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Christine Bourey January 16, 2013

What precipitates violence? A longitudinal study of the initiation, cessation, and continuation of physical intimate partner violence within marriage in rural India

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Abstract

What precipitates violence? A longitudinal study of the initiation, cessation, and continuation of physical intimate partner violence within marriage in rural India

By Christine Bourey

Background: In India, the reported lifetime prevalence of intimate partner violence (IPV) exceeds 34% among women of reproductive age. Despite growing attention to IPV and its determinants, few consistent associations have emerged as targets for intervention. Heterogeneity may reflect methodological limitations, including reliance on cross-sectional studies and limited consideration of temporal patterns of violence within relationships. This study aims to enhance our understanding of the determinants of physical IPV in rural India by addressing these methodological limitations.

Method: A prospective cohort study collected in 1998-99 and 2002-03 was used to investigate determinants of changing experiences of IPV in rural households (4749 married women) in four states: Bihar, Jharkhand, Maharashtra, and Tamil Nadu. Changes between baseline and follow-up and inter-survey events were evaluated as triggers for changing IPV using a multinomial regression model fitted to a categorical outcome measuring the absence (reference), initiation, cessation, and continuation of IPV.

Results: Measures of functional autonomy (freedom of movement, financial autonomy, employment, and relative female economic contribution) and reproductive roles (unwanted pregnancy, ceasing to be childless, and child death) were associated with altered risk for changing experiences of IPV.

Conclusion: Direct measures of functional autonomy were associated with decreased IPV risk, suggesting that social norms may support increased functional autonomy for women. The fulfillment of reproductive roles was associated with decreased risk, whereas adverse events were associated with increased risk. These findings suggest that empowerment may decrease IPV risk by increasing functional autonomy and creating alternative pathways for developing social capital, status, and power.

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Chapter I: Introduction

Despite growing interest in research and intervention, intimate partner violence (IPV) continues to be the most common form of violence against women (World Health Organization, 2002). Increasingly recognized as both a serious human rights abuse and significant public health problem, researchers from multiple disciplines have contributed to a significant body of literature on its prevalence, determinants, and health consequences in resource rich and, more recently, resource poor contexts (World Health Organization, 2002). As data from resource poor contexts have emerged, they have called attention not only to its ubiquity and negative consequences but also to the particular vulnerabilities of women in these contexts. High prevalence frequently combines with unfavorable contextual circumstances, including limited female autonomy, social norms condoning violence, limited social and institutional protections, and constraints on health care access, which may exacerbate the consequences of IPV. This recognition has motivated the investigation of determinants to inform interventions aimed at reducing violence, yet evidence suggests that some interventions, including those intended to empower women, have had unintended negative consequences, leading to increased IPV (Jejeebhoy & Cook, 1997; Krishnan, 2005b; Rocca, Rathod, Falle, Pande, & Krishnan, 2009).

In part, these unintended consequences may reflect significant limitations in the research that informs interventions. Relatively few studies have permitted temporal analysis, and fewer studies have considered which determinants predict the initiation, cessation, and continuation of IPV. Understanding the determinants of changing experiences of IPV within relationships can help to inform interventions that decrease the risk of violence starting and protect women from ongoing IPV.

Objectives and Aims

This analysis uses a prospective cohort survey to investigate the determinants of changing experiences of IPV within marital relationships in rural India. Specifically, its objective is to examine risk and protective factors for the initiation, cessation, and continuation of IPV among a representative sample of married women of reproductive age in four geographically, culturally, and socioeconomically diverse Indian states. Two aims are included in this objective:

1. To describe the prevalence of the initiation, cessation, and continuation of IPV within marital relationships as self-reported by women, and
2. To examine changing experiences and inter-survey events for associations with changing experiences of IPV.

Intimate Partner Violence in India

Intimate partner violence is an experience common to women in resource rich and poor contexts. Worldwide, 10-69% of women report ever having experienced IPV (World Health Organization, 2002), and, in a recent analysis of 15 sites in 10 countries, 13-59% of ever-partnered women reported ever having experienced physical IPV (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006).

Although nearly universal, growing attention to IPV in resource poor contexts has revealed a disproportionate burden in select regions. Prevalence estimates indicate that IPV is the normative experience in multiple resource poor contexts. The reported prevalence of lifetime IPV exceeds 50% in areas of Nicaragua, Papua New Guinea, Turkey, and the West Bank and Gaza Strip (World Health Organization, 2002) and 75% among women in Bangladesh (Hindin, Kishor, & Ansara, 2008).

As the last statistic reflects, the burden of IPV in South Asia is among the highest in the world (Hindin et al., 2008; Jejeebhoy & Cook, 1997; Kishor & Johnson, 2006; Martin, Tsui, Maitra, & Marinshaw, 1999). In India, 35% of ever-married women of reproductive age reported ever having experienced IPV in the 2002-2003 National Family Health Survey (NFHS-3), a nationally representative survey akin to the Demographic and Health Surveys (International Institute for Population Sciences (IIPS) and Macro International, 2007). Although lower than some countries in the region, this prevalence is comparatively high in the global context and may be increasing; 19% of women reported ever having been beaten or physically mistreated by their husbands in the 1998-1999 National Family Health Survey (NFHS-2) (International Institute for Population Sciences (IIPS) and ORC Macro, 2000). Some variation may be attributed to measurement and reporting biases; however, researchers have argued that data suggest increasing prevalence, potentially associated with shifting gender norms (Simister & Mehta, 2010). Striking variations also underlie these national data, suggesting a disproportionate burden in select populations. In the NFHS-3, the percentage of women who reported physical IPV varied from 11% among women with 12 or more years of education to 44% among women with no formal education and from 17% among women in the highest wealth quintile to 47% among women in the lowest wealth quintile (International Institute for Population Sciences (IIPS) and Macro International, 2007). In the IndiaSAFE project, which included 9,938 women from seven sites, the prevalence of physical IPV ranged from 35% in Bhopal to 65% in Nagpur among women living in urban slums and from 13% in Delhi to 43% in Thiruvanthapuram among women living in urban non-slum areas (International Clinical Epidemiologists Network, 2000a). Dramatically, a study of 1,974 married women in 40 low-income communities in Chennai reported a prevalence of lifetime physical IPV exceeding 99% (Solomon et al., 2009).

