

RESEARCH

Open Access



# Effect of physical mobility, decision making and economic empowerment on gender-based violence among married youth in India-SAWERA project

Devika Mehra<sup>1,2\*</sup>, Shobhit Srivastava<sup>1</sup>, Murari Chandra<sup>1</sup>, Namita Srivastava<sup>1</sup>, Mari Laaksonen<sup>3</sup>, Heidi Elina Saarinen<sup>3</sup> and Sunil Mehra<sup>1</sup>

## Abstract

**Background** Preventing and responding to gender-based violence (GBV) is both a human rights imperative and a multifaceted economic issue. GBV can also act as a barrier to economic empowerment. The aim of the study was to examine the association between women's empowerment (physical mobility, decision making and economic resources) and GBV among married youth in India.

**Methods** Community based cross-sectional study was conducted among married youth in the age group of 15–24 years, in two selected districts of Uttar Pradesh and Rajasthan, India. The data was collected from 578 youth. Pre-validated scales were used to assess women's empowerment indicators (physical mobility, decision making and economic resources). The outcomes assessed were scales on physical and sexual violence. Multivariate regression models examined associations between women's empowerment, spousal characteristics, socio-economic status and demographics.

**Results** The overall results of the study found that restricted physical mobility had a negative association with sexual violence [AOR: 0.49; CI 0.26–0.92]. Women with no decision-making power had higher odds of physical violence [AOR: 2.12; CI 0.01–4.43] and sexual violence [AOR: 1.96; CI 1.02–3.77]. Having no economic resources had a negative association with sexual violence [AOR: 0.19; CI 0.09–0.39]. Women going through spousal controlling behavior had a higher likelihood of physical [AOR: 3.79; CI 1.75–8.19] and sexual violence [AOR: 4.03; CI 2.09–7.79]. It was also found that married women from rural areas and other ethnic backgrounds had higher odds of physical violence.

**Conclusion** There is a crucial need to work towards women's empowerment, with progressive gender roles such as greater decision-making, physical mobility and economic resources to reduce GBV. An established method that has worked in various contexts is adopting gender transformative approaches that involve men.

**Keywords** Sexual violence, Physical violence, Women's empowerment, Youth

\*Correspondence:

Devika Mehra  
devika.mehra@mamtaimc.in

<sup>1</sup> MAMTA Health Institute for Mother and Child, New Delhi, India

<sup>2</sup> Division of Social Medicine and Global Health, Department of Clinical Sciences, Lund University, Malmö, Sweden

<sup>3</sup> Physicians for Social Responsibility, Helsinki, Finland



© The Author(s) 2023. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

## Introduction

Violence against women (VAW) and girls is a global phenomenon that historically has been hidden, ignored, and silently accepted [1]. Globally, one in three women experience violence in her lifetime. Preventing such violence has been a priority of World Health Organization (WHO) since 2013 [2], and is a target for the fifth Sustainable Development Goal (SDG) [3]. Women continue to suffer physical, emotional, sexual, and economic violence [4].

Global research, prevention and intervention efforts continue to focus on physical and sexual intimate partner violence (IPV), negative health outcomes, including Human immunodeficiency virus (HIV), sexually transmitted infections (STI), unintended pregnancy, addictions and mental health issues remain [5, 6]. Evidence also suggested interventions like transformation of gender norms through behavioral change and communication-focused programs can avert GBV and VAW [7, 8].

IPV commonly used interchangeably with Gender-based violence (GBV), is the most common form of violence globally, particularly in India [2]. According to the Indian National Family Health Survey (NFHS -5) prevalence of spousal violence/IPV is 29.3% [9] which is substantially higher compared to other developing countries. Evidence from recently released national data (National Crime Records Bureau, 2020) suggests that approximately 30% of all documented crimes against women in India were attributable to 'cruelty by the husband or his relatives' [10].

India has the largest number of child marriages than in any other nation [11], with 27.9% of the girls aged 20–24 years married by the age of 18 [9]. Despite, the progress made in increasing literacy in women and substantial overall development, the reduction in the number of child marriages over the years has been inadequate, amid the deep rooted gender inequalities and biased gender norms in the country [12]. Traditional gender roles and beliefs that restrict women's mobility, marital choice, as well as the controlling behavior of husbands, relegate value of women to domestic contribution and motherhood, often limiting women's decision making power, men's share in household chores, and justifying VAW in marriages [13].

Gender power dynamics is common to all intimate relationships. However, the dynamics is more challenging when there are spousal age differences [14]. Therefore, child marriage or controlling behavior by the older spouse especially in rural areas in India could lead to girls' school dropout, mobility restrictions and lack of economic empowerment. Studies show that controlling behavior by men is significantly associated with higher likelihood of physical violence and sexual violence, given

that controlling behavior reflects a power motive [15, 16]. Further, controlling behavior in intimate relationships can take various forms that can affect the well-being of the other partner. Most often it is the woman.

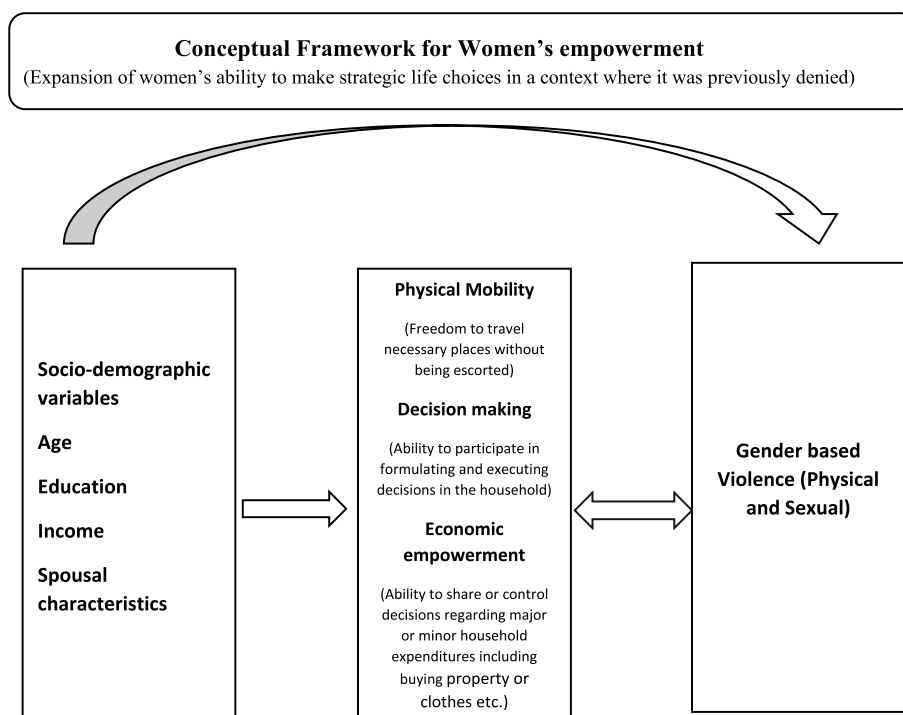
There is prior evidence showing that equally dependent partners who adopt egalitarian decision-making and have an equal division of power within the family most often report low levels of conflict, control, and violence [17]. Hence, moving in this direction, we chose to assess more progressive gender roles and beliefs than traditional gender roles among young married men and women in two states of India (Rajasthan and Uttar Pradesh), which has high prevalence of GBV. We feel looking into progressive gender roles, physical mobility (freedom of movement), decision making power, economic resources, safety within marriages (i.e. physical or sexual violence) is critical as looking into these aspects would help in highlighting the need for attitudinal and social norm changes to improve agency of women within marriage [18]. The current study aims to establish the association between empowerment indicators (physical mobility, decision making and economic resources) with GBV (physical and sexual) with respect to gender differentials (by which we mean that gender disaggregated data of men and women for all factors against GBV will be provided). We investigated with a gender lens as we anticipated that the pattern of violence among men and women would be quite different in a married context.

