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Determinants of Intimate Partner Violence (IPV) in Bihar, India - Experiences from District Level SWASTH Survey (DLSS 2015-16)

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Abstract

Sector Wide Approach to Strengthening Health (SWASTH) programme (2010-2016) aims to improve the health and nutritional status of people in Bihar, particularly the poorest and excluded. SWASTH activities include health systems strengthening and community-based approaches including those to prevent violence against women focusing on 11 priority districts of Bihar. This paper sought to identify the strongest determinants of Intimate Partner Violence (IPV) (any physical or sexual violence by husband/partner in the last 12 months). A conceptual framework was developed to identify potential predictors of intimate partner violence amongst ever married women. District-Level SWASTH Survey (DLSS 2015-16) data (57,841 ever married women in 15-49 years of age groups) was analysed to identify which of the variables identified in the conceptual model were significantly associated with IPV using multiple logistic regression modeling. The analyses reveal a high prevalence of IPV in Bihar (35%), and multiple IPV risk and protective factors. The strongest risk factors appear to be experience of violence since the age of 15 years, and this was not restricted to violence by the husband – other members of a woman's family, particularly mothers, were implicated. This suggests the need to ensure that efforts to reduce IPV do not concentrate solely on men as perpetrators of violence, and that a longer term outlook beginning with secure and violence-free childhoods and adolescence will minimise future IPV.

Introduction

The Bihar Sector Wide Approach to Strengthening Health (SWASTH) programme(2010-2016) is a multi-sectoral initative led by the Government of Bihar (GoB), and is supported by financial and technical assistance from the UK Department for International Development (DFID). The three departments engaged by SWASTH are: Health, Social Welfare (DoSW), and Public Health Engineering (PHED). SWASTH's goal and purpose are shown in Box 1.

Box 1: SWASTH's goal and purpose

'To improve the health and nutritional status of people in Bihar, particularly the poorest and excluded. Its purpose is to increase the use of quality, essential health, nutrition, water and sanitation services especially by poorest people and excluded groups.'

Technical assistance was included the implementation of a range of health systems strengthening interventions and community-based approaches (CBA) to achieve SWASTH's goal and purpose.

CBA focuses on 11 districts known as 'priority' districts[1] due to their greater burden of poor health outcomes and other disadvantages relative to other districts in Bihar. Key CBA interventions include: 1) Gram Varta – women's groups to address health, nutrition, water and sanitation issues, 2) Udeepan – The introduction of Nodal Anganwadi Centres and Udeepika cluster coordinators 3) Strategies to prevent violence against women 4) Strengthening of Village Health Sanitation and Nutrition Days (VHSNDs) and 5) Strengthening of Village Health Sanitation and Nutrition Committees (VHSNCs). In addition to SWASTH interventions, BTAST had overseen surveys to monitor health, nutrition, water and sanitation services and population outcomes in Bihar. In 2015 BTAST conducted the District-Level SWASTH survey (DLSS). The survey included data collection at household, facility and service provider levels. A further nesting survey had been carried out in three of the priority districts, and three non-CBA comparison districts[2] to enable analysis of CBA related outcomes.

[1]The 11 priority districts where CBA is being implemented are: 1) Araria 2) Banka 3) Gaya 4) Jamui 5) Jahanabad 6) Kishanganj 7) Madhepura 8) Madhubani 9) Purnia 10) Sheohar 11) Supaul

[2] Intervention districts: 1) Gaya 2) Purnia and 3) Madhubani; Comparison districts: 1) Katihar 2) Darbhanga and 3) Aurangabad

Both surveys contributed to the monitoring, learning and evaluation (MLE) activities of the SWASTH programme in its final year of operations. The datawas planned to be used to develop discrete outputs for a range of audiences, including but not limited to: state-level estimates of key programme and population-level outcomes, district level factsheets, and 11 priority district reports.
The paper presents findings from an analysis of the determinants of Spousal violence (SV) using DLSS data.