Moreover, the burden of IPV in India is distinguished by the context in which it occurs. Traditional Indian society is characterized both by strong social norms that prescribe the roles of women and significant gender disparities that disadvantage women (Jejeebhoy, 1998b). Marriage, commonly arranged by elders, remains a social necessity, and families continue to face significant social pressures to marry women young, despite laws defining the legal minimum age of marriage as 18 years for women (Krishnan, Subbiah, Chandra, & Srinivasan, 2012). Within marriage, patrilineal and patrilocal traditions limit the social support and functional autonomy afforded to women (Jejeebhoy, 1998b), and social and structural norms legitimize and perpetuate violence by directly and indirectly limiting the protections available to women (Krishnan, 2005a). Directly, knowledge and prosecution of laws designed to protect women, including the Protection of Women from Domestic Violence Act, 2005, are limited (Krishnan et al., 2012), and protective laws proscribing the minimum age of marriage, prohibiting dowry, and protecting inheritance are enforced infrequently (Jejeebhoy, 1998b). Indirectly, IPV is defined as a private, family matter and remains socially sanctioned (Jejeebhoy, 1998b). As Krishnan et al. (2012) note, “Both women and men consider violence to be justified in response to perceived violations of social expectations of a ‘good’ wife or mother” (p. 5). One of the primary ways for women to fulfill these roles remains to produce sons, as social worth is invested in the fulfillment of reproductive roles (Jejeebhoy, 1998b).

Although these statistics and characteristics suggest the relative significance of IPV in India, relatively little is known about determinants of IPV. Presently, recognition that determinants represent targets for intervention is motivating a growing body of research, yet studies generally are limited to cross-sectional, qualitative, or non-representative analyses, and few representative prospective studies have been undertaken. This constrains the ability of

researchers to make causal inferences about risk and protective factors and limits the ability to consider how experiences of IPV may change over time within relationships. For example, although empiric studies from resource rich contexts differentiate patterns of violence, including isolated and escalating violence (World Health Organization, 2002), little is known about these changes and their determinants in India. Understanding what precedes the initiation, cessation, and continuation of violence is important for designing interventions to address IPV.

The current study investigates determinants of changing experiences of IPV using a representative, prospectively collected cohort survey conducted in rural areas of four Indian states. By addressing the aims and objectives, the analysis contributes to our understanding of the characteristics and experiences that precede changes in IPV within marital relationships in rural India. This understanding can inform future research and help shape interventions to prevent the initiation and promote the cessation of IPV.

Chapter II: Comprehensive Review of the Literature

Prevalence

Intimate partner violence is defined as "physical, sexual, or psychological harm by a current or former partner or spouse" (Centers for Disease Control, 2010) and is conceptualized as having four primary forms: physical violence, sexual violence, emotional violence, and threats of violence (Saltzman, Fanslow, McMahon, & Shelley, 2002). Although this definition makes strong distinctions, attempts to categorize and compare violence across contexts are limited by inconsistent operationalization and incorporation of these definitions into global research, as well as fundamental methodological limitations such as variations in sample selection, study design, and the willingness of respondents to disclose experiences of violence (World Health Organization, 2002).

Although it is estimated that 10-69% of women globally report ever having been physically assaulted by a male intimate partner, prevalence estimates of other types of violence generally are unavailable (World Health Organization, 2002). The limited studies that exist suggest that physical violence commonly is accompanied by psychological abuse and that physical and sexual abuse coincide in one-third to one-half of cases (World Health Organization, 2002), indicating that physical violence may mark risk for multiple forms of IPV.

India: India, however, represents an exception to this lack of data, as nationally representative research has characterized the prevalence of physical violence, sexual violence (being physically forced to have sexual intercourse or forced to perform sexual acts when a person does not want), and emotional violence (saying or doing something to humiliate a person in front of others, threatening to hurt or harm her or someone close to her, or insulting her or

making her feel badly about herself) (International Institute for Population Sciences (IIPS) and Macro International, 2007). In the NHFS-3, 40% of ever-married women reported experiencing physical, sexual, *or* emotional violence (International Institute for Population Sciences (IIPS) and Macro International, 2007). Consistent with global data suggesting that sexual and emotional violence frequently coexist with physical violence (Ellsberg, Pena, Herrera, Liljestrand, & Winkvist, 2000; Granados Shiroma, 1996; Leibrich, Paulin, & Ranson, 1995; Yoshihama & Sorenson, 1994), 8% of ever-married women reported having experienced physical and sexual violence, and 4% of ever-married women reported having experienced physical, sexual, *and* emotional violence (International Institute for Population Sciences (IIPS) and Macro International, 2007).