## Research questions:

1. Are women and men's empowerment indicators (physical mobility, decision making and economic resources) associated with GBV?
2. What is the association between individual, socio-economic and spousal controlling factors that can lead to GBV among married youth?

## Conceptual framework

The conceptual model in this study has been adapted from the Women's Economic Empowerment (WEE) Framework which is mentioned below in Fig. 1 [19]. It has been previously used in similar contexts for outcomes such as contraceptive use [19], violence [13] etc. The conceptual model is based on the premise that socio-demographic factors such as age, educational status of the respondent, income, spousal characteristics (age differentials, alcohol consumption) are associated with GBV (physical and sexual). Additionally, in a married context controlling factors by the spouse that restrict a women's or man's physical mobility, decision



**Fig. 1** Conceptual framework for Women's Empowerment

making and restricting access to economic resources is associated with GBV.

**Project description**

Project SAWERA aims to address GBV by improving knowledge of youth (15–24 years) on sexual and reproductive health and rights as well as generating awareness on gender equitable norms and practices.. The project has adopted a Gender Transformative Approach (GTA) which is used to empower and capacitate the young peer educators while working on biased social norms that leads to Gender based violence including IPV. The project intends to fill a research gap by creating evidence on the prevalence and experiences of GBV among youth (girls and boys) and linking them to the GBV related health services, victim support and legal services. The results represented in the current study are derived from the baseline findings of the SAWERA project.

**Methods**

**Study design and setting**

The study adopted a cross-sectional design among married youth aged 15–24 years from March 2021 to Mid-April 2021. The data of this study is derived from the baseline study of the SAWERA project. The project interventions are based in two selected districts, Baharaich in the state of Uttar Pradesh (rural) and

Jaipur in the state of Rajasthan (urban) in India, from 2021–2024. The population of Baharaich and Jaipur is approximately 3.4 million and 6.6 million respectively, according to census 2011. The coordinates for Baharaich and Jaipur are 27.575°N 81.594°E and 26.9°N 75.8°E respectively.

**Measures**

**Outcome variables**

*Physical violence* was assessed using the following questions: Has your husband/partner ever A) Slapped you or thrown something at you that could hurt you? B) Pushed you, shoved you or pulled your hair? C) Hit you with his/her fist or with something else that could hurt you? D) Kicked you, dragged you or beat you up? E) Choked or burnt you on purpose? F) Threatened to use or actually used a gun, knife or other weapon against you? The responses of the above question were coded as 0 “no” and 1 “yes”. If the respondent responded 1 “yes” on any of the question, then he/she was coded into the category1 “experienced physical violence”; otherwise, 0 “not experienced physical violence”.

*Sexual violence* was assessed using the following questions: Did your husband/ partner ever A) physically forced you to have sexual intercourse when you did not want to? B) Have sexual intercourse when you did not want to because you were afraid of what your

partner or any other partner might do? C) Have sex without a condom (but you wanted to use a condom)? D) Force you to do something sexual that you found degrading or humiliating? The responses of the above questions were coded as 0 for “no” and 1 for “yes”. If the respondent responded 1 “yes” in any of the question, then he/she was coded in the category 1 “experienced sexual violence”; otherwise, 0 “not experienced sexual violence”.

### **Explanatory variables**

Construction of women’s empowerment indices comprised of physical mobility, decision making power and economic resources.

**Physical mobility** (Cronbach alpha: 0.90): The variable was assessed using the following questions: Have you ever been there alone? Have you ever been to the hospital/clinic/health centre/health post/doctor alone? Have you ever gone to a place for community entertainment, such as a cinema/video/film house/sport games etc. alone? Have you ever gone to a religious place (temple/church/mosque) alone? Have you ever gone outside the neighborhood/village alone? The responses of the above question were coded as 0 “with someone” and 1 “alone”. If the participant responded 1 “alone” in all the above questions, then he/she was coded into the category 1 “mobile”; otherwise, 0 “not mobile”.

**Decision making power** (Cronbach alpha: 0.94): The variable was assessed using the following questions: Who in your family usually has the final say on A) Making large household purchases? B) Making household purchases for daily needs? C) Decisions about major family investments? D) Visits to family and/or relatives/friends? E) What food should be cooked each day? F) Your families healthcare? G) Your own healthcare? H) Choices around contraceptives/family planning? The response for the above questions were coded as 1 “Mainly respondent”, 2 “Mainly another women family member”, 3 “Mainly another men family member” and 4 “Respondent and family member(s) jointly”. The variables were coded as 1 if “mainly respondent” and else 0 “mainly another women family member/ mainly another men family member/ respondent and family member(s) jointly”. If the participant responded 1 “mainly respondent” in all the above questions, then he/she was coded in category 1 “have decision making power”; otherwise, 0 “have no decision-making power”.

**Economic resources** (Cronbach alpha: 0.73): The variable was assessed using the following questions: A) Do you, in your own name, own any land, your homestead land, or your house? B) Do you yourself own any productive assets (for example, cattle, sewing machine, etc.)? C) Do you have any cash as savings? D) Have you ever

used your savings for business or money-lending? The responses of the above question were coded as 0 “no” and 1 “yes”. If the respondent responded 1 “yes” in all the above questions, then he/she was coded into the category 1 “have economic resources”; otherwise, 0 “have no economic resources”.

### **Other explanatory variables**

#### ***Respondent’s characteristics***

Age in years, educational status of the respondent (not educated/ primary completed, secondary completed, senior secondary completed, graduate and above), working status of the respondent (yes and no), alcohol consumption by the respondent (yes and no), ever had children (yes and no).

#### ***Spousal characteristics***

Spousal controlling behavior was coded using the following questions: A) Tries to keep you away from seeing your friends? B) Tries to restrict contact with your family of birth? C) Insists on knowing where you are at all times? D) Ignores you and treats you indifferently? E) gets angry if you speak with another man/woman? F) is often suspicious that you are unfaithful? G) expects you to ask his/her permission before seeking health care for yourself? H) Prevents you from expressing your opinion in public? The responses of the above question were coded as 0 “no” and 1 “yes”. If the participant responded 1 “yes” in any of the questions, then he/she was coded into the category 1 “controlling behavior”; otherwise, 0 “no controlling behavior”. Other factors were spousal age gap in years, educational status of the spouse (not educated/primary completed, secondary completed, senior secondary completed, graduate and above), working status of the spouse (yes and no) and alcohol consumption by spouse (yes and no).

#### ***Household characteristics***

Religion (Hindu and others), caste (non-Scheduled Caste/Scheduled Tribe (SC/ST) or (SC/ST), income in Indian national rupees (INR), below poverty line status (yes or no), family structure (nuclear or joint/extended) and districts (Jaipur or Baharaich).

