Review Article

Indian J Med Res 150, December 2019, pp 525-531 DOI: 10.4103/ijmr.IJMR_1427_19



Public health impact of marital violence against women in India

Anita Raj^{1,2}

¹Center on Gender Equity & Health, School of Medicine & ²Department of Education Studies, Division of Social Sciences, University of California San Diego, San Diego, USA

Received August 20, 2019

The public health ramifications of marital violence are well documented and include injury, mental health concerns and physical health consequences for women and their offspring. Unfortunately, there remains social tolerance and even acceptance of these abuses against women, and health systems in India have done little to support victims despite their greater health risks. However, there are promising efforts and important advancements in India that could be built on for more effective prevention and support for women. Men and boys should be engaged in gender transformative interventions with male role models to alter men's attitudes of acceptability of and justification for marital violence and consequently their actual abusive behaviours. Given the strong demonstrated connection between men's risky and problem alcohol use and marital violence, alcohol interventions may also be beneficial. We must support women and girls vulnerable to marital violence, a group disproportionately affected by violence in their natal families as well, so they know that violence need not be part of their marriage relationship, and have skills on how to engage and communicate with or even leave their male partners to reduce their risk for violence. Formal services should be expanded for those in immediate danger and particularly for rural areas, where prevalence of marital violence is highest and supports are weakest. Finally, given the pervasiveness of attitudes accepting husbands' marital violence against women, and the fact that these have remained largely unchanged in India for a decade, large scale community and social change efforts are needed.

Key words Alcohol - financial control - health consequences - India - intimate partner violence - marital violence - sexual violence

Introduction

Intimate partner violence against women is a pervasive human rights and public health concern^{1,2}, affecting more than one in three women in India³ and globally^{2,4}, most commonly in the context of marriage. Nationally representative data from India's National Family Health Survey (NFHS) suggest a modest decline in marital violence over the past decade or so; with 37 per cent of ever-married women reporting a history of

physical or sexual violence from husbands in 2005-2006 (NFHS-3)⁵, to 31 per cent of ever married women reporting victimization in 2014-2015 (NFHS-4)³. No such decline in marital violence in the past 12 months was observed during this same period; 24 per cent of ever married women reported physical and/or sexual violence from their husbands in the past 12 months³. This violence can be quite severe; eight per cent of ever married women - or one in 12 of these women - were kicked, dragged or beaten by their husband in the past

12 months³. Hence, while we may be witnessing a small decline in marital violence in India, this decline is grossly inadequate, leaving millions of women in India subject to the fears and harms of this violence, with only a few disclosing this violence to anyone or seeking services for support or intervention³. Vulnerability to marital violence is highest among socially vulnerable women, including those with low education, rural residence and living in poverty; these same groups of women are also less likely to seek support or formal services when violence does occur³.

Public health impact of marital violence

The public health impact of marital violence is well documented, with robust multicountry analyses and meta-analyses document associations between marital violence and poor health outcomes at a global scale^{1,4,6,7}, a concern all the more problematic given that those with lower access to health services are at a greater risk for violence and its health consequences³. Injury is an important consequence of marital violence that may go untreated in contexts with poor health care access (e.g., rural areas), as well as due to impediments placed by husbands. National data indicate that among those reporting physical and/or sexual violence in the past 12 months, 26 per cent of urban women and 39 per cent of rural women have been injured by marital violence³. More than one in 20 of these women report very severe injury such as deep wounds, broken bones, broken teeth or other serious injury³.

Sexual and reproductive health risks are also a concern. Data from the mid-2000s indicated that women in India who experienced physical and/or sexual marital violence had almost four times the odds of being infected with HIV⁸, with their vulnerability attributable to the extramarital risk behaviours of their husbands rather than themselves9. While these findings have not been replicated with more recent data, women's risk for HIV continues to come from husbands for the majority of women affected³. Women at the greatest risk for HIV are those with five or more lifetime partners, according to the national data³, and this large number of partners may be indicative of women engaging in sex work. Studies with female sex workers show interconnection with violence from clients and spouses, lower control over and use of condoms and risk for sexually transmitted infections (STIs) including HIV^{10,11}. Among ever-married women, research indicates that marital violence is positively associated with STI/HIV prevention and reproductive health practices including condom and other contraceptive use¹²⁻¹⁴.