Health Consequences

Although prevalence studies are nascent globally, the significance of IPV for the health of women and children is well documented (World Health Organization, 2002). IPV affects multiple dimensions of women's health directly and indirectly, including physical, mental, and reproductive health, and it may affect coping behaviors, health risk, and survival (World Health Organization, 2002). Among direct health consequences, physical health consequences may include abdominal injury, fracture, neurological sequela from incomplete strangulation or head injury, and disability; mental health consequences may include depression, anxiety, insomnia, social dysfunction, and suicidality; and reproductive health consequences may include vaginal and anal trauma, sexually transmitted infections, gynecological disorders, pelvic inflammatory disease, infertility, urinary tract infections, and unwanted pregnancy (Campbell, 2002; World Health Organization, 2002). Indirect health consequences may be mediated by stress, including idiopathic gynecological morbidity, gastrointestinal symptoms, functional gastrointestinal

disorders, and increased self-reported cardiac symptoms (Campbell, 2002). Recurring injury and stress also may interact to produce long-term consequences; for example, chronic pain and recurring central nervous system symptoms, including fainting and seizures, have been associated with IPV (Campbell, 2002). These consequences also may coincide with increased negative coping behaviors, including alcohol and drug abuse (Campbell, 2002) and increased likelihood of mortality from homicide, suicide, HIV/AIDS, or maternal death (World Health Organization, 2002).

IPV also affects the health of children. The consequences of IPV during pregnancy may include fetal injury, miscarriage, stillbirth, premature birth, low birth weight, and delayed prenatal care seeking (World Health Organization, 2002). Pregnant women who experience IPV are more likely to refuse HIV testing or to not return for their results in some settings, impacting the opportunity for their children to be protected from vertical transmission of HIV (World Health Organization, 2002). Older children who witness IPV may be more likely to express a range of physical, emotional, and behavioral problems similar to those expressed by abused children, and IPV has been linked to increased child mortality (World Health Organization, 2002).

India: Although health consequences may be culturally patterned and their burden mitigated by health resources, findings from India suggest similar effects on the health of women and children, health seeking behaviors, and mortality (Table 1). Domestic violence has been associated with poor nutritional status (Ackerson & Subramanian, 2008a; Chowdhary & Patel, 2008), mental health (Chandra, Satyanarayana, & Carey, 2009; Chowdhary & Patel, 2008; Gururaj, Isaac, Subbakrishna, & Ranjani, 2004; Kumar, Jeyaseelan, Suresh, & Ahuja, 2005; Shahmanesh et al., 2009; Shidhaye & Patel, 2010), and reproductive health (Begum, Dwivedi,

Pandey, & Mittal, 2010; Chowdhary & Patel, 2008; Decker et al., 2009; Silverman, Decker, Saggurti, Balaiah, & Raj, 2008; Stephenson, Koenig, Acharya, & Roy, 2008; Stephenson, Koenig, & Ahmed, 2006b; Sudha & Morrison, 2011; Sudha, Morrison, & Zhu, 2007). It also has been associated with increased maternal and child mortality (Ackerson & Subramanian, 2009; Ganatra, Coyaji, & Rao, 1998; Jejeebhoy, 1998a; Koenig et al., 2010; Silverman et al., 2011) and decreased health seeking (Koski, Stephenson, & Koenig, 2011; Sabarwal, McCormick, Silverman, & Subramanian, 2012; Stephenson, Koenig, & Ahmed, 2006a; Sudha & Morrison, 2011).

Table 1. Health outcomes associated with domestic violence, India

Health Outcome	Study Design	Sampling Method/ Location	Type of Violence	Time Period	Publication
Physical Health					
Anemia	Cross-sectional	Nationally representative	Physical	Multiple incidents within past 12 months	Ackerson 2008
Underweight	Cross-sectional	Nationally representative	Physical	Multiple incidents within past 12 months	Ackerson 2008
	Cross-sectional	Population-based; primary health center catchment; north Goa	Emotional and physical	Lifetime and past 3 months	Chowdhary 2008[1]
Mental Health					
General mental health	Cross-sectional	Population-based; rural, urban non-slum, and urban slum areas; 7 sites	Physical	Lifetime	Kumar 2005
	Longitudinal	Population-based; Bihar, Jharkhand, Maharashtra, and Tamil Nadu	Emotional, physical, or sexual	Within 12 months of follow-up only and within 12 months of baseline and follow-up	Shidhaye 2010
Depression	Cross-sectional	Adult psychiatric outpatient clinic; Bangalore, Karnataka	Unspecified	Unspecified	Chandra 2009
	Cross-sectional	Population-based; primary health center catchment; north Goa	Emotional, physical, and sexual	Lifetime and past 3 months	Chowdhary 2008[1]

Table 1. Health outcomes associated with domestic violence, India

Health Outcome	Study Design	Sampling Method/ Location	Type of Violence	Time Period	Publication
	Cross-sectional	Pregnant women; antenatal outpatient clinic; southern India	Physical and sexual	Past 12 months	Varma 2007
Post-traumatic stress disorder	Cross-sectional	Adult psychiatric outpatient clinic; Bangalore, Karnataka	Unspecified	Unspecified	Chandra 2009
	Cross-sectional	Pregnant women; antenatal outpatient clinic; southern India	Physical	Past 12 months	Varma 2007
Suicide attempt	Longitudinal	Primary health center catchment; north Goa	Physical and sexual	Lifetime and past 3 months	Chowdhary 2008
	Cross-sectional	Female sex workers; Goa	Verbal and physical	Current (unspecified)	Shahmanesh 2009
Reproductive and Sexual Health					
Unplanned pregnancy	Cross-sectional	Nationally representative	Physical	Unknown	Begum 2010
	Longitudinal	Population-based; Bihar, Jharkhand, Maharashtra, and Tamil Nadu	Physical	Past 12 months	Stephenson 2008

