non-partner sexual violence against women. Geneva: Licence: CC BY-NC-SA 3.0 IGO; 2025.
5. Fulu E, Jewkes R, Roselli T, Garcia-Moreno C. Prevalence of and factors associated with male perpetration of intimate partner violence: findings from the UN Multi-country Cross-sectional Study on Men and Violence in Asia and the Pacific. *The lancet global health* [Internet]. 2013 [cited 2024 Oct 11];1(4):e187–207. Available from: [https://www.thelancet.com/journals/lancet/article/PIIS2214-109X\(13\)70074-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS2214-109X(13)70074-3/fulltext)
6. Baritwa MS, Joho AA. Intimate partner violence influences modern family planning use among married women in Tanzania: cross-sectional study. *BMC Public Health*. 2024 Feb 9;24(1):421. doi:10.1186/s12889-024-17666-z
7. Mohammed S, Lokubal P, Ackah Baafi JA. Intimate partner violence during pregnancy and its association with pregnancy and childbirth complications: A prospective cohort study. *PLOS Global Public Health* [Internet]. 2025 [cited 2025 Nov 15];5(4):e0004311. Available from: <https://journals.plos.org/globalpublichealth/article?id=10.1371/journal.pgph.0004311>
8. Xiong P, Chen Y, Shi Y, Liu M, Yang W, Liang B, et al. Global burden of diseases attributable to intimate partner violence: findings from the Global Burden of Disease Study 2019. *Soc Psychiatry Psychiatr Epidemiol*. 2025 Feb;60(2):487–513. doi:10.1007/s00127-024-02637-x
9. Lortkipanidze M, Javakhishvili N, Schwartz SJ. Mental health of intimate partner violence victims: depression, anxiety, and life satisfaction. *Frontiers in Psychology* [Internet]. 2025 [cited 2025 Nov 15];16:1531783. Available from: <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2025.1531783/abstract>
10. Lu L, Ye L, Zhang T, Li R, Chen C, Cao Z, et al. Gender differences in intimate partner violence victimization and its relationships with anxiety, depression symptoms and suicide behaviours in China. *International Journal of Public Health* [Internet]. 2025 [cited 2025

- Nov 15];70:1607953. Available from:
<https://pmc.ncbi.nlm.nih.gov/articles/PMC11876969/>
11. La Mattina G, Shemyakina ON. Growing up amid armed conflict: Women's attitudes toward domestic violence. *Journal of Comparative Economics* [Internet]. 2024 [cited 2025 Nov 15];52(3):645–62. Available from:
<https://www.sciencedirect.com/science/article/pii/S014759672400026X>
 12. Serrano-Montilla C, Lozano LM, Bender M, Padilla JL. Individual and societal risk factors of attitudes justifying intimate partner violence against women: a multilevel cross-sectional study. *BMJ open* [Internet]. 2020 [cited 2025 Nov 15];10(12):e037993. Available from:
<https://bmjopen.bmj.com/content/10/12/e037993.abstract>
 13. Wu H. Does exposure to armed conflict affect women's attitudes toward intimate partner violence? Evidence from Vietnam. *J Popul Econ*. 2025 Dec;38(4):78. doi:10.1007/s00148-025-01137-9
 14. McGee RW. How acceptable is wife beating? An empirical study of 60 countries. *An Empirical Study of* [Internet]. 2017 [cited 2024 Oct 11];60. Available from:
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2977436
 15. Andualem F, Nakie G, Rtbey G, Melkam M, Tinsae T, Kibralew G, et al. Magnitude and determinants of intimate partner controlling behavior among women in sub-Saharan African countries from the recent demographic and health survey data: a multilevel analysis. *BMC Public Health*. 2025 May 15;25(1):1787. doi:10.1186/s12889-025-23004-8
 16. Veldhuis CB. Cultivating Dependence, Denial, and Self-Blame: A Narrative Review of the use and Effects of Coercive Tactics in Intimate Partner Violence. *Gend Issues*. 2024 Apr 9;41(2):10. doi:10.1007/s12147-024-09327-7
 17. Hindin MJ. Understanding women's attitudes towards wife beating in Zimbabwe. *Bulletin of the World Health Organization* [Internet]. 2003 [cited 2024 Oct 11];81:501–8. Available from:
https://www.scielo.org/article/ssm/content/raw/?resource_ssm_path=/media/assets/bwh/o/v81n7/v81n7a08.pdf
 18. Nikrouy F, Mohammadi K, Samavi A. Structural Relationship between Autonomy and Intimate partner violence: Mediation Role of Self-esteem. *Journal of Family Relations Studies* [Internet]. 2024 [cited 2025 Nov 25];4(13):40–7. Available from:
https://jhfs.uma.ac.ir/article_2927.html
 19. Khan MN, Islam MM. Women's attitude towards wife-beating and its relationship with reproductive healthcare seeking behavior: A countrywide population survey in Bangladesh. *PloS one* [Internet]. 2018 [cited 2024 Oct 11];13(6):e0198833. Available from:
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0198833>
 20. Olorunsaiye CZ, Huber LB, Laditka SB, Kulkarni S, Boyd AS. Associations between women's perceptions of domestic violence and contraceptive use in seven countries in West and Central Africa. *Sexual & Reproductive Healthcare* [Internet]. 2017 [cited 2024 Oct 11];13:110–7. Available from:
<https://www.sciencedirect.com/science/article/pii/S1877575617300095>