It is also associated with higher odds of unintended pregnancy¹³, terminated pregnancy, genital discharge and sores and STIs¹⁵. These seemingly contradictory findings may suggest that women experiencing marital violence are more inclined to pursue STI/HIV and pregnancy prevention, but may be unable to fully control their sexual and reproductive health due to the abuse they are experiencing^{12,13}. This may be because the abusive partner or others engage in reproductive coercion (preventing or forcing contraceptive practices on a woman)¹⁶ or because the affected women may be less able to maintain healthy behaviours due to the psychological strain of the abuse. There is some indication of higher odds of substance use among women exposed to spousal violence in India¹⁵, which may again be linked with engagement in sexual risk behaviours related to HIV/STI.

Studies from India also demonstrate that marital violence is associated with increased risk for maternal health concerns, including miscarriage, stillbirth and pregnancy and childbirth complications^{15,17}. With regard to associations between marital violence and post-natal health behaviours in India findings are mixed. Marital violence exposure is associated with higher odds of skin-to-skin care of newborns but lower odds of exclusive breastfeeding, because women in abuse relationships may be unable to maintain control over their health practices¹². Correspondingly, there historically has been evidence of greater odds of infant and child mortality among mothers exposed to marital violence, relative to those who have not had this exposure, with effects stronger for girl relative to boy offspring¹⁸. Research from India also documents an increase in the odds of asthma and malnutrition (high glucose, anaemia and underweight) among women who have experienced marital violence, relative to ever married women who have not¹⁵. Stress from abuse or even withholding of food as a means of abuse may be the mechanism through which marital violence may affect chronic disease and malnutrition. This is an area requiring further research, although there is evidence regarding marital violence and control as causing stress and anxiety^{19,20}, which in turn leads to worse health outcomes²¹. Recent evidence with married adolescents also shows associations between marital violence and suicidality²². In summary, studies show large and varied effects of marital violence on the health and well-being of women and their offspring in India, and given that marital violence is occurring at an epidemic proportion, it requires greater prevention and intervention focus from social and health sectors.

Engaging men for prevention of marital violence

Prevention of marital violence must start with engaging men, both to educate them against this historically normative practice and to hold them accountable when they are abusive. In India, one of the most consistent behavioural factors associated with men's perpetration of marital violence is alcohol use. Nationally representative NFHS-4 data showed that 71 per cent of women who reported alcohol misuse by their husbands also reported marital violence, compared with 22 per cent of women whose husbands did not drink alcohol³. Further, men with alcohol disorder are also significantly more likely to be abusive with wives reciprocating violence, and when this reciprocal violence occurs, the odds of severe injury for the wife significantly increases²³. Notably, national data indicate that <10 per cent of women who experience marital violence are violent toward their husbands, compared to <4 per cent of all women³. Those engaging in violence against husbands are far more likely to have done so with husbands who get drunk very often relative to those with husbands who do not drink (14 vs. 2%, respectively)³. Male alcohol use in India has also been linked to men's violence against women in the post-partum period, compromising the safety and well-being of mothers and their offspring²⁴, as well as STI symptoms and diagnosis²⁵. These findings highlight the hefty role problem alcohol use plays in men's violence against wives and highlight the potential promise of alcohol interventions for men. However, it is unlikely such efforts alone will be sufficient for change, in contexts normalizing male violence against wives.