Table 1. Health outcomes associated with domestic violence, India

Health Outcome	Study Design	Sampling Method/ Location	Type of Violence	Time Period	Publication
Sexually transmitted infection/ reproductive tract infection/ gynecologic morbidity	Longitudinal	Primary health center catchment; north Goa	Sexual	Lifetime and past 3 months	Chowdhary 2008
	Cross-sectional	Population-based; Uttar Pradesh	Sexual and physical and sexual	Lifetime	Stephenson 2006b
	Cross-sectional	Population-based; Uttar Pradesh	Emotional, physical, and sexual	Past 12 months	Sudha 2011
	Cross-sectional	Population-based; Kerala	Physical	Lifetime	Sudha 2007
HIV	Cross-sectional	Nationally representative	Emotional, physical, or sexual	Lifetime	Decker 2009[2]
	Cross-sectional	Nationally representative	Physical and sexual	Lifetime	Silverman 2008
Child Health					
Immunization	Cross-sectional	Nationally representative	Physical or sexual	Past 12 months	Sabarwal 2011
Mortality					
Perinatal or neonatal morality	Cross-sectional	Purposive sampling; Uttar Pradesh and Tamil Nadu	Physical	Lifetime	Jejeebhoy 1998[3]
	Longitudinal	Population-based; Bihar, Jharkhand, Maharashtra, and Tamil Nadu	Physical	Multiple incidents within past 12 months	Koenig 2010

Table 1. Health outcomes associated with domestic violence, India

Health Outcome	Study Design	Sampling Method/ Location	Type of Violence	Time Period	Publication
Infant mortality	Cross-sectional	Nationally representative	Psychological, physical, or sexual	Lifetime	Ackerson 2009
	Cross-sectional	Purposive sampling; Uttar Pradesh and Tamil Nadu	Physical	Lifetime	Jejeebhoy 1998
	Longitudinal	Population-based; Bihar, Jharkhand, Maharashtra, and Tamil Nadu	Physical	Lifetime	Koenig 2010
	Cross-sectional	Nationally representative	Emotional, physical, or sexual	Lifetime	Silverman 2011[4]
Child mortality	Cross-sectional	Nationally representative	Emotional, physical, or sexual	Lifetime	Silverman 2011[4]
Maternal mortality	Prospective case-control	Multiple-source surveillance; Maharasthra	Unspecified	Current (cause of death)	Ganatra 1998
Suicide	Case-control	Police records; Bangalore, Karnataka	Emotional and physical	Unspecified	Gururaj 2004
Health Behaviors					
Decreased health seeking	Cross-sectional	Population-based; Uttar Pradesh	Physical	Past 12 months	Sudha 2011
Decreased prenatal care	Longitudinal	Pregnant women; population-based; Bihar, Jharkhand, Maharashtra, and Tamil Nadu	Physical	During pregnancy	Koski 2011

Table 1. Health outcomes associated with domestic violence, India

Health Outcome	Study Design	Sampling Method/ Location	Type of Violence	Time Period	Publication
Decreased use of contraception	Longitudinal	Pregnant women; population-based; Bihar, Jharkhand, Maharashtra, and Tamil Nadu	Physical	Past 12 months	Stephenson 2008
	Cross-sectional	Population-based; Uttar Pradesh	Physical	Prior to the initiation of contraception	Stephenson 2006a

1. Verbal violence re-labeled as emotional violence for consistency.
2. Decker et al. (2009) found that IPV was associated with a higher odds of HIV infection among abusive husbands and elevated HIV transmission within abusive relationships.
3. Association significant only in Uttar Pradesh.
4. Association significant only for girls.

Determinants

Recognition of these deleterious health effects has motivated research on the determinants of IPV, including research in resource poor contexts beginning in the last decade (Jewkes, 2002). In contrast to findings on health outcomes, however, this research is characterized by significant heterogeneity; few associations have emerged that consistently predict risk of victimization (Jewkes, 2002; World Health Organization, 2002).

Table 2. Determinants of male-perpetrated IPV, worldwide

Individual Factors	Relationship Factors	Community Factors	Societal Factors
Young age	Marital conflict	Weak community sanctions against domestic violence	Traditional gender norms
Heavy drinking	Marital instability	Poverty	Social norms supportive of violence
Depression	Male dominance in the family	Low social capital	
Personality disorders	Economic stress		
Low academic achievement	Poor family functioning		
Low income			
Witnessing or experiencing violence as a child			

Source: reproduced from World Health Organization, 2002

Inconsistent risk markers: For example, there is inconsistent evidence for many determinants suggested to be associated with male-perpetrated IPV in a review by the World Health Organization (Table 2). At the individual level, the proposed associations between (a) low educational attainment and IPV and (b) socioeconomic status and IPV illustrate this lack of consistency. Although an inverse relationship between education and physical IPV was found for female victims in India and Peru (Ackerson, Kawachi, Barbeau, & Subramanian, 2008; Flake, 2005), studies in multiple resource poor contexts did not find differential IPV risk by level of

education attained by women (Hindin et al., 2008). Similarly, although studies from Cambodia, India, and Vietnam suggest an inverse relationship between household socioeconomic status and physical IPV (Jeyaseelan et al., 2007; Luke, Schuler, Mai, Vu Thien, & Minh, 2007; Yount & Carrera, 2006), Hotaling and Sugarman (1986) cite evidence that the income of male perpetrators, but not female victims, is associated with IPV. Poorer socioeconomic status likewise was associated with *lower* prevalence of physical IPV among the poorest households in South Africa (Jewkes, Dunkle, Nduna, & Shai, 2010).