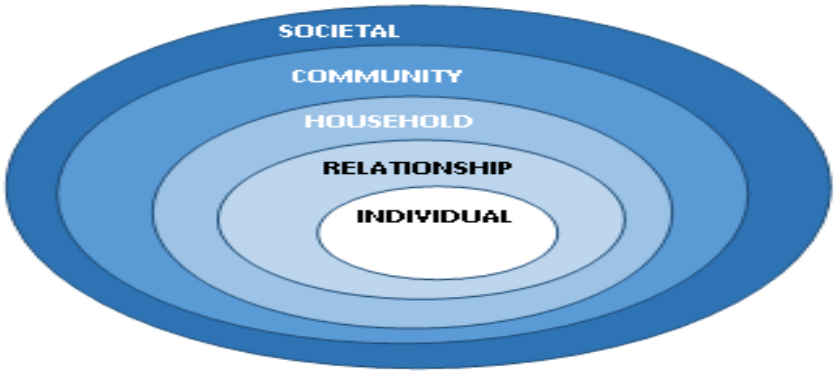
Objectives

- To develop a conceptual framework and identify potential predictors of spousal violence experienced by women in Bihar using DLSS 2015-16 State-level data.
- To test the strength of univariable associations of each candidate SV predictor with SV, and to identify the strongest SV determinants using backwards stepwise multi-variable logistic regression modelling
- To offer policy-relevant findings about the prevention of violence against women with a specific focus on reducing spousal violence (SV).

Conceptual Framework

In this paper the conceptual framework originally developed by the WHO as part of their Violence Prevention Approach is adapted, and which has since been applied by other researchers in the field of IPV. Ecological models of spousal violence take into account different levels: societal, community, relationship, individual –household as an additional level in the ecological framework is included (see Figure below).

An ecological framework for understanding SV (adapted from WHO)



- At the **individual level**, experience of abuse in childhood or adolescence may increase the chances of SV in adulthood.
- The types of **relationships** that women have, including peer groups, family and intimate partners, may increase or decrease their SV risk; e.g. if a woman's peers exhibit violent tendencies, she may be more likely to become a victim or perpetrator of violence in later relationships. In this analysis we include focus on relationship characteristics between women and their husbands (e.g. their relative education and occupation status) in line with what has been measured in the DLSS 2015-16.
- At the **household level**, socio-demographic aspects such as wealth, financial autonomy can influence the risk of SV.
- The **community level** provides the wider context in which relationships operate. There may be various risk and protective factors in place, where one potentially protective characteristic could be the presence of a prevention of VAW strategy that is being well implemented, and is well received within the community.
- At the **broader societal level**, there may be policies that increase or decrease wealth inequalities between people, or that a punitive towards particular groups.

Recent evidence on predictors of SV

To help guide the selection of predictors for the SV model using the DLSS dataset, recent SV research findings were drawn upon. Abramsky et al (2011) developed the relationship aspects of the ecological model to identify common risk and protective factors for spousal violence across 10 countries in the WHO multi-country Study on Women's Health and Domestic Violence. Their relationship model included potential predictors of women experiencing any violence in the last 12 months. They divided potential predictors temporally to reflect 'prior to the relationship' and 'current situation'.The author emphasised there is no one size fits all model; India was also not one of their study countries so it cannot be generalised their findings to Bihar. However, their predictors provide a useful starting to point from which to identify candidate predictors of SV in the DLSS.Recent VAW studies from India have also focused on SV, rather than general violence. A study by Das et al (2013) of SV during and after pregnancy in Mumbai urban slums identified the following risk factors: poorer families and where alcohol was used by the husband were more likely to experience SV. Women experiencing SV in the last 12 months were also more likely to report illness during pregnancy, more likely to be on a modern method of family planning, and more likely to say a husband may be justified in hitting his wife.In a qualitative study from Bihar(Ilene S Speizer,et al 2010),married women identified four areas they felt caused SV: husbands' alcohol use, actions that displease the husband, infertility, and sex-related demands. A further study from rural areas of Nepal (Puri et al, 2012) with married women found reduced risk of sexual violence by husbands in the last 12 months if men were well educated, and additional protection if women were autonomous. Women's own education did not offer protection against sexual violence perpetrated by husbands.

Materials and Methods

Design: Determinants of Spousal violence
The SV determinants analysis uses cross-sectional DLSS data at state-level.