A study with young married men in Maharashtra found that those with more traditional masculinity ideologies were significantly more likely to have physically or sexually abused their wife²⁶. It has been found that such ideologies continue to be reinforced through contemporary media, including movies that legitimize and even glorify male sexual denigration of women and hypersexualization of men in ways that support men's risky sexual behaviours, alcohol use and violence²⁷. The value of masculinity norms that reinforce violence and mistreatment of women is exacerbated when men lack financial positioning, as financial stress and feelings of emasculation due to non-earning or debt can cause some men to engage in these abusive behaviours to feel strength or dominance. Research from India shows that alcohol-dependent men are more likely to be unemployed, and unemployed substance using men are significantly more likely to perpetrate marital violence²⁸. Married men with household debt are also significantly more likely to report attitudes of acceptability towards marital violence, attitudes supporting male dominance in the household and perpetrate physical and sexual violence against their wives²⁹. While these findings are disconcerting, gender-transformative interventions that guide men and boys toward more respectful views and treatment of women and against marital violence have proven effective in India, both with young married men³⁰ and with adolescent males³¹. Replication and scale-up of such efforts would be important in India.

Supporting women vulnerable to marital violence

Women experiencing marital violence typically do not just experience assault but also control from husband, restricting their mobility and even use of health services. More than one in five married women in India report that their husband does not trust them with money and does not permit them to meet with female friends, respectively, and more than one in six married women has a husband who tries to restrict her time with their family³. Situations of marital violence are also more likely to include abuse of wives from their in-laws^{32,33}, with one study demonstrating that women who experience physical and sexual violence from husbands during the perinatal period (*i.e.*, in pregnancy and/or post-partum) are more than five times as likely to experience perinatal abuse and control from their in-laws³³. Physical and sexual violence decline during pregnancy³³, but these controlling behaviours may increase in their stead, and research indicates that this type of mistreatment from husbands and in-laws during the perinatal period is associated with higher odds of premature rupture of membranes and vaginal bleeding in pregnancy³⁴ and infant morbidities³⁵. These findings suggest the potential value of confidential health care screening for marital violence and other household abuses as part of reproductive, maternal, neonatal and infant health service delivery, to better meet the needs of women. However, such screening would require available support services. Promising programmes like this are operating in India³⁶, but these are certainly not the norm, particularly in rural areas where need may be greatest but availability of services for victims of violence are rare.

Women vulnerable to marital violence often come into marriage with prior exposure to family violence.

National NFHS-4 data document that women who witnessed their fathers' violence against their mothers are more likely to experience violence from their own husband, relative to women who had not seen their fathers abuse their mothers (58 vs. 26%, respectively)³. Research with adolescent wives also documents that those who experience direct violence from their parents or caregivers are also significantly more likely to experience marital violence²². Importantly, family norms related to acceptability of violence are associated with early marriage and non-engagement of females in marital choice³⁷. Corresponding with these findings, national data indicate a 77 per cent greater likelihood of marital violence among those marrying before the age of 18 yr, relative to those marrying at age 18 yr or older³⁸. These findings suggest that many women who experience marital violence come into marriages viewing such abuse as normal. National data indicate that the majority of women, more so than men, believe that in at least some circumstances it is acceptable for a man to be physically violent against his wife (52% of women vs. 42% of men)³. These findings highlight the opportunity and importance of working directly with women to build their entitlement to be free of marital violence. At least in cases of non-life threatening violence, gender transformative interventions for women that clarify the unacceptability of marital violence and train women in marital communication skills can reduce risk for sexual marital violence³⁹

There is also some indication that supporting women's economic empowerment can reduce their risk for marital violence. This approach is not related to women's employment, however, which is actually associated with increased risk for marital violence in India^{3,40}. Employment in the Indian context may be more indicative of poorer or more stressful financial circumstances rather women's economic control; control over resources may be a better indicator of empowerment. A longitudinal study of married women in rural Maharashtra found that women who have joint control over their husband's income were at a 60 per cent reduced risk for subsequent incident marital violence, relative to women whose husbands maintained sole control over his income⁴¹. This same study also found that when women initiated bank account ownerships, they had a 56 per cent reduced likelihood of reporting incident marital violence, relative to those who maintained no bank account over time⁴¹. These findings demonstrate the potential opportunity financial control and engagement can have

in helping women reduce their risk for marital violence in rural India⁴¹. While such approaches have not been a priority for research and intervention in India, these have shown promise elsewhere, particularly when combined with gender transformative approaches that guide women to recognize the unacceptability of marital violence⁴².