At the household level, the association between decision-making autonomy and IPV illustrates a similar lack of consistency (Hindin et al., 2008). Compared to women who decided jointly with their husbands, women in Haiti who reported that they had the final say on decisions about large household purchases (Gage, 2005) and women in the Philippines who reported female-dominated or male-dominated decision-making had greater odds of reporting IPV (Hindin & Adair, 2002). Similarly, female-dominated and divided decision-making were found to be associated with greater odds of physical IPV compared to egalitarian decision-making in Peru (Flake, 2005). Autonomy, however, had diverse effects in Mexico (Castro, Casique, & Brindis, 2008). Control over reproductive decisions was associated with a greater odds of reporting physical IPV among women 15-34 years old; control over decisions about working was associated with a lower odds of reporting physical IPV among women 15-34 years old; and control over decisions about sexual intercourse was associated with lower odds of reporting physical IPV among all women of reproductive age (15-49 years old) (Castro et al., 2008).

At the community and societal levels, lack of consistent consideration and heterogeneous variable definitions limit the ability to compare associations across studies. For example, a multi-factorial meta-analysis of risk markers for IPV victimization could not calculate composite effect

sizes for social support, traditional sex-role ideology, or attitudes condoning violence for female victims, although these were identified as potentially important (Stith, Smith, Penn, Ward, & Tritt, 2004).

Consistent risk markers: Despite the preponderance of heterogeneous associations, several determinants appear more consistently to mark risk (Hotaling & Sugarman, 1986). Individual determinants for which there is relatively consistent evidence include previous exposure to domestic violence, male alcohol use, and psychopathology (Hindin et al., 2008; Jewkes, 2002; Kishor & Johnson, 2004; World Health Organization, 2002). Although all men who witness violence in childhood do not perpetrate violence in adulthood (Caeser, 1998), studies in Cambodia, Nicaragua, and the United States found higher prevalence of physical IPV victimization among women whose husbands had been beaten as children or had witnessed their mothers being beaten (Black, Schumacher, Smith Slep, & Heyman, 1999; Ellsberg, Pena, Herrera, Liljestrand, & Winkvist, 1999; Nelson & Zimmerman, 1996). Similarly, alcohol use among men was associated with physical IPV in studies conducted in China, India, Kenya, Peru, South Africa, and Uganda (Abrahams, Jewkes, Laubscher, & Hoffman, 2006; Flake, 2005; International Clinical Epidemiologists Network, 2000b; Kimuna & Djamba, 2008; Koenig et al., 2003; Paris, Wang, Laumann, Pan, & Luo, 2004). Specific personality characteristics or disorders and psychopathology appear to be more prevalent among men who perpetrate IPV (Black et al., 1999; G. K. Kantor & Jasinski, 1998); however, studies presently are restricted to resource rich settings, and the relative prevalence of psychopathology may be lower where IPV is more prevalent (World Health Organization, 2002) and socially sanctioned.

Among proposed interpersonal determinants, consistent evidence exists for an association between marital conflict and IPV risk (World Health Organization, 2002). Every study included

in the review by Black et al. (1999) indicated that marital conflict is moderately to strongly associated with IPV, and complementary studies in resource poor contexts support these findings (Hoffman, Demo, & Edwards, 1994; Jewkes, Levin, & Penn-Kekana, 2002; Straus, Gelles, & Steinmetz, 1980). Violence may represent a tactic for managing relationship conflict or an expression of anger and frustration triggered by context-specific events (Jewkes, 2002).

Although findings cannot be verified across studies, multi-site studies suggest several community and societal determinants may be consistent across contexts. For example, a study of 16 societies characterized by high and low levels of IPV found that IPV was less prevalent where community sanctions on violence existed and abused women had access to shelter or familial support (Counts, Brown, & Campbell, 1992). A study employing statistical analysis of ethnographic data from 90 societies found that disproportionate economic and decision-making power among men, inaccessibility of divorce, and routine use of violence to solve conflicts were associated with higher prevalence of physical IPV (Levinson, 1989). The study also found that the absence of women-only workgroups was the second strongest predictor of elevated IPV prevalence (Levinson, 1989). It is hypothesized that these groups granted protection by increasing social support and economic independence (Levinson, 1989).

India: Empiric findings from India are characterized by similar heterogeneity. Indeed, as Tables 3 and 4 demonstrate, few consistent associations emerge, even when the review is restricted to physical IPV to reduce the heterogeneity associated with variable outcome measures. Among the 53 variables included in 22 quantitative analyses of physical IPV in India, only childhood exposure to parental IPV was consistently defined and associated with increased physical IPV across multiple studies.