Data source: The District Level SWASTH Survey (DLSS 2015-16)
The sampling for the DLSS and nesting surveys had not been designed to assess the effectiveness of the VAW prevention and redressal strategies. However, the DLSS provided a rich dataset from which key determinants of SV can be identified, and where CBA-exposure could be included as a potential protective factor.
DLSS respondent groups included in this paper are 57,841 ever married women 15-49 years with data for the main outcome indicator for these analyses: i.e. women responding to the questions about whether they had experienced physical or sexual violence from their husbands in the last 12 months.
The overall DLSS sample size was calculated to enable estimates of key health, nutrition, water and sanitation outcomes at district level (excluding mortality). 2046 households from 62 villages were sampled per district, where each village contributed 33 households to the dataset. The sampling approach enabled representative district and state level estimates for Bihar's population in 2015 when the data was used in conjunction with appropriate weights (described below) and clustering was adjusted for. Here clustering refers to outcomes being more similar within villages than between villages and was adjusted for using complex surveys analysis. Selected villages were representative of their district and household weighting was applied during data analysis to allow for the effect of different village sizes and any clustering.

Measures

All of the indicators that were considered for the SV determinants analysis are detailed in Annex 1; the selection of indicators was guided by the WHO paper.

Main outcome: Spousal Violence (SV)
SV is defined as any physical or sexual violence in the last 12 months (ever married women). Any violence includes any of the DLSS questionnaire items (often or sometimes) given in the list below.
DLSS survey question: (Does/did) your husband ever do any of the following things to you during the last 12 months: often, sometimes, or not at all?

- Push you, shake you, or throw something at you?

- Twist your arm or pull your hair?
- Slap you?
- Punch you with his fist or with something that could hurt you?
- Kick you, drag you or beat you up?
- Try to choke you or burn you on purpose?
- Threaten or attack you with a knife, gun, or any other weapon?
- Physically force you to have sexual intercourse with him even when you did not want to?
- Physically force you to perform any other sexual acts you did not want to?
- Force you with threats or in any other way to perform sexual acts you did not want to?

Results & Discussion

Key findings:

- 35% of women had experienced IPV in the last 12 months.

Individual level predictors of IPV:

- The strongest IPV risk factor at the individual level was women's experience of violence by any perpetrator since the age of 15. These women were 9.2 times more likely to have experienced IPV.
- Women with permissive attitudes to violence were 3.2 times more likely to have experienced IPV compared to women who felt violence of a husband towards his wife was unacceptable.
- Women 15-19 years were 9% more likely to have experienced IPV then women 35-49 years.
- Women working outside the home were also at a greater risk of IPV compared to housewives.
- Women's education was strongly protective against IPV – more education equated to greater protection where women with 12 or more years had a 38% lower IPV risk than women with no education.

Relationship-level predictors of IPV:

- Women whose husbands got drunk were up to 6.8 times more likely to have experienced IPV compared to women whose husbands never got drunk or were teetotal.
- Women with a higher level of education than their husband were at a 17% greater risk of IPV than those with lower education than their husband.
- The longer a woman had been living with her husband, the greater her risk of IPV. Women living with their husbands for 5 or more years were 69% more likely to have experienced IPV in the last 12 months compared to women living with their husband for 0-1 years.

Household-level predictors of IPV:

- Women from the middle and highest wealth groups were at a greater risk of IPV compared to the least wealthy (18%-20% increased risk).
- Lack of involvement in household decisions was also associated with increased risk of IPV.
- Conversely, households where the main occupation was salaried employment, or trading/small business/other were at a 27%-28% lower risk of IPV than farming/agriculture households.
- Women with some financial autonomy also had a 25% lower risk of IPV than women without financial autonomy.

Community and society-level predictors of IPV:

- Women belonging to OBC groups were at a 13% increased risk of IPV in the last year compared to women from general/other groups.
- Women from CBA districts had a 14% reduced risk of IPV in the last year compared to women from other districts.