Changing norms and social environment for prevention of marital violence

As noted above, attitudes of acceptability of marital violence remain high in India, and in fact have seen little change from the period of 2005-2006 (NFHS-3) to 2014-2015 (NFHS-4), with geographic areas with high prevalence of marital violence acceptance corresponding to geographic areas with high prevalence of this violence³. India has some of the highest levels of marital violence acceptability in the world, and these beliefs correspond with other attitudes supportive of gender inequalities, including disrespect of property rights for women⁴³. Research from India also shows that in States with unequal sex ratios of first births favouring males, women with first born daughters are more likely than those with first born sons to experience marital violence and, among those who have experienced marital violence, are more likely to experience more severe violence⁴⁴. These findings are more pronounced for women without formal education relative to women with any formal education, demonstrating the interconnection of gender discrimination and violence at the household level, and reinforced in an environment normalizing the devaluation of females⁴⁴.

These findings suggest the likely utility of interventions designed to affect normative beliefs in the social environment, and community-based normative change approaches engaging religious leaders as well as work place normative change approaches with employees both show effectiveness in altering norms and beliefs for women and men^{45,46}. For these interventions, participatory approaches (*i.e.*, engaging individuals from within a community to guide the approach) and multimodal efforts (e.g., street theatre, festival activities, social groups and individual counselling) in combination were important, to allow for different means of engaging people and to alter climate^{45,46}. Government resources to undertake these efforts are also needed, and research demonstrates the value of governmental policies in this vein. A study found that Indian States engaging in gender budgeting - drawing budgets that clearly identify

and account for gender issues to be addressed - were significantly more likely than non-budgeting States to show a decline in marital violence from the period of 2005-2006 (NFHS-3) to 2014-2015 (NFHS-4)⁴⁷. Government investments can create impact.

Conclusion

Findings document that almost one in three ever married women in India have been physically or sexually abused by their husband³. Based on population size projections for India by age and sex⁴⁸, and estimates of prevalence of marriage ever and spousal violence³, this means that there are more than 86 million women aged 15-49 yr that have suffered these abuses. Health consequences, as described above, are multifold and include injury, immediate and chronic physical health consequences and mental health and stress that only further exacerbate the physical effects of violence on women and their offspring. Unfortunately, there is a standard of social tolerance and even acceptance of these abuses against women, and health systems in India have done little to support victims even as these women experience health risks. There have been promising efforts and important advancements in India that could be built upon for more effective prevention and support for women. These are as follows:

First and foremost, we must much more actively engage men and boys to increase their awareness and commitment to respective communication with women and to not perpetrate violence. This approach not only can increase impact, but also reinforces that ultimately men must be accountable for their behaviour and should be responsible for stopping violence. Prevention of risky and problem alcohol use among men will also be important^{3,23}.

Second, women must be supported to know that violence need not be part of their marriage relationship, and when violence is not life threatening, there are ways women can engage with male partners that can help reduce their risk for violence. Supports for safely leaving abused male partners are also needed, perhaps for rural areas where shelter services are less available and prevalence of marital violence is higher. Also, efforts that support women to have control and autonomy over money, including independent engagement with financial systems may be valuable⁴¹. These findings speak to the utility of empowerment programmes for married women as a means of helping

them gain greater control over their safety in marriage. Health systems responses may also be useful, although more research is needed to confirm this³⁶.

Finally, given the pervasiveness of attitudes accepting husbands' marital violence against women, and the fact that these have remain largely unchanged for a decade³, large scale community and social change efforts are needed. Such efforts must focus on alteration of norms of violence acceptability, accountability and opportunity for change for husbands who perpetrate violence, and support more broadly the value and treatment of women and girls in India. Fundamentally, ongoing marital violence against women, and gender-based violence against women and girls as a whole, is built on the devaluation of women and girls in our societies⁴. Until this changes, marital violence and the public health impact it has on women and children will not end.