21. Shrestha SK, Thapa S, Vicendese D, Erbas B. Women's attitude towards intimate partner violence and utilization of contraceptive methods and maternal health care services: an analysis of nationally representative cross-sectional surveys from four South Asian countries. *BMC Women's Health*. 2022 Dec;22(1):215. doi:10.1186/s12905-022-01780-4
22. Annan J, Donald A, Goldstein M, Martinez PG, Koolwal G. Taking power: women's empowerment and household well-being in Sub-Saharan Africa. *World Development* [Internet]. 2021 [cited 2024 Oct 11];140:105292. Available from: <https://www.sciencedirect.com/science/article/pii/S0305750X20304198>
23. Seymour G, Peterman A. Understanding the measurement of women's autonomy: Illustrations from Bangladesh and Ghana [Internet]. 2017 [cited 2024 Oct 11]. Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3029474
24. Uddin J, Hossin MZ, Pulok MH. Couple's concordance and discordance in household decision-making and married women's use of modern contraceptives in Bangladesh. *BMC Women's Health*. 2017 Dec;17(1):107. doi:10.1186/s12905-017-0462-3
25. Dixit A, Johns NE, Ghule M, Battala M, Begum S, Yore J, et al. Male–female concordance in reported involvement of women in contraceptive decision-making and its association with modern contraceptive use among couples in rural Maharashtra, India. *Reprod Health*. 2021 Dec;18(1):139. doi:10.1186/s12978-021-01187-8
26. Agde ZD, Magnus JH, Assefa N, Wordofa MA. Knowledge and attitude toward intimate partner violence among couples: a baseline findings from cluster randomized controlled trial in rural Ethiopia. *Frontiers in Public Health* [Internet]. 2024 [cited 2025 Nov 27];12:1467299. Available from: <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2024.1467299/full>
27. Behrman J, Frye M. Attitudes Toward Intimate Partner Violence in Dyadic Perspective: Evidence From Sub-Saharan Africa. *Demography*. 2021 Jun 1;58(3):1143–70. doi:10.1215/00703370-9115955
28. Colombini M, Dockerty C, Mayhew SH. Barriers and Facilitators to Integrating Health Service Responses to Intimate Partner Violence in Low- and Middle-Income Countries: A Comparative Health Systems and Service Analysis. *Studies in Family Planning*. 2017 Jun;48(2):179–200. doi:10.1111/sifp.12021
29. Becker GS. *A Treatise on the Family*. Cambridge, Mass, Harvard University Press. 1981.
30. Becker G. *A Theory of Marriage: Part I*. 1973.
31. Manser M, Brown M. Marriage and Household Decision Making: a Bargaining Analysis". *International Economic Review*. 1980;21(1).
32. McElroy MB, Horney MJ. Nash-bargained household decisions: Toward a generalization of the theory of demand. *International economic review*. 1981;333–49.
33. Farmer A, Tiefenthaler J. An economic analysis of domestic violence. *Review of social Economy*. 1997;55(3):337–58.