Table 3. Quantitative studies of male-to-female physical IPV, India

First Author	Study Design	Study Population
Ackerson 2008a	Cross-sectional	Women; nationally representative
Ackerson 2008b	Cross-sectional	Women; nationally representative
Babu 2009	Cross-sectional	Women; population-based; Orissa, West Bengal, and Jharkhand
Babu 2010	Cross-sectional	Women; population-based; Orissa, West Bengal, and Jharkhand
Bangdiwala 2004	Cross-sectional	Women; population-based; Lucknow, Trivandrum, and Vellore
Berg 2010	Cross-sectional	Men; population-based; 3 low-income communities, Mumbai
Bhattacharyya 2011	Cross-sectional	Husband-wife dyads; purposive sampling; Kaushambi, Uttar Pradesh
Boyle 2009	Cross-sectional	Women; nationally representative
Dalal 2011	Cross-sectional	Women; nationally representative
Gaunekar 2005	Case-control	Men; two industrial settings; Goa
Gerstein 2000	Cross-sectional	Men; population-based; 5 districts, Uttar Pradesh
Jeyasselan 2004	Cross-sectional	Women; population-based; Lucknow, Trivandrum, and Vellore
Koenig 2006	Cross-sectional	Men; population-based; 5 districts, Uttar Pradesh
Krishnan 2005	Cross-sectional	Women; population-based; 1 subdistrict, Karnataka
Krishnan 2010	Longitudinal	Women; recruitment through 2 health centers and community outreach; 2 low-income communities, Bangalore
Madhivanan 2011	Cross-sectional	Women; recruitment through health education programs in rural and periurban communities; Mysore
Martin 1999	Cross-sectional	Men; population-based; 5 districts, Uttar Pradesh
Martin 2002	Cross-sectional	Men; population-based; 5 districts, Uttar Pradesh
Mogford 2011	Cross-sectional	Women; Uttar Pradesh
Peedicayil 2004	Cross-sectional	Pregnant women; population-based; rural, slum, and non-slum areas of Bhopal, Chennai, Delhi, Lucknow, Nagpur, Trivandrum, and Vellore
Raj 2010	Cross-sectional	Nationally representative
Rocca 2009	Cross-sectional	Women; 2 low-income communities, Bangalore

Table 4. Determinants of male-to-female physical IPV, India

Determinant*	Lifetime or *Recent* Physical IPV	
	Significant	**Non-Significant**
Demographic Characteristics		
State or district	Ackerson 2008b; Babu 2009	Babu 2010; Krishnan 2010
Language	Martin 2002	
Religion	Ackerson 2008b; *Ackerson 2008b*; Babu 2009; Babu 2010	Krishnan 2010; *Mogford 2011*; *Rocca 2009*
Caste	Ackerson 2008b; *Ackerson 2008b*; Babu 2009; Babu 2010	Krishnan 2006; *Mogford 2011*
Residence: urban v. rural[1]	Ackerson 2008b; *Ackerson 2008b*	Babu 2009; Babu 2010; Martin 1999; *Koenig 2006*
Household and Marital Characteristics		
Household type: nuclear v. extended family	*Mogford 2011*	Babu 2010; Krishnan 2006; Martin 2002; Martin 1999; *Rocca 2009*
Relationship to head of household		Krishnan 2006
Household size		Martin 1999
Household crowding	Peedicayil 2004	
Type of marriage	Krishnan 2010; *Rocca 2009*	Babu 2010
Dowry or satisfaction with dowry	Peedicayil 2004; *Rocca 2009*	Babu 2010
Age at marriage	Ackerson 2008b; *Ackerson 2008b*; *Madhivanan 2011*; Raj 2010; *Raj 2010*	*Rocca 2009*
Duration of marriage[1]	Babu 2010; Krishnan 2010; *Koenig 2006*	Martin 2002; *Mogford 2011*
Socioeconomics and Employment		
Socioeconomic status	Ackerson 2008b; *Ackerson 2008b*; Babu 2009; *Koenig 2006*; Martin 2002; *Mogford 2011*; Peedicayil 2004; *Rocca 2009*	Babu 2010
Land ownership		Krishnan 2006
Other land or house ownership		Bangdiwala 2004
Economic pressure	*Koenig 2006*	
Family work status		Jeyaseelan 2004
Husband's employment	Krishnan 2010	Krishnan 2010; *Rocca 2009*

Table 4. Determinants of male-to-female physical IPV, India

Determinant*	**Lifetime or *Recent* Physical IPV**	
	Significant	**Non-Significant**
Husband's occupation	Bhattacharyya 2011; Krishnan 2010; *Madhivanan 2011*	
Woman's employment[1]	Ackerson 2008b; *Ackerson 2008b*; Babu 2010; Bhattacharyya 2011; Dalal 2011; Krishnan 2010	Babu 2009; *Rocca 2009*
Woman's contribution to household income	Dalal 2011; *Madhivanan 2011*	
Woman's responsibility for household expenses	Krishnan 2006	
Financial support from woman's natal family		*Rocca 2009*
Age and Education		
Woman's age	Ackerson 2008b; *Ackerson 2008b*; Babu 2009; Babu 2010	Jeyaseelan 2004; Krishnan 2010; *Mogford 2011*; *Rocca 2009*
Husband's age	*Mogford 2011*; Peedicayil 2004	
Spousal age difference		*Mogford 2011*
Woman's education	Ackerson 2008a; *Ackerson 2008a*; Ackerson 2008b; *Ackerson 2008b*; Babu 2009; Babu 2010; Bangdiwala 2004; *Boyle 2009*; *Koenig 2006*; *Mogford 2011*	*Madhivanan 2011*; Peedicayil 2004; *Rocca 2009*
Husband's education	Ackerson 2008a; *Ackerson 2008a*; Ackerson 2008b; *Ackerson 2008b*; Bangdiwala 2004; Bhattacharyya 2011; *Koenig 2006*; Martin 2002; Peedicayil 2004	*Madhivanan 2011*; *Mogford 2011*
Spousal education difference	Ackerson 2008a; *Ackerson 2008a*; Ackerson 2008b; *Ackerson 2008b*	*Mogford 2011*
Reproductive Characteristics		
Parity or number of children in household[1]	Krishnan 2010; Peedicayil 2004	Babu 2010; Martin 2002; *Mogford 2011*
Childlessness	*Koenig 2006*	*Madhivanan 2011*
Unplanned pregnancy	Gerstein 2000	
Current contraceptive use		Gerstein 2000