Final model: Determinants of spousal violence

The following 16 variables were included in the backwards stepwise regression modelling process: 1) Women's education, 2) women's age group, 3) women's employment, 4) women's experience of violence since the age of 15, 5) women's attitudes about SV, 6) relative education of women and their husbands, 7) duration of relationship (time since first started living together), 8) husband's alcohol consumption/frequency of getting drunk 9) wealth group, 10) main household occupation, 11) women's involvement in decisions about healthcare 12) women's involvement in decisions about visiting friends or relatives, 13) women allowed to have access to their own money to

use as they wish 14) women living in CBA district (yes/no), 15) social group/caste 16) Husband's age group. All except for two of the above variables were strongly associated with SV after adjusting for the effect of all other predictors: husband's age (which was removed from the final model) and woman's age (which was retained in the final model because it was listed as a forced variable i.e. it was going to be included as a basic socio-demographic adjustment variable, regardless of its association with SV. The full final adjusted model is shown in Table 1. A summary interpretation of the model is presented below, again organised by the different levels of the ecological framework.

Individual-level variables

Risk factors:

- Women experiencing violence since the age of 15: The strongest individual risk factor, and overall, was women experiencing violence from any perpetrator(s) since the age of 15. **These women were 9.2 times more likely to have been physically or sexually assaulted by their husband in the last year compared to women not reporting violence since the age of 15.**The population risk lies between a 7.1 and 12 fold increase at 95% level of confidence (Table 1). Amongst this group are women who have experienced violence from family members since the age of 15, who then appear to be at greater risk of experiencing violence from their husband in their marriage. Also included are women whose experience of violence since age 15 is solely at the hands of their husband, and where the findings suggest early violence in the relationship predicts later violence (i.e. violence within the relationship is unlikely to be a one-off).
- Permissive attitudes to SV: The second strongest individual SV risk factor was women who believed that a man was sometimes justified in beating his wife. These women were 3.2 times more likely to have been physically or sexually assaulted by their husband in the last year compared to women who felt wife beating was never justified. The increased population risk lies between a 2.9 and 3.4 fold increase at 95% level of confidence (Table 1)
- Women's employment type: Women employed as daily labourers were 60% more likely to have experienced SV in the last year compared to housewives (the likely increased population risk was 38% -75%). Similarly, women with occupations other than daily wage labourers were 26% more likely to have experienced SV compared to housewives (the likely increased population risk was 8%-46%).
- Women's age: Women 15-19 years were 9% more likely to have experienced SV in the last year compared to women 35-49 years (the likely increased population risk was 1%-18%).

Protective factors:

- Women's education: As women's education level increased, their risk of SV in the last 12 months decreased. Compared to women with no education, women with 1-9 years of education had a 14% lower SV risk (likely lowered population risk between 5% and 21%). Women with 10-11 years of education had a 16% lower SV risk (likely lowered population risk between 7% and 28%). Women with 12 or more years of education had a 38% lower SV risk (likely lowered population risk between 28% and 47%).

Table 1: Determinants of Spousal violence in Bihar

SV Predictor	**AOR***	**95%CI** * lower bound**	**95%CI upper bound**	**P-value per predictor category**	**Overall P-value for predictor**
INDIVIDUAL LEVEL					
Women's education					0.000
Never attended school	1.00				
Up to 9 years completed	0.86	0.79	0.95	0.003	
10-11 years completed	0.82	0.72	0.93	0.002	

12+ years completed	0.62	0.53	0.72	0.000	
Women's age group					0.071
35-49 years	1.00				
20-34 years	0.99	0.81	1.20	0.895	
15-19 years	1.09	1.01	1.18	0.033	
Women's employment					0.000
Housewife	1.00				
Daily labourer	1.55	1.38	1.75	0.000	
Other	1.26	1.08	1.46	0.004	
Women who have been beaten by any person since the age of 15					0.000
No	1.00				
Yes	9.22	7.08	12.00	0.000	
Women who think a husband is sometimes justified in being violent towards his wife					0.000
No/don't know	1.00				
Yes	3.15	2.89	3.44	0.000	
RELATIONSHIP-LEVEL					
Relative education of partner					0.038
Man has more education	1.00				
same level	1.07	0.99	1.15	0.111	
Woman has more education	1.17	1.03	1.32	0.016	
Duration of relationship					0.000
0-1 years	1.00				
2-5 years	1.53	1.26	1.86	0.000	
>5 years	1.69	1.40	2.05	0.000	
Husband's alcohol consumption					0.000
Never gets drunk/doesn't drink alcohol	1.00				
Sometimes gets drunk	4.56	4.18	4.98	0.000	
Often gets drunk	6.76	5.81	7.86	0.000	
HOUSEHOLD LEVEL					
Wealth index					0.016
Lowest	1.00				
Second lowest	1.10	0.97	1.24	0.149	
Middle	1.18	1.06	1.32	0.002	
Second highest	1.10	0.97	1.25	0.130	
Highest	1.20	1.04	1.37	0.010	
Main household occupation					0.000
Farming/agriculture	1.00				
Wage labourer	0.95	0.86	1.05	0.316	
Salaried employment	0.72	0.63	0.82	0.000	
Trading/Small business/Retired/Others	0.73	0.64	0.83	0.000	
Decision making about women's health care seeking					0.028
Woman involved in decisions	1.00				
Woman not involved in decisions	1.11	1.01	1.22	0.028	
Decision making about women staying with friends or relatives					0.018