34. Farmer A, Tiefenthaler J. Domestic violence: the value of services as signals. *The American Economic Review* [Internet]. 1996 [cited 2024 Jan 29];86(2):274–9. Available from: <https://www.jstor.org/stable/2118136>
35. Bandura A. Social learning theory [Internet]. Vol. 1. Prentice hall Englewood Cliffs, NJ; 1977 [cited 2025 Apr 23]. Available from: http://www.asecib.ase.ro/mps/Bandura_SocialLearningTheory.pdf
36. Widom CS. The Cycle of Violence. *Science*. 1989 Apr 14;244(4901):160–6. doi:10.1126/science.2704995
37. Mihalic SW, Elliott D. A social learning theory model of marital violence. *Journal of Family Violence*. 1997;12(1):21–47. doi:10.1023/A:1021941816102
38. Jewkes R. Intimate partner violence: causes and prevention. *The lancet* [Internet]. 2002 [cited 2025 Apr 23];359(9315):1423–9. Available from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(02\)08357-5/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(02)08357-5/abstract)
39. Dobash RE, Dobash R. Violence against wives: A case against the patriarchy [Internet]. Vol. 15. Free Press New York; 1979 [cited 2025 Apr 24]. Available from: <https://www.ojp.gov/ncjrs/virtual-library/abstracts/violence-against-wives-case-against-patriarchy>
40. Dhar D, McDougal L, Hay K, Atmavilas Y, Silverman J, Triplett D, et al. Associations between intimate partner violence and reproductive and maternal health outcomes in Bihar, India: a cross-sectional study. *Reprod Health*. 2018 Dec;15(1):109. doi:10.1186/s12978-018-0551-2
41. FitzPatrick KM, Brown SJ, Hegarty K, Mensah F, Gartland D. Timing of Physical and Emotional Intimate Partner Violence Exposure and Women's Health in an Australian Longitudinal Cohort Study. *Violence Against Women*. 2024 Apr 1;30(5):1255–73. doi:10.1177/10778012221147904
42. Idriss-Wheeler D, Yaya S. Exploring antenatal care utilization and intimate partner violence in Benin - are lives at stake? *BMC Public Health*. 2021 Dec;21(1):830. doi:10.1186/s12889-021-10884-9
43. Leight J, Wilson N. Intimate partner violence and maternal health services utilization: evidence from 36 National Household Surveys. *BMC Public Health*. 2021 Dec;21(1):405. doi:10.1186/s12889-021-10447-y
44. Mai V, Phyu WE. Intimate partner violence and utilization of reproductive and maternal health services in Cambodia. *Journal of Health Research* [Internet]. 2020 [cited 2024 Oct 6];34(2):100–11. Available from: <https://www.emerald.com/insight/content/doi/10.1108/JHR-03-2019-0046/full/html>
45. Mohammed BH, Johnston JM, Harwell JI, Yi H, Tsang KW kay, Haidar JA. Intimate partner violence and utilization of maternal health care services in Addis Ababa, Ethiopia. *BMC Health Serv Res*. 2017 Dec;17(1):178. doi:10.1186/s12913-017-2121-7
46. Afroz S, Sutopa TS, Haque MR. Young mothers' attitudes towards domestic violence and their maternal healthcare services utilization in Bangladesh: A multilevel cluster analysis.

Kabir E, editor. PLoS ONE. 2022 Aug 1;17(8):e0268062. doi:10.1371/journal.pone.0268062

47. Kurniati A, Chen CM, Efendi F, Berliana SM. Factors influencing Indonesian women's use of maternal health care services. *Health Care for Women International*. 2018 Jan 2;39(1):3–18. doi:10.1080/07399332.2017.1393077
48. Shrestha SK, Thapa S, Vicendese D, Erbas B. Women's attitude towards intimate partner violence and utilization of contraceptive methods and maternal health care services: an analysis of nationally representative cross-sectional surveys from four South Asian countries. *BMC Women's Health*. 2022 Dec;22(1):215. doi:10.1186/s12905-022-01780-4
49. Aboagye RG, Okyere J, Seidu AA, Ahinkorah BO, Budu E, Yaya S. Does women's empowerment and socio-economic status predict adequacy of antenatal care in sub-Saharan Africa? *International Health*. 2024 Mar 4;16(2):165–73. doi:10.1093/inthealth/ihad016
50. Tiruneh FN, Chuang KY, Chuang YC. Women's autonomy and maternal healthcare service utilization in Ethiopia. *BMC Health Serv Res*. 2017 Dec;17(1):718. doi:10.1186/s12913-017-2670-9
51. Michael TO, Naidoo K. The influence of wife abuse on women's reproductive choices in Southern African Countries: Findings from a cross-sectional analysis of demographic and health surveys. *African journal of reproductive health* [Internet]. 2024 [cited 2025 Oct 30];28(10):99–111. Available from: <https://www.ajol.info/index.php/ajrh/article/view/283496>
52. Abebe Y, Berhanu RD, Kajela L, Bayane YB. Association between women empowerment and contraceptive utilization in Ethiopia. *Womens Health (Lond Engl)*. 2024 Aug 1;20:17455057241310641. doi:10.1177/17455057241310641
53. Jesmin SS. Social Determinants of Married Women's Attitudinal Acceptance of Intimate Partner Violence. *J Interpers Violence*. 2017 Nov;32(21):3226–44. doi:10.1177/0886260515597436
54. Wencheke E, Tadesse M. Determinants of Ethiopian Women's Attitudes Toward Wife Beating. *J Interpers Violence*. 2020 Jan;35(1–2):510–20. doi:10.1177/0886260517691524
55. Behrman J, Frye M. Attitudes toward intimate partner violence in Dyadic perspective: evidence from sub-Saharan Africa. *Demography* [Internet]. 2021 [cited 2025 Nov 27];58(3):1143–70. Available from: https://read.dukeupress.edu/demography/article/173143?searchresult=1&searchresult=1&utm_source=TrendMD&utm_medium=cpc&utm_campaign=Demography_TrendMD_0
56. Bengesai AV, Khan HT. Exploring the association between attitudes towards wife beating and intimate partner violence using a dyadic approach in three sub-Saharan African countries. *BMJ open* [Internet]. 2023 [cited 2025 Nov 30];13(6):e062977. Available from: <https://bmjopen.bmj.com/content/13/6/e062977.abstract>
57. Underwood CR, Casella A, Hendrickson ZM. Gender norms, contraceptive use, and intimate partner violence: A six-country analysis. *Sexual & Reproductive Healthcare* [Internet]. 2023 [cited 2025 Nov 30];35:100815. Available from: <https://www.sciencedirect.com/science/article/pii/S1877575623000058>