#### ***Sampling strategy and sample size***

A line listing exercise was carried out to prepare the sampling frame for selecting the quantitative sample. Using the sample frame, the required number of respondents were selected from the study with stratified random sampling. The sample size was measured by using the proportion of IPV in Uttar Pradesh as 36.7% from NFHS 4 (as NFHS 5 data had not come when the sample

was being calculated) ( $p$  equals 0.384),  $z$ -value of 1.96 and level of precision as 5%. The calculated sample size came out to be 363 cases. After adjusting for 10% of non-response rate, the effective sample size was estimated to be 400 cases. The total sample for the two districts, Baharaich and Jaipur, was 800. However, the response rate was 72.3%, and therefore, the total sample for the analysis was 578 married youth aged 15–24 years. The COVID-19 pandemic affected reaching the desired sample size. Inclusion criteria of the study was youth in the age group of 15–24 years and their parents. All individuals who did not provide consent to participate in the study were excluded. Moreover, all those individuals who had suffered a major illness in the past 1 year were also excluded.

### Data collection and management

The data was collected through a semi-structured questionnaire. The questionnaire comprised of variables on socio-demographic factors, knowledge and practices on gender equitable norms, beliefs about gender, decision making, economic security and contribution, GBV (physical, sexual) and controlling behaviour of the spouse. The questionnaire was translated to the local language, Hindi, and pre-tested in the field during the training session towards finalization. The data collection was conducted by a team of 12 investigators comprising of both men and women, to consider sensitivity of the issues addressed. The investigators were trained for a 3-day period through an online platform. They were trained on various techniques to conduct the survey, and emphasis was given to achieve the maximum intra and inter-individual agreement with respect to all the measurements. The data collection team, including field managers and surveyors, were also trained on ethical protection, consent/assent process, working with youth, and to adhere to the ethical guidelines.

During the training, the teams also carried out mock surveys. Detailed information with the aim, objectives, risks, benefits with implications of the study were explained to the youth before conducting the study. Informed consent was obtained from all subjects and/or their legal guardian(s). Written informed consent was taken from the parents for confirmation of their enrolment in the study. For participants above 18 years, consent forms were distributed to explain the purpose of the study to ensure full understanding of the participants and provide opportunity to opt-out from the study if they so wished. The participants were assured that their participation in the study is completely voluntary and they could choose to withdraw from it at any point, if they feel uncomfortable in answering any question.

The quantitative data was collected through surveyors via mobiles/tablets. The data was collected from the

youth (men and women) from the community who were not couples. Additionally, to avoid risks associated with the disclosure of sensitive information, password-protected files were maintained, and all the data records were kept confidential. Personal identifiers were kept separate from the main data collection tool and unique ID codes for each participant were generated. Completed questionnaires were kept locked in a dedicated storage facility and access was limited to the principal investigator and to the data management personnel only. Ethical approval was obtained from the institutional review board of MAMTA Health Institute for Mother and Child, the main coordinating organization of project SAWERA.

### Statistical analysis

Descriptive statistics [mean (standard deviation), percentage], along with bivariate analysis (percentage), were conducted through STATA 14 [20] to present the results. The Chi-squared test [21] and proportion test [22] were used to test the level of significance during bivariate analysis and gender differences respectively. Additionally, binary logistic regression analysis [23] was used to present the estimates in the form of Adjusted Odds Ratio (aOR) at a 95% confidence interval. The analysis was segregated by sex of the respondent. Variance inflation factor [24] was estimated to check multi-collinearity between the variables, and it was found that there was no evidence of multi-collinearity between the variables.

### Results

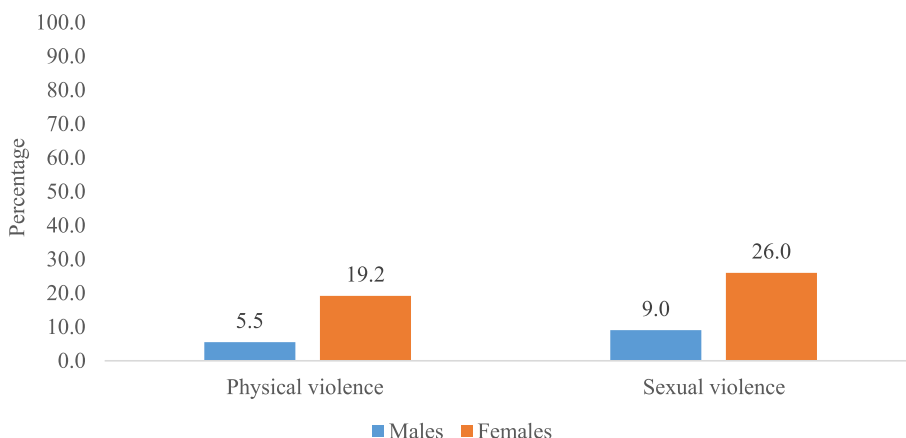
Table 1 presents the socio-economic profile of the respondents of the study. The mean age of the respondents was 22.7 years for men and 21.8 years for women. About one-fifth of the men and women were not educated and/or their primary schooling was not completed. About 76.1% and 12.4% of the men and women respectively were currently working. Almost 5.5% and 1.2% of the men and women respectively had ever consumed alcohol. The mean spousal age gap was 1.3 years for men and 2.9 years for women. About 56% of the spouses were not educated and/or their primary schooling was not completed. About 33.3% and 63.2% of the men and women respectively reported that their spouses were currently working. Only, 1.9% and 11.8% of the men and women respondents respectively reported that their spouses consumed alcohol.

Figure 2 represents the percentage of men and women who reported to have experienced physical and sexual violence. It was found that 5.5% and 19.2% (difference: 13.7%;  $p < 0.001$ ), 9.0% and 26.0% (difference: 17%;  $p < 0.001$ ), of men and women respectively had experienced physical and sexual violence.

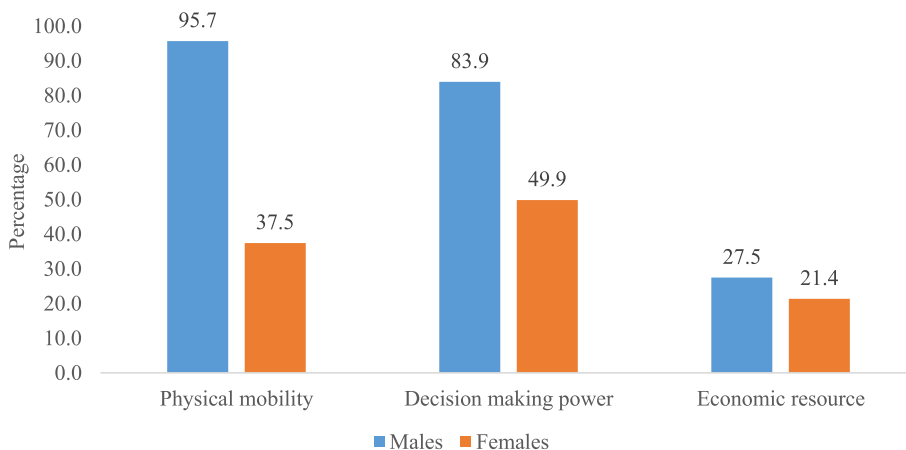
**Table 1** Socio-economic characteristics of the study population, (n = 578)