India can and should do better to end marital violence against women, and this corresponds with commitments under United Nations Sustainable Development Goal 5, improving gender equality and empowerment of all women and girls, a goal to which India has signed on. In a context of increasing economic insecurity and volatility in the nation and globally, a context in which marital violence is likely to escalate, the time is now to prioritize efforts to tackle marital violence. If we do not take this on now, the progress made in reduction of marital violence and related improvements in the health of women and children over the past decade will be lost.

Financial support & sponsorship: The author acknowledges the Bill & Melinda Gates Foundation (BMGF Grant OPP1179208) for financial support.

Conflicts of Interest: None.

References

- Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH; WHO Multi-country Study on Women's Health and Domestic Violence against Women Study Team. Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. *Lancet* 2006; 368: 1260-9.
- Devries KM, Mak JY, García-Moreno C, Petzold M, Child JC, Falder G, et al. Global health. The global prevalence of intimate partner violence against women. Science 2013; 340 : 1527-8.
- International Institute for Population Sciences. National Family Health Survey (NFHS-4), 2015-16. Mumbai, India: IIPS and ICF; 2018.

- World Health Organization. Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and nonpartner sexual violence. Geneva, Switzerland: WHO; 2013.
- International Institute for Population Sciences. National Family Health Survey (NFHS-3), 2005-06. Mumbai, India: IIPS; 2007.
- Pallitto CC, García-Moreno C, Jansen HA, Heise L, Ellsberg M, Watts C, *et al.* Intimate partner violence, abortion, and unintended pregnancy: Results from the WHO Multi-country Study on Women's Health and Domestic Violence. *Int J Gynaecol Obstet* 2013; *120*: 3-9.
- Sarkar NN. The impact of intimate partner violence on women's reproductive health and pregnancy outcome. *J Obstet Gynaecol* 2008; 28: 266-71.
- Silverman JG, Decker MR, Saggurti N, Balaiah D, Raj A. Intimate partner violence and HIV infection among married Indian women. *JAMA* 2008; *300* : 703-10.
- Decker MR, Seage GR 3rd, Hemenway D, Raj A, Saggurti N, Balaiah D, *et al.* Intimate partner violence functions as both a risk marker and risk factor for women's HIV infection: Findings from Indian husband-wife dyads. *J Acquir Immune Defic Syndr* 2009; *51* : 593-600.
- Beksinska A, Prakash R, Isac S, Mohan HL, Platt L, Blanchard J, *et al.* Violence experience by perpetrator and associations with HIV/STI risk and infection: A cross-sectional study among female sex workers in Karnataka, South India. *BMJ Open* 2018; 8 : e021389.
- 11. Go VF, Srikrishnan AK, Parker CB, Salter M, Green AM, Sivaram S, *et al.* High prevalence of forced sex among non-brothel based, wine shop centered sex workers in Chennai, India. *AIDS Behav* 2011; *15* : 163-71.
- 12. Boyce SC, McDougal L, Silverman JG, Atmavilas Y, Dhar D, Hay K, *et al.* Associations of intimate partner violence with postnatal health practices in Bihar, India. *BMC Pregnancy Childbirth* 2017; *17*: 398.
- 13. Raj A, McDougal L. Associations of intimate partner violence with unintended pregnancy and pre-pregnancy contraceptive use in South Asia. *Contraception* 2015; *91* : 456-63.
- Dasgupta A, Saggurti N, Ghule M, Reed E, Donta B, Battala M, et al. Associations between intimate partner violence and married women's condom and other contraceptive use in rural India. Sex Health 2018; 15: 381-8.
- 15. Pengpid S, Peltzer K. Lifetime spousal violence victimization and perpetration, physical illness, and health risk behaviours among women in India. *Int J Environ Res Public Health* 2018; *15* : pii. E2737.
- 16. Silverman JG, Boyce SC, Dehingia N, Rao N, Chandurkar D, Nanda P, et al. Reproductive coercion in Uttar Pradesh, India: Prevalence and associations with partner violence and reproductive health. SSM Popul Health 2019; 9: 100484.
- 17. Dhar D, McDougal L, Hay K, Atmavilas Y, Silverman J, Triplett D, *et al.* Associations between intimate partner violence and reproductive and maternal health outcomes

in Bihar, India: A cross-sectional study. *Reprod Health* 2018; 15:109.