58. Ghule M, Dixit A, Johns NE, Battala M, Begum S, Averbach S, et al. Examining the association between men's gender equitable attitudes and contraceptive outcomes in rural Maharashtra, India. *Dialogues in Health*. 2024 Jun 1;4:100168. doi:10.1016/j.dialog.2024.100168
59. Vishwakarma M, Shekhar C. Covert use of reversible contraceptive methods and its association with husband's egalitarian gender attitude in India. *BMC Public Health*. 2022 Mar 7;22(1):460. doi:10.1186/s12889-022-12882-x
60. Ameyaw EK, Dickson KS, Adde KS, Ezezika O. Do women empowerment indicators predict receipt of quality antenatal care in Cameroon? Evidence from a nationwide survey. *BMC Women's Health*. 2021 Dec;21(1):343. doi:10.1186/s12905-021-01487-y
61. Demeke H, Legese N, Nigussie S. Modern contraceptive utilization and its associated factors in East Africa: Findings from multi-country demographic and health surveys. *PLoS One*. 2024;19(1):e0297018. doi:10.1371/journal.pone.0297018 PubMed PMID: 38241359; PubMed Central PMCID: PMC10798634.
62. Ahinkorah BO, Budu E, Aboagye RG, Agbaglo E, Arthur-Holmes F, Adu C, et al. Factors associated with modern contraceptive use among women with no fertility intention in sub-Saharan Africa: evidence from cross-sectional surveys of 29 countries. *Contracept Reprod Med*. 2021 Aug 1;6(1):22. doi:10.1186/s40834-021-00165-6 PubMed PMID: 34332644; PubMed Central PMCID: PMC8325798.
63. Abdikarim H, Muse AH, Hassan MA, Nadarajah S, Muse YH. Determinants of Antenatal Care Utilization Among Reproductive Age Women in Somaliland Using Somaliland Health Demographic Survey 2020 Data. *Women's Health Reports*. 2025 Jan 1;6(1):605–14. doi:10.1089/whr.2024.0155
64. Ayele BA, Holliday E, Chojenta C. Determinants of antenatal care service utilisation in sub-Saharan Africa: an analysis of demographic and health surveys data (2015–2022). *Arch Public Health*. 2025 Jul 17;83(1):189. doi:10.1186/s13690-025-01608-1
65. Dankwah E, Zeng W, Feng C, Kirychuk S, Farag M. The social determinants of health facility delivery in Ghana. *Reprod Health*. 2019 Dec;16(1):101. doi:10.1186/s12978-019-0753-2
66. Olubodun T, Rahman SA, Odukoya OO, Okafor IP, Balogun MR. Determinants of health facility delivery among young mothers aged 15 – 24 years in Nigeria: a multilevel analysis of the 2018 Nigeria demographic and health survey. *BMC Pregnancy Childbirth*. 2023 Mar 17;23(1):185. doi:10.1186/s12884-023-05492-x
67. Hunegnaw BM, Goddard FGB, Bekele D, Haneuse S, Pons-Duran C, Zeleke M, et al. Estimates and determinants of health facility delivery in the Birhan cohort in Ethiopia. *PLOS ONE*. 2024 Jul 26;19(7):e0306581. doi:10.1371/journal.pone.0306581
68. Olubodun T, Ogundele OA, Michael TO, Okunlola OA, Olubodun AB, Rahman SA. Regional trends, spatial patterns and determinants of health facility delivery among women of reproductive age in Nigeria: A national population based cross-sectional study. Pepito VC, editor. *PLoS ONE*. 2024 Oct 16;19(10):e0312005. doi:10.1371/journal.pone.0312005

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