Background characteristics	Men		Women	
	N	%	N	%
<b>Respondent characteristics</b>				
<b>Age of the respondent in years [mean (sd)]</b>	22.7 (1.6)		21.8 (2.0)	
<b>Educational status of respondent</b>				
Not educated/Primary completed	54	21.2	73	22.6
Secondary completed	75	29.4	76	23.5
Senior secondary completed	36	14.1	30	9.3
Graduate and above	90	35.3	144	44.6
<b>Working status of the respondent</b>				
Yes	194	76.1	40	12.4
No	61	23.9	283	87.6
<b>Alcohol consumption of respondent</b>				
Yes	14	5.5	3	1.2
No	241	94.5	252	98.8
<b>Ever had children</b>				
Yes	144	56.5	190	58.8
No	111	43.5	133	41.2
<b>Spousal characteristics</b>				
<b>Spousal age gap in years [mean (sd)]</b>	-1.3 (1.7)		2.9 (2.8)	
<b>Spouse controlling behaviour</b>				
No	209	82.0	190	58.8
Yes	46	18.0	133	41.2
<b>Educational status of spouse</b>				
Not educated/Primary completed	143	56.1	181	56.0
Secondary completed	72	28.2	78	24.2
Senior secondary completed	29	11.4	29	9.0
Graduate and above	11	4.3	35	10.8
<b>Working status of spouse</b>				
Yes	85	33.3	204	63.2
No	170	66.7	119	36.8
<b>Alcohol consumption of spouse</b>				
Yes	6	1.9	38	11.8
No	317	98.1	285	88.2
<b>Household characteristics</b>				
<b>Religion</b>				
Hindu	173.0	67.8	228.0	70.6
Others	82.0	32.2	95.0	29.4
<b>Caste</b>				
Non-SC/ST	177	69.4	223	69.0
SC/ST	78	30.6	100	31.0
<b>Income in INR [mean (sd)]</b>	6518 (4078)		8778 (10,011)	
<b>Below poverty line status</b>				
No	185	72.6	250	77.4
Yes	70	27.5	73	22.6
<b>Family structure</b>				
Nuclear	115	45.1	131	40.6
Joint or extended	140	54.9	192	59.4
<b>Districts</b>				
Baharaich	181	71.0	196	60.7
Jaipur	74	29.0	127	39.3

INR Indian national rupee, sd Standard deviation, n Sample, % Percentage



**Fig. 2** Percentage of men and women who reported physical and sexual violence



**Fig. 3** Percentage of men and women who had physical mobility, decision making power and economic resources

**Proportion test was used to check the significance level for men and women estimates**

Figure 3 represents the percentage of men and women who had physical mobility, decision making power and economic resources. It was revealed that 95.7% and 37.5% (difference: 58.2%;  $p < 0.001$ ), 83.9% and 49.9% (difference: 34%;  $p < 0.001$ ), 27.5% and 21.4% (difference: 6.1%;  $p < 0.089$ ) of men and women respectively had physical mobility, decision making power and economic resources.

**Proportion test was used to check the significance level for men and women estimates**

Table 2 represents the association of empowerment indicators with physical and sexual violence among young men and women. It was found that higher percentage of men with no mobility had experienced

physical violence (18.2% vs 4.9%;  $p$ -value: 0.059). Higher percentage of men with economic resources experienced physical violence (10.0% vs 3.8%;  $p$ -value: 0.071) whereas in case of women the results were the opposite. Higher percentage of women who were mobile experienced sexual violence (33.9% vs 21.3%;  $p$ -value: 0.012). Higher percentage of men (15.7% vs 6.5%;  $p$ -value: 0.022) and women (52.2% vs 18.9%;  $p$ -value:  $< 0.001$ ) who had economic resources experienced sexual violence.

Table 3 represents the logistic regression estimates for empowerment indicators with physical and sexual violence among young men and women. Men with no mobility [aOR: 4.00; CI: 0.28,58.01], no decision-making power [aOR: 4.96; CI: 0.32,76.37] and no economic resources [aOR: 2.31; CI: 0.36,14.81] showed a higher likelihood to experience physical violence in but was

**Table 2** Association of empowerment indicators with physical and sexual violence among young men and women, (n = 578)

Variables	Physical violence				Sexual violence			
	Men		Women		Men		Women	
	%	p-value	%	p-value	%	p-value	%	p-value
<b>Empowerment indicators</b>								
<b>Physical mobility</b>		0.059		0.217		0.278		0.012
No	<b>18.2</b>		21.3		18.2		<b>21.3</b>	
Yes	<b>4.9</b>		15.7		8.6		<b>33.9</b>	
<b>Decision making power</b>		0.851		0.412		0.312		0.774
No	4.9		21		4.9		25.3	
Yes	5.6		17.4		9.8		26.7	
<b>Economic resource</b>		0.052		0.071		0.022		<0.001
No	<b>3.8</b>		<b>21.3</b>		<b>6.5</b>		<b>18.9</b>	
Yes	<b>10.0</b>		<b>11.6</b>		<b>15.7</b>		<b>52.2</b>	
<b>Respondent characteristics</b>								
<b>Age of the respondent in years</b>	0.05	0.382	0.1	0.271	-0.04	0.502	-0.07	0.189
<b>Educational status of respondent</b>		0.181		0.015		0.456		0.405
Not educated/Primary completed	1.9		20.6		3.7		31.5	
Secondary completed	9.3		9.2		10.7		23.7	
Senior secondary completed	8.3		10.0		8.3		33.3	
Graduate and above	3.3		25.7		11.1		22.9	
<b>Working status of the respondent</b>		0.385		0.771		0.799		0.031
Yes	6.2		17.5		8.8		<b>40.0</b>	
No	3.3		19.4		9.8		<b>24.0</b>	
<b>Alcohol consumption by respondent</b>		0.007		0.375		0.009		0.176
Yes	<b>21.4</b>		33.3		<b>28.6</b>		50.0	
No	<b>4.6</b>		18.9		<b>7.9</b>		25.6	
<b>Ever had children</b>		0.291		0.879		0.188		0.163
Yes	4.2		19.5		6.9		23.2	
No	7.2		18.8		11.7		30.1	
<b>Spousal characteristics</b>								
<b>Spousal age gap in years</b>	-0.003	0.958	0.002	0.607	0.070	0.291	-0.001	0.993
<b>Spouse controlling behavior</b>		<0.001		<0.001		<0.001		<0.001
No	<b>2.9</b>		<b>10.0</b>		<b>2.9</b>		<b>17.4</b>	
Yes	<b>17.4</b>		<b>32.3</b>		<b>37.0</b>		<b>38.4</b>	
<b>Educational status of spouse</b>		0.064		0.005		0.045		0.587
Not educated/Primary completed	<b>2.1</b>		<b>26.0</b>		<b>5.6</b>		28.2	
Secondary completed	<b>9.7</b>		<b>11.5</b>		<b>9.7</b>		25.6	
Senior secondary completed	<b>10.3</b>		<b>13.8</b>		<b>20.7</b>		24.1	
Graduate and above	<b>9.1</b>		<b>5.7</b>		<b>18.2</b>		17.1	
<b>Working status of Spouse</b>		0.052		0.003		0.757		0.589
Yes	<b>3.5</b>		<b>27.7</b>		9.4		27.7	
No	<b>9.4</b>		<b>14.2</b>		8.2		25.0	
<b>Alcohol consumption by Spouse</b>		0.033		0.012		0.139		0.220
Yes	<b>33.3</b>		<b>34.2</b>		33.3		34.2	
No	<b>5.2</b>		<b>17.2</b>		8.7		24.9	
<b>Household characteristics</b>								
<b>Religion</b>		0.039		<0.001		0.012		0.935
Hinduism	<b>7.5</b>		<b>12.7</b>		<b>12.1</b>		25.9	
Others	<b>1.2</b>		<b>34.7</b>		<b>2.4</b>		26.3	