Woman involved in decisions	1.00				
Woman not involved in decisions	1.14	1.02	1.27	0.018	
Women allowed to have money set aside to use as they wish					0.000
No	1.00				
Yes	0.85	0.78	0.92	0.000	
COMMUNITY AND SOCIETY LEVEL					
CBA district					0.008
No	1.00				
Yes	0.86	0.77	0.96	0.008	
Social group/caste					0.012
General/others	1.00				
OBC	1.13	1.01	1.26	0.031	
Mahadalit/SC/ST	1.01	0.89	1.15	0.900	

*AOR = Adjusted Odds Ratio. We define p-values of <0.05 as statistically significant. Where p is <0.05 if the corresponding AOR is <1 it signals
reduced odds of the outcome relative to the baseline category, after adjusting for the effects of all other variables in the model. E.g. CBA district
has an AOR of 0.86, equivalent to 14% reduced odds of SV compared to non-CBA districts. If the AOR is >1 it shows increased odds of the
outcome relative to baseline e.g. women whose husbands often get drunk have an 6.76 greater odds of SV compared to women whose
husbands are teetotal or who never get drunk.
**95%CI=95% confidence interval: show the lower and upper limits that we are 95% confident the true population AOR lies between.
Very wide 95%CIs indicate that our AOR has low precision. 95%CIs that cross over the value of 1 are often classed as non-significant.

Conclusions

- The analyses reveal a high prevalence of spousal violence in Bihar (35%), and multiple SV risk and protective factors.
- The strongest risk factors appear to be experience of violence since the age of 15 years, and this was not restricted to violence by the husband – other members of a woman's family, particularly mothers, were implicated. This suggests the need to ensure that efforts to reduce SV do not concentrate solely on men as perpetrators of violence, and that a longer term outlook beginning with secure and violence-free childhoods and adolescence will minimise future SV.
- Another strong risk factor for SV was the frequency with which a woman's husband got drunk; the more frequent a husband's drunkenness, the more likely a wife was to have experienced violence from him. It will be important to monitor the effect of the policy to restrict alcohol in Bihar (already in effect) on SV, but also to continue to raise awareness of the dangers of excess alcohol consumption for those who are able to circumvent the policy.
- Many of the other SV risk factors identified reflect strict gender norms about the freedom and autonomy of women, and permissive attitudes to violence.
- Very few protective factors against SV were identified, although women's education was strongly protective against SV. This reiterates the continued need to ensure girls have access to and gain a decent level of education.
- Women living in CBA districts were also significantly protected from SV. Although we cannot conclude that CBA exposure has caused reduced violence, our finding is worthy of further exploration. It is plausible that community mobilisation to empower women and challenge damaging gender norms could reduce SV. Awareness raising about the right to live

without violence should be encouraged, and community platforms are a wide-reaching platform for this purpose.

Research and Policy implications:

Violence from age 15:

- The more than 9-fold increased risk of SV for women who had experienced violence from any source since age 15 was striking, and the strongest of all predictors in the model. Initial exploration of who had inflicted the violence revealed that aside from husband's themselves, the next most common perpetrator was the woman's mother, followed by her father, and then her mother-in-law. Focus of research and interventions should thus not just focus on women as victims and men as perpetrators, but the wider family context.
- Our finding about perpetrators of violence is similar to a recent UNICEF report, that also identifies husbands and mothers, and fathers as common perpetrators of physical violence against women and children (Unicef Fact Sheets).
- Further research could collect information on earlier childhood experience of violence (before age 15). If early childhood experiences of violence are strongly linked to later SV in Bihar this suggests early parenting interventions could minimise early harm, and have a long term protective effect against violence through life.