- Silverman JG, Decker MR, Cheng DM, Wirth K, Saggurti N, McCauley HL, *et al.* Gender-based disparities in infant and child mortality based on maternal exposure to spousal violence: The heavy burden borne by Indian girls. *Arch Pediatr Adolesc Med* 2011; *165* : 22-7.
- Richardson R, Nandi A, Jaswal S, Harper S. The effect of intimate partner violence on women's mental distress: a prospective cohort study of 3010 rural Indian women. *Soc Psychiatry Psychiatr Epidemiol* 2020; 55 : 71-9.
- Stewart DE, Vigod SN. Mental health aspects of intimate partner violence. *Psychiatr Clin North Am* 2017; 40: 321-34.
- Keller A, Litzelman K, Wisk LE, Maddox T, Cheng ER, Creswell PD, *et al.* Does the perception that stress affects health matter? The association with health and mortality. *Health Psychol* 2012; *31*: 677-84.
- 22. Bhan N, Jose R, Silverman JG, Raj A. Family violence as a determinant of suicidality and depression among adolescents in India. *J Glob Health Rep* 2019; *3* : e2019072.
- Nadda A, Malik JS, Bhardwaj AA, Khan ZA, Arora V, Gupta S, *et al.* Reciprocate and nonreciprocate spousal violence: A cross-sectional study in Haryana, India. *J Family Med Prim Care* 2019; 8 : 120-4.
- Wagman JA, Donta B, Ritter J, Naik DD, Nair S, Saggurti N, *et al.* Husband's alcohol use, intimate partner violence, and family maltreatment of low-income postpartum women in Mumbai, India. *J Interpers Violence* 2018; *33*: 2241-67.
- Tsuyuki K, Donta B, Dasgupta A, Fleming PJ, Ghule M, Madhusudana B, *et al.* Masculine gender ideologies, intimate partner violence, and alcohol use increase risk for genital tract infections among Men. *J Interpers Violence* 2017; 886260517700619.
- 26. Dasgupta A, Silverman J, Saggurti N, Ghule M, Donta B, Battala M, et al. Understanding men's elevated alcohol use, gender equity ideologies, and intimate partner violence among married couples in rural India. Am J Mens Health 2018; 12: 1084-93.
- 27. Khan S, Nair S, Huynh A, Chevrier C, Thalinja R, Prakash R, et al. Media, nationalism, and the body: Exploring masculinities, male partner violence, and HIV vulnerability among female sex workers in Northern Karnataka, India. *Glob Public Health* 2020; 15 : 64-82.
- Subodh NB, Grover S, Grewal M, Grewal S, Basu D, Mattoo SK. Interpersonal violence against wives by substance dependent men. *Drug Alcohol Depend* 2014; *138* : 124-9.
- 29. Reed E, Donta B, Dasgupta A, Ghule M, Battala M, Nair S, *et al.* Household debt and relation to intimate partner violence and husbands' attitudes toward gender norms: A study among young married couples in rural Maharashtra, India. *Public Health Rep* 2015; *130*: 664-71.
- 30. Raj A, Ghule M, Ritter J, Battala M, Gajanan V, Nair S, *et al.* Cluster randomized controlled trial evaluation of a

530

gender equity and family planning intervention for married men and couples in rural India. *PLoS One* 2016; *11* : e0153190.