**Table 2** (continued)

Variables	Physical violence				Sexual violence			
	Men		Women		Men		Women	
	%	<i>p</i> -value	%	<i>p</i> -value	%	<i>p</i> -value	%	<i>p</i> -value
<b>Caste</b>		0.001		0.028		< 0.001		0.999
Non-SC/ST	<b>2.3</b>		<b>22.4</b>		<b>4.5</b>		26.0	
SC/ST	<b>12.8</b>		<b>12.0</b>		<b>19.2</b>		26.0	
<b>Income (INR)</b>	<b>0.30</b>	< 0.001	0.02	0.321	<b>0.20</b>	< 0.001	0.10	0.220
<b>Below poverty line status</b>		0.603		0.018		0.257		0.541
No	6.0		<b>16.4</b>		10.3		25.2	
Yes	4.3		<b>28.8</b>		5.7		28.8	
<b>Family structure</b>		0.042		< 0.001		0.248		0.449
Nuclear	<b>8.7</b>		<b>29.0</b>		11.3		28.2	
Joint or extended	<b>2.9</b>		<b>12.5</b>		7.1		24.5	
<b>Districts</b>		< 0.001		< 0.001		< 0.001		0.302
Babraich	<b>1.1</b>		<b>27.6</b>		<b>4.4</b>		24.0	
Jaipur	<b>16.2</b>		<b>6.3</b>		<b>20.3</b>		29.1	

*p*-value based on chi-square test

not statistically significant. Women with no decision-making power [aOR: 2.12; CI: 1.01,4.43] had a higher likelihood to experience physical violence in comparison to their counterparts. Women with no mobility [aOR: 0.49; CI: 0.26, 0.92] and no economic resources [aOR: 0.19; CI: 0.09,0.39] had a significantly lower likelihood to experience sexual violence in comparison to men. However, women with no decision-making power [aOR: 1.96; CI: 1.02,3.77] had significantly higher odds for sexual violence in reference to women with decision making power.

Through review of literature and according to the existing variables we took some individual, socio economic and spousal characteristics that could lead to GBV such as alcohol consumption, spousal controlling behavior, below poverty line status, ever had children, spousal age gap, religion etc. We found women who did not have a child were [aOR: 2.09; CI: 1.06,4.1] more likely to go through sexual violence. If there were spousal controlling behavior women were three times [aOR: 3.79; CI: 1.75,8.19] more likely to go through physical violence. On the other hand women were four times more likely [aOR: 4.03; CI: 2.09,7.79] to go through sexual violence. We also found that women who came from other ethnic backgrounds had higher odds [aOR: 2.32; CI: 1.07,5.03] of going through physical violence.

We did additional analysis (Supplementary Table 1) for all the variables to see the differences in GBV in the rural (Babraich) and urban settings (Jaipur). In the rural setting, we found that women had significantly higher

likelihood to go through physical violence [aOR: 9.15; CI: 1.22,68.48]. The results showed if there is spousal controlling behavior the participants were two times more likely to go through physical violence [aOR: 2.76; CI: 1.23,6.18] and five times more likely to go through sexual violence [aOR: 5.73; CI: 2.55,12.87]. Coming from SC/ST had a higher likelihood to go through sexual violence in a rural setting [aOR: 3.07; CI: 1.27,7.43].

In the urban setting of Jaipur (Supplementary Table 2) it was found that if the respondents had no economic resources there was a higher likelihood of physical violence [aOR: 5.36; CI: 1.13,25.2]. Women were six times more likely to go through sexual violence [aOR: 6.11; CI: 1.10,33.84]. If there were spousal controlling behavior participants were thirteen times more likely to go through physical violence [aOR: 13.37; CI: 3.05,58.54] and six times more likely to go through sexual violence [aOR: 6.32; CI: 2.50,15.96].

## Discussion

This study examined the relationship between WEE indicators, such as physical mobility, decision making and economic empowerment, and their association with GBV among married youth (15–24 years) living in urban and rural parts of Uttar Pradesh and Rajasthan. The study highlights the centrality of marriage as a setting where various influences intersect, particularly gender inequality and lack of WEE, which lays a foundation to women's vulnerability. It was also explored how the socio-economic factors, namely spousal characteristics and ethnic characteristics are associated with GBV.

**Table 3** Logistic regression estimates for empowerment indicators with physical and sexual violence among young men and women, (n = 578)

Variables	Physical violence AOR (95% CI)		Sexual violence AOR (95% CI)	
	Men	Women	Men	Women
<b>Empowerment indicators</b>				
<b>Mobility</b>				
No	4.00(0.28,58.01)	1.33(0.61,2.89)	0.94(0.08,10.94)	<b>0.49*(0.26,0.92)</b>
Yes	Ref	Ref	Ref	<b>Ref</b>
<b>Decision making power</b>				
No	4.96(0.32,76.37)	<b>2.12*(1.01,4.43)</b>	0.74(0.11,5.2)	<b>1.96*(1.02,3.77)</b>
Yes	Ref	<b>Ref</b>	Ref	<b>Ref</b>
<b>Economic resource</b>				
No	2.31(0.36,14.81)	1.80(0.66,4.9)	1.15(0.25,5.35)	<b>0.19*(0.09,0.39)</b>
Yes	Ref	Ref	Ref	<b>Ref</b>
<b>Respondent characteristics</b>				
<b>Age of the respondent in years</b>				
	1.24(0.61,2.52)	1.08(0.9,1.3)	1.03(0.69,1.55)	0.99(0.85,1.16)
<b>Educational status of respondent</b>				
Not educated/Primary completed	Ref	Ref	Ref	Ref
Secondary completed	1.53(0.02,121.44)	1.04(0.3,3.69)	0.57(0.04,7.4)	0.43(0.17,1.1)
Senior secondary completed	1.05(0.01,108.85)	0.58(0.11,3.19)	0.21(0.01,4.96)	0.85(0.25,2.89)
Graduate and above	1.60(0.02,114.6)	1.14(0.5,2.57)	1.52(0.17,13.9)	0.52(0.24,1.12)
<b>Working status of the respondent</b>				
Yes	Ref	Ref	Ref	Ref
No	2.7(0.24,30.05)	0.87(0.27,2.75)	4.26(0.66,27.7)	0.93(0.39,2.22)
<b>Alcohol consumption by respondent</b>				
Yes	Ref	Ref	Ref	Ref
No	0.56(0.04,7.19)	2(0.18,21.82)	0.25(0.03,1.92)	0.52(0.06,4.56)
<b>Ever had children</b>				
Yes	Ref	Ref	Ref	<b>Ref</b>
No	2.22(0.5,9.82)	1.01(0.48,2.11)	1.94(0.53,7.11)	<b>2.09*(1.06,4.1)</b>
<b>Spousal characteristics</b>				
<b>Spousal age gap in years</b>				
	1.14(0.73,1.79)	1.01(0.89,1.15)	1.44*(1.05,1.98)	1.01(0.9,1.12)
<b>Spouse controlling behaviour</b>				
No	Ref	<b>Ref</b>	<b>Ref</b>	<b>Ref</b>
Yes	5.02(0.67,37.82)	<b>3.79*(1.75,8.19)</b>	<b>47.24*(8.12,274.92)</b>	<b>4.03*(2.09,7.79)</b>
<b>Educational status of spouse</b>				
Not educated/Primary completed	Ref	Ref	Ref	Ref
Secondary completed	1.93(0.24,15.46)	0.84(0.31,2.29)	0.75(0.12,4.76)	0.73(0.32,1.63)
Senior secondary completed	0.92(0.06,14.15)	1.44(0.32,6.43)	2.23(0.32,15.53)	0.9(0.27,3.04)
Graduate and above	1.82(0.09,35.84)	0.52(0.1,2.67)	0.58(0.04,9.24)	0.32(0.09,1.12)
<b>Working status of Spouse</b>				
Yes	Ref	Ref	Ref	Ref
No	3.57(0.49,26.04)	0.65(0.32,1.31)	0.68(0.13,3.61)	0.79(0.41,1.52)
<b>Alcohol consumption by Spouse</b>				
Yes	Ref	Ref	Ref	Ref
No	0.01*(0,0.52)	0.20*(0.06,0.6)	1.31(0.04,42.56)	1.14(0.42,3.06)
<b>Household characteristics</b>				
<b>Religion</b>				
Hinduism	Ref	<b>Ref</b>	Ref	Ref
Others	0.33(0.02,5.69)	<b>2.32*(1.07,5.03)</b>	0.92(0.13,6.8)	0.97(0.46,2.03)