Permissive attitudes towards SV:

- The fact that permissive attitudes towards violence were associated with actual experience of violence is interesting. Given that using cross-sectional data was used, it is not possible to be certain about the direction of cause and effect between attitudes and experience. It could be that women who experience SV are trying to rationalise and justify why it is happening.
- Equally, the findings could reflect a more broadly held societal attitude or gender norm that violence against women is acceptable under certain circumstances, and within the boundaries of marriage.
- The finding is consistent with an SV study from Mumbai (Das et al, 2013) that identified women experiencing SV in the last 12 months as more likely say a husband may be justified in hitting his wife.

Women's employment:

- Housewives appear to be at lower risk of SV compared to women working outside of the home. It could be that these women are also wealthier and do not have to work. Although we adjusted for wealth in our model, our wealth variable is arguably more focused on assets rather than disposable income or other facets of wealth. The fact women who were daily wage labourers were at greater risk of SV compared to women with more lucrative and financially reliable occupations suggests that poverty may be playing a role.
- In the context of other indicators in the dataset, it appears that women's freedom of movement is severely restricted, and permission is usually needed for a range of activities if women are even allowed to perform them at all. Although working outside of the home may in some cases be a financial necessity, it may also be seen as a transgression of traditional gender roles, which could create conflict and trigger IPV. In other cases, women working outside of the home could elicit jealousy and mistrust, which has been also shown to increase the risk of SV (ibid).
- There is no suggestion here that women should be encouraged to stay at home to reduce their risk of SV– conversely there could be opportunities for employment schemes such as MNREGA or other work places to offer support and education to men and women about SV- multiple platforms are probably needed given the high prevalence of SV in this sample.

Women's age:

- Younger women were at a higher risk of SV is consistent with research on SV in India, and other countries. Adolescent marriage is prone to multiple other risks to health and nutrition, as well as SV, and should continue to be discouraged through community mobilisation, campaigning, and enforced legislation.

Women's education:

- Women's education was strongly protective against SV in our sample – the higher the education, the stronger the protection. This is consistent with NFHS-3 data, and a 2009 population-based survey of four states in Eastern India (Bontha V Babu, et.al), and numerous other studies.

- The finding reiterates the need to invest in women's education for multiple benefits for physical and mental health. There were strikingly low levels of education in this sample where more than half of respondents (55.4%) had never been to school.

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Annexure

ANNEX 1: Candidate predictors for SV model

Position in ecological model	Survey question(s)	Potential predictor of SV(risk and protective factors) and calculation details
Individual		
Education level	What is the highest standard you have completed?	Women's education in categories: No education, <5 years, 5-9, 10-11, 12+ (as per NHFS-3)
Woman's age	How old are you? (age in	Women's age in categories: 15-19, 20-34, 35-