- Miller E, Das M, Tancredi DJ, McCauley HL, Virata MC, Nettiksimmons J, *et al.* Evaluation of a gender-based violence prevention program for student athletes in Mumbai, India. *J Interpers Violence* 2014; 29 : 758-78.
- 32. Kamimura A, Ganta V, Myers K, Thomas T. Intimate partner violence, childhood abuse, and in-law abuse among women utilizing community health services in Gujarat, India. *J Interpers Violence* 2017; 32 : 3778-96.
- 33. Raj A, Sabarwal S, Decker MR, Nair S, Jethva M, Krishnan S, et al. Abuse from in-laws during pregnancy and post-partum: Qualitative and quantitative findings from low-income mothers of infants in Mumbai, India. *Matern Child Health J* 2011; 15: 700-12.
- 34. Silverman JG, Balaiah D, Ritter J, Dasgupta A, Boyce SC, Decker MR, et al. Maternal morbidity associated with violence and maltreatment from husbands and in-laws: Findings from Indian slum communities. *Reprod Health* 2016; 13:109.
- 35. Silverman JG, Balaiah D, Decker MR, Boyce SC, Ritter J, Naik DD, *et al.* Family violence and maltreatment of women during the perinatal period: Associations with infant morbidity in Indian slum communities. *Matern Child Health J* 2016; 20: 149-57.
- Centre for Enquiry into Health and Allied Themes. *Dilaasa:* Intervention with the health sector for responding to violence against women. CEHAT; 2000. Available from: http://www. cehat.org/researchareas/project/1489666774, accessed on October 18, 2019.
- 37. Raj A, Ghule M, Battala M, Dasgupta A, Ritter J, Nair S, *et al.* Brief report: Parent-adolescent child concordance in social norms related to gender equity in marriage - findings from rural India. *J Adolesc* 2014; 37: 1181-4.
- Raj A, Saggurti N, Lawrence D, Balaiah D, Silverman JG. Association between adolescent marriage and marital violence among young adult women in India. *Int J Gynaecol Obstet* 2010; *110*: 35-9.
- 39. Saggurti N, Nair S, Silverman JG, Naik DD, Battala M, Dasgupta A, *et al.* Impact of the RHANI Wives intervention

on marital conflict and sexual coercion. Int J Gynaecol Obstet 2014; 126 : 18-22.

- Chakraborty H, Patted S, Gan A, Islam F, Revankar A. Determinants of intimate partner violence among HIV-positive and HIV-negative women in India. *J Interpers Violence* 2016; *31*: 515-30.
- Raj A, Silverman JG, Klugman J, Saggurti N, Donta B, Shakya HB. Longitudinal analysis of the impact of economic empowerment on risk for intimate partner violence among married women in rural Maharashtra, India. *Soc Sci Med* 2018; *196* : 197-203.
- 42. Gibbs A, Jacobson J, Kerr Wilson A. A global comprehensive review of economic interventions to prevent intimate partner violence and HIV risk behaviours. *Glob Health Action* 2017; *10* : 1290427.
- Tausch A. Multivariate analyses of the global acceptability rates of male intimate partner violence (IPV) against women based on World Values Survey data. *Int J Health Plann Manage* 2019; 34: 1155-94.
- 44. Weitzman A. The sex of firstborn children and intimate partner violence in India. *Violence Against Women* 2019; 1077801219833823.
- 45. Schensul SL, Singh R, Schensul JJ, Verma RK, Burleson JA, Nastasi BK. Community gender norms change as a part of a multilevel approach to sexual health among married women in Mumbai, India. Am J Community Psychol 2015; 56: 57-68.
- 46. Krishnan S, Gambhir S, Luecke E, Jagannathan L. Impact of a workplace intervention on attitudes and practices related to gender equity in Bengaluru, India. *Glob Public Health* 2016; *11* : 1169-84.
- 47. Raj A, Bhadra K, Bhan N, Rao N, Ladusingh L. Gender-focussed budgets can reduce spousal violence, improve women's well-being. IndiaSpend; 26 December, 2018. Available from: https://www.indiaspend.com/genderfocussed-budgets-can-reduce-spousal-violence-improvewomens-well-being/, accessed on November 11, 2019.
- Population of India. Projections by Sex and Age Group; Projections Based on the United Nations World Population Prospects 2017. Available from: http://statisticstimes. com/demographics/population-of-india.php, accessed on November 11, 2019.
- For correspondence: Dr Anita Raj, Center on Gender Equity & Health, School of Medicine & Department of Education Studies, Division of Social Sciences, University of California San Diego, San Diego, California, USA e-mail: anitaraj@ucsd.edu