**Table 3** (continued)

Variables	Physical violence AOR (95% CI)		Sexual violence AOR (95% CI)	
	Men	Women	Men	Women
<b>Caste</b>				
Non-SC/ST	Ref	Ref	Ref	Ref
SC/ST	1.55(0.23,10.55)	1.27(0.51,3.12)	3.3(0.61,17.86)	1.02(0.5,2.1)
<b>Income (INR)</b>	1.01(0.97,1.06)	1.03(0.99,1.005)	1.00(0.90,1.09)	1.04(0.89,1.12)
<b>Below poverty line status</b>				
No	Ref	Ref	Ref	Ref
Yes	14.08(0.85,234.24)	1.51(0.69,3.30)	1.42(0.24,8.45)	1.43(0.67,3.06)
<b>Family structure</b>				
Nuclear	Ref	Ref	Ref	Ref
Joint or extended	0.68(0.04,11.53)	0.52(0.26,1.07)	5.46(0.68,43.59)	1.03(0.54,1.95)
<b>Districts</b>				
Baharaich	<b>Ref</b>	<b>Ref</b>	Ref	Ref
Jaipur	<b>62.18*(1.48,2610.33)</b>	<b>0.31*(0.1,0.99)</b>	7.50(0.75,74.64)	1.85(0.76,4.51)

Ref Reference

\*if  $p < 0.05$ , the analysis was adjusted for respondents', spousal and household characteristics

In our study we found that nearly 19.2% of women experienced physical violence compared to the 5.5% of men. Additionally, 26% of the women experienced sexual violence compared to the 9% of men. Considering, the progress being made in India with increasing education and overall development over the years, such stark gender differentials is still a concern.

In India, due to the deep-rooted gender inequalities in the society, controlling behavior by the husband is evident from the high prevalence of IPV and other GBV indicators in the national data [11]. In this study, we found that women who experienced controlling behavior by their spouse were three times at a higher risk of physical violence and four times at a higher odds of sexual violence. This finding corroborates similar findings from other countries such as Spain, Bangladesh and Nigeria [25–27]. In India, due to the patriarchal construct of marriages, men show their dominance and non-egalitarian gender norms where women need to be subservient and act according to the husband's wishes. More so, when a woman is economically dependent on her spouse, is less educated, her spouse restricts her interaction with other people and resorts to violence if his needs are not met.

In our study, we found that women not having physical mobility has a negative relationship with sexual violence or women with physical mobility had a higher odds of going through sexual violence. This is due to the biased gender and social norms prevalent in the society, where violence is happening not just by the husband but also by other perpetrators like relatives or acquaintances. There is prior evidence from studies that investigated social

norms regarding sexual violence, where most often girls are blamed if violence occurs for reasons like inappropriate clothing or inciting behavior [28]. Further, it is considered normal that women restrict their movement and actions to prevent men from assaulting them [29].

Further, we found that women who had more economic resources were at a higher odds of sexual violence. This finding is similar to a previous study conducted in Nigeria which showed that women who are earning are more prone to physical violence and sexual violence [15]. Moreover, women who do not own economic resources nor are able to negotiate change, are dependent on their husbands. This makes them more vulnerable to controlling behavior by their husbands. In India, boys get socialized in a patriarchal context, where they associate control over their wives as a masculine trait. Additionally if these men themselves are undergoing financial stress, it may threaten their own abilities and this can lead them to become more controlling and violent towards their partners [30].

We also found that women who did not have children were at a higher risk of sexual violence. A possible reason for this could be that early marriage makes them more vulnerable to sexual violence [31] and having children might be considered as a protective factor against sexual violence, committed by an outside perpetrator. Another, speculative reason for this association could be that a small proportion of this sample are women who themselves cannot have a child or their husbands cannot due to medical reasons, such as infertility. There is evidence from a study in India which showed 7.8% prevalence of

spousal physical/sexual violence among childless women, compared to 6.1% among women who have children [32].

Socio-economic factors showed an effect on violence in our study. Women in rural areas were more likely to be exposed to physical violence, which is in line with previous studies conducted in India in Puducherry (56.7%) and Haryana (37%), which showed that married women have experienced more domestic violence [33, 34]. Our additional analysis shown in the supplementary table shows that spousal controlling behavior was significantly associated with physical and sexual violence in urban and rural areas. Additionally, coming from a more backward section SC/ST had a higher association with sexual violence. Moreover, previous research shows that lower socio-economic status is a determinant of physical violence. This could be due to accompanying factors such as alcohol use, job dissatisfaction, frustration of limited resources and patriarchal upbringing, among others [35]. Even though in the present study factors such as below the poverty line status and lower income did have an association in the bivariate analysis, but no association was observed in the multi-variate model due to confounding factors.

Alcohol consumption by the spouse was a factor that was significantly associated with physical violence in men and women. Evidence from various studies conducted in India shows that alcohol consumption along with factors such as having multiple sexual partners, poorer backgrounds, lower caste, and women having greater economic autonomy are associated with GBV [36–38]. Most of these studies have shown an effect on VAW, but in our study, we have shown data on violence in men too. Religious and ethnic differences were also found. Muslim families were at a higher risk of physical violence. This finding is in line with evidence from a previous study conducted in Mumbai slums, which showed that women who were from lower economic backgrounds, were from Muslim families and whose husbands consumed alcohol were at a higher risk of GBV [39].

In light of gravity of the situation, GTA was considered as a suitable approach for SAWERA project. There is mounting global evidence which suggests programs on men engagement incorporating a “gender transformative” approach are more likely to shift men’s gender and violence-related attitudes and behaviors than programs that do not explicitly address gender norms [40]. A recent review of literature on GTA in the context of GBV showed that 6 out of 10 studies showed statistically significant impact on at least one of the following outcomes: increase in gender equitable attitudes and care or domestic work and decreases in reported IPV and social acceptance of IPV [41]. This approach is being used widely, as another, systematic review published in the lancet,

adopted GTA among children, adolescents and adults, with a focus on sexual and reproductive health, HIV, and violence which showed that many of these approaches are effective in them [42]. Thus, we used this approach to reduce violence and improve its related outcomes.