	completed years)	49 (as per WHO SV study)
Man's age		Look at distribution, but aim for the same categories as for women's age if possible. After looking at distribution, <5% were in the 15-19 category, so I will go for <25 years, 25-34, 35+
Beaten or mistreated by any person since the age of 15	Since you completed 15 years of age, have you been beaten or mistreated physically by any person?	Women who have been beaten of physically mistreated by anyone since the age of 15
Attitudes: believes man justified in hitting partner (any reason)	Sometimes a wife can do things that bother her husband. Please tell me if you think that a husband is justified in beating his wife in each of the following (various reasons given)	Women who believe it can be justifiable for a husband to beat his wife (as per WHO SV study)
Woman's employment type	What is your occupation? 01 Cultivator, Agricultural wage labourer/ 02 Non-agriculture wage labourer 03 Allied to agriculture activities (Poultry, pisciculture, goatery, Diary etc)/ 04 Household/Cottage industries/ 05 Government service.06 Private Service/ 07 Self Employed / trade/ 08 Housewife 09 Self Professional/ 10 Others (specify) 77	Reduce to a smaller number of categories
Woman's employment status	What is your occupation?	Woman works at home vs outside of the home (defined as housewife vs all other occupation types)
Relationship(s)		
Relative educational level to partner	What is the highest standard you have completed? What is the highest standard your husband has completed?	Relative educational level to partner: calculate women's highest standard minus man's; Positive = women has higher ed, 0=same, negative=man has higher ed level; this variable will be grouped into 3 categories (same, woman higher, man higher) as per WHO SV paper
Partnership type	What is your current marital status? (Currently Married, Currently Married but guana not performed, separated, divorced, widowed)	Partnership type: Currently Married, Currently Married but guana not performed, separated, divorced, widowed (depending on cases per level, we may have to combine some categories) -report as descriptive only
Duration of partnership	How old are you? (age in completed years) a. What was the age when you got first time married? (age in completed years) (nesting survey) b. How old were you when you started living with your husband? (DLSS survey)	Subtract age at marriage from current age, and group into <1yr, 1-5yrs, >5yrs as per WHO SV paper Had to modify the above codes slightly, as there was <5% of cases in the <1 yr cat. So I made it <=1 year, 2-5, >5
Violence of woman towards her husband	Have you ever hit, slapped, kicked, or done anything else to physically hurt your husband at times when he was not already beating or physically hurting you?	Any physical violence perpetrated by the woman towards her husband (not in self-defence) -too few responses in the yes category – report in descriptives only
Age relative to	How old are you? (age in	Calculate age difference and make into

partner	completed years) How old is your husband?	categories (no gap, him older, her older) as per WHO SV paper There weren't enough cases in the 'her older' group, or 'no gap' so I combined the two, leaving 'her older/no gap' and 'him older'
Living situation	Are you living with your husband now, or is he staying elsewhere?	Women living with their husbands (vs him staying elsewhere)
Husband's use of alcohol	Does your husband drink alcohol?	Women whose husband's drink alcohol
Husband's use of alcohol	How often does he get drunk: often, only sometimes, or never?	Women whose husbands often or sometimes get drunk (vs those who never get drunk or don't drink alcohol at all)
Household		
SES	Wealth index	Make wealth index (use agency's syntax for consistency)
Main occupation in household	What is the main occupation of the household? Farming/Agriculture; casual labour (farm/non farm); Salaried employment; trading/small business; retired; other	Household occupation type (depending on the number of cases per category we may have to combine some sub-groups e.g. other and retired)
Autonomy/freedom of movement	Do you need permission to go to the market?	Women who need permission to go to the market
Autonomy/freedom of movement	Do you need permission to go and visit relatives or friends?	Women who need permission to go and visit relatives or friends
Autonomy/freedom of movement	Do you need permission to visit health facility for herself or child's health?	Women who need permission to visit a health facility for herself or child's health
Financial autonomy	Are you allowed to have some money set aside that you can use as you wish?	Women who have money set aside to use how they wish
Decision making in HH	Who makes the following decisions in your household: What items to cook?	Women who have a say in what items to cook (y/n)
Decision making in HH	Who makes the following decisions in your household: Obtaining healthcare for yourself?	Women who have a say in obtaining healthcare for themselves (y/n)
Community		
Presence of Gram Varta and Udeepan interventions	Use variable that signifies intervention group vs comparison(nesting survey) or District (CBA district/non CBA district if using DLSS)	Intervention or comparison / CBA exposed or non-exposed
Societal		
Social group/caste	What social group/caste does the head of the household belong to? (General, OBC, Mahadalit (SC, SC (others), ST, others, DK	Group into smaller no of meaningful categories: ST, SC, OBC, Others.

ANNEX 2: WEIGHTED ESTIMATES FOR CANDIDATE PREDICTORS

Table 3: Weighted estimates, 95% confidence intervals, and the unweighted number of cases upon which each estimate is based