Table 4. Determinants of male-to-female physical IPV, India

Determinant*	**Lifetime or *Recent* Physical IPV**	
	Significant	**Non-Significant**
Sex outside marriage	*Berg 2010*; Gerstein 2000; *Koenig 2006*; Peedicayil 2004	*Madhivanan 2011*
Husband accusing wife of affair	Peedicayil 2004	
Sexual violence	*Madhivanan 2011*	
Husband reporting STI symptoms	Gerstein 2000	
Anal sex in lifetime		*Madhivanan 2011*
Woman's Empowerment		
Woman's ownership of house	Bhattacharyya 2011	
Woman's control over earnings[1]	Dalal 2011; Krishnan 2006; *Mogford 2011*	
Woman's vocational training after marriage[2]	*Rocca 2009*	
Woman's limited social support	Peedicayil 2004	
Woman's social group participation	*Rocca 2009*	
Woman's decision-making autonomy	*Mogford 2011*	
Woman's freedom of movement	*Mogford 2011*	
Woman's tolerance of violence	*Mogford 2011*	
Woman's exposure to IPV in childhood	*Koenig 2006*; Martin 2002; Peedicayil 2004	
Husband's Characteristics		
Husband's work-related stress	*Berg 2010*	
Husband's alcohol use	Babu 2010; *Berg 2010*; Jeyaseelan 2004; Krishnan 2006; *Madhivanan 2011*; Peedicayil 2004	*Gaunekar 2005*
Husband's substance abuse	Peedicayil 2004	
Husband's childhood exposure to alcohol	*Berg 2010*	
Community and Regional Characteristics		
Community norms toward violence	*Koenig 2006*	
District murder rate	*Koenig 2006*	

Table 4. Determinants of male-to-female physical IPV, India

Determinant*	**Lifetime or *Recent* Physical IPV**	
	Significant	**Non-Significant**
Community literacy	Ackerson 2008a; *Ackerson 2008a*	
State-level gender equity	*Ackerson 2008b*	Ackerson 2008b

*Reported associations are drawn from the most inclusive model presented by the author(s).
1. Significant heterogeneity in directionality.
2. Associated with increased violence.

Theoretical Perspectives

Coincident with this empirical heterogeneity is significant theoretical heterogeneity. Although diverse disciplinary perspectives have the potential to enrich analyses, they also may motivate diverse analytic approaches and the proliferation of variables, in turn contributing to heterogeneous findings and continued lack of consensus regarding frameworks to motivate public health programs. To illustrate this heterogeneity, the organizational frameworks of Bell and Naugle (2008) and Finkel and Eckhardt (2011) are used to introduce a range of influential theories in four primary categories: sociocultural, intrapersonal, interpersonal, and integrative.

Sociocultural theories: As Finkel and Eckhardt (2011, in press) describe, sociocultural theories represent an historical starting point. As a category, they are characterized by focus on the role of institutional norms, cultural ideologies, and socialization in increasing risk for IPV, including the role of these processes in sanctioning violence (Finkel & Eckhardt, 2011, in press). Having emerged from the experiences and perspectives of community activists, shelter workers, and sociologists investigating broader causes of violence, however, they include a diverse range of perspectives that alternately highlight processes at familial, community, societal, and national levels (Finkel & Eckhardt, 2011, in press).

For example, feminist theory ascribes IPV to gender inequities, power imbalances, and discrimination stemming from patriarchal cultural values and social norms (Dobash & Dobash,

1979). It both results from learned gender roles that grant men power over women and functions as a mechanism to restore power when women fail to embody socially prescribed roles (Dobash & Dobash, 1979, 1988; Pence & Paymar, 2006; Walker, 1984). Risk consequently increases when men ascribe to traditional gender ideals (Leonard & Senchak, 1996; Smith, 1990) or men and women differ in their acceptance of patriarchal gender roles (Lenton, 1995). Alternatively, power theory posits that social norms, including gender inequities, community attitudes toward IPV, social acceptance of violence, and conditions that produce stress, influence the experiences and responses of family systems (Straus, 1977a, 1977b). IPV arises from the interaction of these factors with power imbalances, which contribute to stress and conflict within a family (e.g., asymmetric relationships increase tension) or society (e.g., gender inequities support IPV and exacerbate intra-household inequities by limiting opportunities for women) (Straus et al., 1980; Witt, 1987).

Although these theories remain prominent among community based organizations and feminist scholars, they have been criticized widely (Finkel & Eckhardt, 2011, in press). Mixed empiric evidence exists for associations among patriarchal beliefs, familial gender inequities, and IPV prevalence; the frameworks frequently do not account for the complexity of IPV perpetration; and they are challenged by findings from interventions, such as the limited impact of changing patriarchal attitudes in treatment programs (Bell & Naugle, 2008). Arguments also suggest that IPV frequently occurs *in spite of*, rather than *because of*, views about its acceptability or unacceptability (Finkel & Eckhardt, 2011, in press). Moreover, even where supportive empiric evidence exists, meta-analytic studies challenge the relative importance of these factors in comparison to more proximal antecedents of violence (Stith et al., 2004).