### **Strength and limitations**

One of the assets of the study is that it investigated married youth – a neglected population – and looked into violence against both men and women (important to note that not many studies give data on violence against men). Additionally, we specifically investigated positive and progressive factors of women’s empowerment which are associated with GBV to generate scientific evidence for action. One limitation of the study was its cross-sectional nature, due to which it is challenging to explain the causality and temporal ordering of the determinants with the study outcomes, as it is well established that factors like economic empowerment of women can be a cause as well as a consequence of IPV [43]. Secondly, self-reported data on sexual violence may be subject to recall bias. While this study focused on physical and sexual violence, future studies should focus on emotional and economic violence. We used the term GBV more generally than IPV as it would have led to under reporting due to the issue of giving socially desirable responses. As it comprised of sensitive issues like physical and sexual violence which are usually under reported, Thirdly, generalizability of the study can be another limitation as the data is collected only from two districts in two states of India. However, societal issues in unequal gender norms and violence in India are not too different across the country, in the rural and urban settings which is evident from this study. Fourthly, one of the variables on physical mobility does not reflect the actual agency or empowerment to go to a particular place but rather reflects more on the experience of doing it. The questionnaire was based on various literature and on the NFHS data set, hence that might be a limiting factor. The final limitation of this study was that even though disability aggregated data was collected, the numbers of that sample were too low to analyze it further.

### **Conclusion**

The study highlights the complex interplay of women’s empowerment indicators with GBV and how socio-demographic and economic factors interplay to confound this relationship. It was evident from the results that to empower women, it is crucial to include men – a largely overlooked population – and make them the focus of studies and programs. It is vital to understand the factors that lead to physical and sexual violence by using

methods such as GTA. There is a need to work towards more proximate factors that may influence GBV, including alcohol consumption, ethnic and rural background, economic empowerment of women, agency, physical mobility and decision-making. This study has highlighted the dire need to work on biased gender norms and critically reflect on the negative consequences of gender inequality, and to think of alternate ways of how we see masculine and feminine roles in our society.

It is crucial to work towards improving women's status and autonomy at the individual and community level by working with all genders and key stakeholders to address VAW. For further research, we recognize the need for more efforts to bring about equitable gender norms, which would lay a foundation for improved health and well-being over the life course starting from early adolescence [42]. So far, such programs that focus on scale and impact have been limited.

#### Abbreviations

AOR	Adjusted odds ratio
GBV	Gender based violence
GTA	Gender transformative approach
HIV	Human immunodeficiency viruses
IPV	Intimate partner Violence
NFHS	National Family Health Survey
OR	Odds ratio
SC	Scheduled caste
SDG	Sustainable development goals
STI	Sexually transmitted infections
ST	Scheduled tribe
VAW	Violence against women
WEE	Women's economic empowerment
WHO	World Health Organization

#### Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12889-023-15421-4>.

**Additional file 1: Supplementary tables.**

#### Acknowledgements

We would like to thank all the project and field staff for their invaluable contribution for the data collection and field activities during that period.

#### Author's contributions

DM conceptualized the paper, conducted initial analysis and wrote the original draft of the manuscript, SS conducted the final data analysis and supported in writing methods and results of the paper MC and NS were responsible to review and make additions to the manuscript from a programmatic point of view having worked on GBV for quite many years. ML and HS gave technical comments on the overall manuscript. SM conducted the quality check of the entire manuscript. All authors read and approved the final manuscript.

#### Funding

The funding of the project is supported by Ministry of Foreign affairs Finland.

#### Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

#### Declarations

##### Ethics approval and consent to participate

We took ethical approval from the Institutional review board at MAMTA Health institute for Mother and child before conducting the study. All parts of the study were carried out in accordance with Declaration of Helsinki guidelines and regulations. Informed consent was obtained from all subject and/ or their legal guardian(s). All the surveys were anonymous and it was explained to all the respondents that participation in the survey is voluntary and they could withdraw at any time they feel uncomfortable as the questions were quite sensitive. The surveyors explained the purpose of the study to all the participants and written consent was taken from them before conducting the survey.

##### Consent for publication

N/A.

##### Competing interests

The authors declare that they have no competing interests.

Received: 15 September 2022 Accepted: 10 March 2023

Published online: 23 March 2023

#### References

- 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.
- UNHCR Policy on Prevention of, Risk Mitigation and Response to Gender Based Violence .2020. <https://www.unhcr.org/5fa018914/unhcr-policy-prevention-risk-mitigation-response-gender-based-violence>
- UN. Sustainable Development Goals Report 2021 [Internet]. 2021 [cited 2022 May 24]. Available from: <https://unstats.un.org/sdgs/report/2021/>
- UN. The World's Women 2015 Trends and Statistics [Internet]. United Nations Statistics Division. 2015 [cited 2021 Dec 17]. Available from: <https://unstats.un.org/unsd/gender/aboutWW2015.html>
- Stubbs A, Szoeko C. The effect of intimate partner violence on the physical health and health-related behaviors of women: A systematic review of the literature. *Trauma Violence Abuse*. 2022;23(4):1157–72.
- Keynejad RC, Hanlon C, Howard LM. Psychological interventions for common mental disorders in women experiencing intimate partner violence in low-income and middle-income countries: a systematic review and meta-analysis. *Lancet Psychiatry*. 2020;7(2):173–90.
- Semahegn A, Torpey K, Manu A, Assefa N, Tesfaye G, Ankomah A. Are interventions focused on gender-norms effective in preventing domestic violence against women in low and lower-middle income countries? A systematic review and meta-analysis. *Reprod Health*. 2019;16(1):1–31.
- Raftery P, Howard N, Palmer J, Hossain M. Gender-based violence (GBV) coordination in humanitarian and public health emergencies: a scoping review. *Confl Heal*. 2022;16(1):1–22.
- NFHS-5. National Family Health Survey (NFHS-5) 2019–2021 [Internet]. 2017 [cited 2021 Dec 23]. Available from: <http://rchiips.org/nfhs/nfhs-4Reports/India.pdf>
- Ministry of Home Affairs. Crime in India 2019 | National Crime Records Bureau [Internet]. 2019 [cited 2021 Dec 23]. Available from: <https://ncrb.gov.in/en/crime-india-2019-0#>
- UNICEF. 25 million child marriages prevented in last decade due to accelerated progress, according to new UNICEF estimates [Internet]. 2018 [cited 2021 Dec 23]. Available from: <https://www.unicef.org/press-releases/25-million-child-marriages-prevented-last-decade-due-accelerated-progress-according>
- World Economic Forum. Global Gender Gap Report 2020 [Internet]. World Economic Forum. 2019 [cited 2022 Feb 18]. Available from: <https://www.weforum.org/reports/gender-gap-2020-report-100-years-pay-equality/>
- Raj A, Johns NE, Bhan N, Silverman JG, Lundgren R. Effects of Gender Role Beliefs on Social Connectivity and Marital Safety: Findings from