Candidate SV predictors	WEIGHTED %	95%CI LOWER	95%CI UPPER	UNWEIGHTED N
Women's education				
Never attended school	55.4	54.2	56.6	32,344
Up to 9 years completed	24.3	23.5	25.1	13,493
10-11 years completed	10.0	9.5	10.5	5,439
12+ years completed	10.3	9.7	11.0	5,405
Women's age group				
15-19 years	5.2	4.9	5.5	3,250
20-34 years	61.2	60.6	61.9	35,397
35-49 years	33.6	32.9	34.3	19,194
Husband's age group				
<25 years	10.6	10.0	11.2	6,460
25-34 years	37.0	36.4	37.7	20,716
35 years and older	52.4	51.6	53.1	28,936
Women's employment type				
Housewife	86.0	85.4	86.6	47,724
Daily labourer	7.9	7.4	8.4	5,411
Other	6.1	5.7	6.5	3,546
Women's employment location				
Inside the home	86.0	85.4	86.6	47,724
Outside of the home	14.0	13.4	14.6	8,957
Women who have been beaten by any person since the age of 15				
No	94.2	93.7	94.7	54,815
Yes	5.8	5.3	6.3	3,026
Women who feel that a husband is sometimes justified in being violent towards his wife				
No/don't know	58.5	57.2	59.8	31,875
Yes	41.5	40.2	42.8	25,966
Relative education of partner				
Same level	42.3	41.3	43.2	23,755
Woman has more education	11.5	10.9	12.2	6,142
Man has more education	46.2	45.2	47.2	26,784
Marital status				
Currently married	97.1	96.8	97.3	56,112
Married but gauna not performed	0.8	0.7	0.9	569
Separated	0.2	0.1	0.4	90
Divorced	0.1	0.1	0.2	56

Widowed	1.8	1.6	2.0	1,014
Duration of the relationship (when the couple started living together)				
0-1 years	5.5	5.2	5.8	3,168
2-5 years	16.6	16.1	17.1	9,058
>5 years	77.9	77.3	78.5	43,721
Women who have ever been violent towards their husbands				
No	98.3	98.0	98.5	56,700
Yes	1.7	1.5	2.0	1,141
Age relative to partner				
Same age or woman is older	5.1	4.6	5.7	3,125
Man is older	94.9	94.3	95.4	52,987
Living with husband				
No	15.8	15.1	16.5	9,261
Yes	84.2	83.5	84.9	46,851
Husband drinks alcohol				
No	65.4	64.2	66.6	37,321
Yes	34.6	33.5	35.9	20,520
Husband gets drunk				
No or doesn't drink	65.8	64.6	67.0	37,611
Yes, sometimes	27.9	26.9	28.9	16,563
Yes, often	6.3	5.9	6.8	3,663
Household main occupation				
Farming/agriculture	18.1	17.4	18.9	12,400
Wage labourer	50.0	48.9	51.1	29,195
Salaried employment	14.6	13.9	15.2	7,545
Trading/Small business/Retired/Others	17.3	16.5	18.1	8,701
Women needing permission to go to the market				
Permission not required	24.4	23.5	25.4	14,067
Permission needed or not allowed to go at all	75.6	74.6	76.5	43,774
Women needing permission to visit friends or relatives				
Permission not required	24.5	23.6	25.4	14,369
Permission needed or not allowed to go at all	75.5	74.6	76.4	43,472
Women needing permission to visit a health facility for herself or her child				
Permission not required	28.8	27.8	29.8	16,388
Permission needed or not allowed to go at all	71.2	70.2	72.2	41,453
Involvement in decisions about what to cook				
Woman involved	71.6	70.7	72.5	41,724
Woman not involved	28.4	27.5	29.4	16,117

Involvement in decisions about obtaining healthcare for self				
Woman involved	62.7	61.7	63.7	36,399
Woman not involved	37.3	36.4	38.3	21,442
Involvement in decisions about buying jewellery and other major household items				
Woman involved	63.5	62.6	64.5	36,844
Woman not involved	36.5	35.6	37.4	20,997
Women allowed to have money set aside that they can use as they wish				
No	41.6	40.5	42.8	24,579
Yes	58.4	57.2	59.5	33,262
CBA district				
No	73.2	71.6	74.8	40,807
Yes	26.8	25.2	28.4	17,034
Social group/caste				
General/others	21.0	19.8	22.2	11,813
OBC	53.4	51.9	54.9	30,407
SC/ST	25.6	24.4	26.9	15,621
Women who experienced physical or sexual violence by their husband in the last 12 months				
No	65.0	64.0	65.9	36,528
Yes	35.1	34.1	36.0	21,313
Women who sought help about violence carried out by their husbands in the last 12 months				
No	96.77	96.29	97.19	20,567
Yes	3.23	2.813	3.707	746

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