- a Cross-Sectional Study Among Married Adolescent Girls in India. *J Adolesc Health* [Internet]. 2021 Dec 1 [cited 2022 Jan 25];69(6, Supplement):S65–73. Available from: <https://www.sciencedirect.com/article/pii/S1054139X21003876>
14. Hlongwa M, Mashamba-Thompson T, Makhunga S, Hlongwana K. Evidence on factors influencing contraceptive use and sexual behavior among women in South Africa: a scoping review. *Medicine*. 2020;99(12):e19490.
  15. Antai D. Controlling behavior, power relations within intimate relationships and intimate partner physical and sexual violence against women in Nigeria. *BMC Public Health*. 2011 Jun;29(11):511.
  16. Shamu S, Shamu P, Machisa M. Factors associated with past year physical and sexual intimate partner violence against women in Zimbabwe: results from a national cluster-based cross-sectional survey. *Glob Health Action*. 2018;11(sup3):1625594.
  17. McClintock HF, Trego ML, Wang EM. Controlling behavior and lifetime physical, sexual, and emotional violence in sub-Saharan Africa. *J Interpers Violence*. 2021;36(15–16):7776–801.
  18. Nock SL. The marriages of equally dependent spouses. *J Fam Issues*. 2001;20(12):756–77.
  19. Hameed W, Azmat SK, Ali M, Sheikh MI, Abbas G, Temmerman M, et al. Women's Empowerment and Contraceptive Use: The Role of Independent versus Couples' Decision-Making, from a Lower Middle Income Country Perspective. *Plos one*. 2014;9(8):e104633. Available from: <https://journals.plos.org/plosone/article?id=https://doi.org/10.1371/journal.pone.0104633>
  20. StataCorp L. Stata data analysis and statistical Software. Spec Ed Release. 2007;10:733.
  21. McHugh ML. The chi-square test of independence. *Biochem Medica*. 2013;23(2):143–9.
  22. Chen CL, Swallow WH. Using group testing to estimate a proportion, and to test the binomial model. *Biometrics*. 1990;46(4):1035–46.
  23. Peng CYJ, Lee KL, Ingersoll GM. An introduction to logistic regression analysis and reporting. *J Educ Res*. 2002;96(1):3–14.
  24. Miles J. Tolerance and variance inflation factor. *Wiley StatsRef Stat Ref Online*. 2014.
  25. Aizpurua E, Copp J, Ricarte JJ, Vázquez D. Controlling Behaviors and Intimate Partner Violence Among Women in Spain: An Examination of Individual, Partner, and Relationship Risk Factors for Physical and Psychological Abuse. *J Interpers Violence*. 2021 Jan;36(1–2):231–54.
  26. Biswas RK, Rahman N, Kabir E, Raihan F. Women's opinion on the justification of physical spousal violence: A quantitative approach to model the most vulnerable households in Bangladesh. *PLOS ONE* [Internet]. 2017 Nov 21 [cited 2022 Feb 9];12(11):e0187884. Available from: <https://journals.plos.org/plosone/article?id=https://doi.org/10.1371/journal.pone.0187884>
  27. Antai D. Controlling behavior, power relations within intimate relationships and intimate partner physical and sexual violence against women in Nigeria. *BMC Public Health* [Internet]. 2011 Dec [cited 2022 Feb 8];11(1):1–11. Available from: <https://bmcpublihealth.biomedcentral.com/articles/https://doi.org/10.1186/1471-2458-11-511>
  28. Gramazio S, et al. Sexualization of Sexual Harassment Victims Reduces Bystanders' Help: The Mediating Role of Attribution of Immorality and Blame. *J Interpers Violence*. 2021;36(13–14):6073–97.
  29. Perrin N, Marsh M, Clough A, Desgropes A, Yope Phanuel C, Abdi A, Social norms and beliefs about gender based violence scale: a measure for use with gender based violence prevention programs in low-resource and humanitarian settings. *Confl Health* [Internet], et al. [cited 2022 Feb 14];13(1):6. Available from: 2019Mar 8. <https://doi.org/10.1186/s13031-019-0189-x>.
  30. Nanda P, Gautam A, Verma R, Khanna A. Study on Masculinity, Intimate Partner Violence and Son Preference in India [Internet]. New Delhi: ICRW; 2014. Available from: <https://asiapacific.unfpa.org/sites/default/files/pub-pdf/Study%20on%20Masculinity%2C%20Intimate%20Partner%20Violence%20and%20Son%20Preference%20in%20India.pdf>
  31. Girls Not Brides. Why is child marriage a form of violence against women and girls? [Internet]. Girls Not Brides. 2022 [cited 2022 Feb 14]. Available from: <https://www.girlsnotbrides.org/articles/why-is-child-marriage-a-form-of-violence-against-women-and-girls/>
  32. Ozturk R, Taner A, Guneri SE, Yilmaz B. Another face of violence against women: Infertility. *Pak J Med Sci* [Internet]. 2017 [cited 2022 Feb 9];33(4):909–14. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5648963/>
  33. George J, Nair D, Premkumar NR, Saravanan N, Chinnakali P, Roy G. The prevalence of domestic violence and its associated factors among married women in a rural area of Puducherry, South India. *J Fam Med Prim Care* [Internet]. 2016 [cited 2022 Feb 8];5(3):672–6. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5290780/>
  34. Nadda A, Malik JS, Rohilla R, Chahal S, Chahal V, Arora V. Study of Domestic Violence among Currently Married Women of Haryana, India. *Indian J Psychol Med* [Internet]. 2018 [cited 2022 Feb 8];40(6):534–9. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6241177/>
  35. Ram A, Victor CP, Christy H, Hembrom S, Cherian AG, Mohan VR. Domestic Violence and its Determinants among 15–49-Year-Old Women in a Rural Block in South India. *Indian J Community Med Off Publ Indian Assoc Prev Soc Med* [Internet]. 2019 [cited 2022 Feb 8];44(4):362–7. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6881899/>
  36. Krishnan S. Gender, Caste, and Economic Inequalities and Marital Violence in Rural South India. *Health Care Women Int* [Internet]. 2005 Jan 1 [cited 2022 Feb 8];26(1):87–99. Available from: <https://doi.org/10.1080/07399330490493368>
  37. Sinha A, Mallik S, Sanyal D, Dasgupta S, Pal D, Mukherjee A. Domestic violence among ever married women of reproductive age group in a slum area of Kolkata. *Indian J Public Health*. 2012 Mar;56(1):31–6.
  38. Das S, Bapat U, Shah More N, Alcock G, Joshi V, Pantvaiddya S, et al. Intimate partner violence against women during and after pregnancy: a cross-sectional study in Mumbai slums. *BMC Public Health* [Internet]. 2013 Dec [cited 2022 Feb 8];13(1):1–12. Available from: <https://bmcpublihealth.biomedcentral.com/articles/https://doi.org/10.1186/1471-2458-13-817>
  39. Barker G, Ricardo C, Nascimento M. Engaging men and boys in changing gender-based inequity in health: Evidence from programme interventions. Geneva, Switzerland: World Health Organization; 2007.
  40. Casey E, et al. Gender transformative approaches to engaging men in gender-based violence prevention: a review and conceptual model. *Trauma violence, & abuse*. 2018;19(2):231–46.
  41. Levy JK, et al. Characteristics of successful programmes targeting gender inequality and restrictive gender norms for the health and wellbeing of children, adolescents, and young adults: a systematic review. *Lancet Glob Health*. 2020;8:e225–36.
  42. Abramsky T, Watts CH, Garcia-Moreno C, Devries K, Kiss L, Ellsberg M, et al. What factors are associated with recent intimate partner violence? findings from the WHO multi-country study on women's health and domestic violence. *BMC Public Health*. 2011;11(1):1–17. Available from: <https://www.bmcpublihealth.biomedcentral.com/articles/https://doi.org/10.1186/1471-2458-11-109>
  43. McCarthy K, Brady M, Hallman K. Investing When It Counts: Reviewing the Evidence and Charting a Course of Research and Action for Very Young Adolescents. *Poverty Gen Youth* [Internet]. 2016 Jan 1; Available from [https://knowledgecommons.popcouncil.org/departments\\_sbsr-pgy/56](https://knowledgecommons.popcouncil.org/departments_sbsr-pgy/56).

## Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

### Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

### At BMC, research is always in progress.

Learn more [biomedcentral.com/submissions](https://biomedcentral.com/submissions)