Intrapersonal theories: Intrapersonal theories focus on perpetrator characteristics,

enabling them to explain variations among individuals exposed to the same sociocultural context (Finkel & Eckhardt, 2011, in press). As classified by Finkel and Eckhardt (2011, in press), intrapersonal theories include (a) social learning, (b) cognitive-behavioral, (c) personality, and (d) clinical approaches. Social learning focuses on how basic learning principles (classical conditioning, operant conditioning, and observational learning) function in the development of aggressive characteristics; cognitive-behavioral approaches focus on cognitive and emotional factors that emerge from adverse childhood experiences; personality approaches focus on stable differences that separate perpetrators from non-perpetrators; and clinical approaches focus on psychopathology associated with increased risk of perpetration (Finkel & Eckhardt, 2011, in press). For example, the Developmental Model of Batterer Subtypes Theory uses three distal variables (genetic or prenatal factors, early childhood family experiences, and peer experiences) and five proximal variables (attachment to others, impulsivity, social skills, attitudes toward women, and violence) to predict the development of three batterer subtypes (Holtzworth-Munroe & Stuart, 1994), focusing on the intrapersonal characteristics that emerge (Jewkes et al., 2002).

Although relatively popular, intrapersonal theories have been criticized for their inability to explain adequately temporal and situational variations in IPV occurrence (Finkel & Eckhardt, 2011, in press). In particular, most approaches do not consider mechanisms linking intrapersonal characteristics to specific episodes of violence (Finkel & Eckhardt, 2011, in press).

Interpersonal theories: Interpersonal theories strive to identify determinants that precede or predict violent episodes, including interpersonal processes that trigger IPV episodes (Finkel & Eckhardt, 2011, in press). Influenced by marriage and family therapy researchers, they emphasize the mediating effect of communication patterns on relationship conflict and marital dissatisfaction (Dobash & Dobash, 1979; Schumacher, Feldbau-Kohn, Slep, & Heyman, 2001).

For example, focusing on the exchange of attitudes and behaviors between partners, they argue that patterns of disdain and antipathy frequently arise as each partner reciprocates the negative behavior of the other (Finkel & Eckhardt, 2011, in press).

Notably, interpersonal theories are consistent with emerging evidence regarding the complexity of perpetration, including the high prevalence of "reciprocal" violence and importance of victimization as a risk factor for perpetration (Finkel & Eckhardt, 2011, in press). They are criticized, however, for not incorporating sociocultural and intrapersonal characteristics (Finkel & Eckhardt, 2011, in press), including power inequities that differentially shape the meaning and consequences of aggressive behaviors for each partner. Similarly, they frequently do not consider protective interpersonal dynamics, which arguably limits their ability to inform interventions (Finkel & Eckhardt, 2011, in press).

Integrative theories: Integrative theories, which aim to unite disparate theories within a dynamic framework, include the models advanced by Dutton (1985), Bell and Naugle (2008), and Finkel and Eckhardt (2011, in press). For example, the ecologically nested theory advanced by Dutton applies the ecological framework of Bronfenbrenner to IPV (Bell & Naugle, 2008). As classically portrayed, four concentric circles represent four levels of determinants: macrosystem, exosystem, microsystem, and ontogentic (Dutton, 1985). The *macrosystem* encompasses the social and economic environment (e.g., cultural values and social norms regarding gender, power, and the cultural acceptability of violence); the *exosystem* encompasses formal and informal institutions and social structures (e.g., peer groups, neighborhoods, and social networks), which contain relationships and link individuals to the macrosystem; the *microsystem* encompasses the context and circumstances in which violence occurs (e.g., family structures, antecedents and consequences of violence, and the subjective meaning of violent behavior); and

the *ontogenetic* level encompasses the biological characteristics and developmental history of individuals, which mediate individual response (Bell & Naugle, 2008; Dutton, 1985; Finkel & Eckhardt, 2011, in press).

The ecologic model has been applied widely [e.g., Carlson (1984), Edleson and Tolman (1992), Heise (1998), and Pinnewala (2009)]; proponents argue that it better captures the interplay of personal, situational, and sociocultural determinants (Heise, 1998). Yet it has been criticized for focusing on categories of determinants rather than processes by which determinants influence IPV (Finkel & Eckhardt, 2011, in press). As determinants at each level are related to IPV in disparate ways, classifications do not identify common, modifiable pathways (Finkel & Eckhardt, 2011, in press). Recently proposed integrative theories may rectify this limitation, yet empiric testing is limited.

Gaps in the Literature

Although contextual and disciplinary diversity may contribute to empiric and theoretical heterogeneity, the heterogeneity discussed in the preceding sections also likely reflects significant methodological limitations that limit the ability to organize findings and develop evidence-based interventions. Most prominently, few studies in resource poor settings have enabled temporal analyses (Jewkes, 2002; World Health Organization, 2002) or considered the dynamic nature with which IPV manifests in relationships (Bogat, Levendosky, & von Eye, 2005). Cross-sectional analyses cannot differentiate concurrent and subsequent experiences from determinants of IPV (Jewkes, 2002; Krishnan et al., 2010), and risk confounding results. Similarly, they limit the ability to capture the dynamic patterns with which IPV manifests in relationships and which have been shown to differentially impact health (Allard, Albelda, Colten, & Cosenza, 1997; Follingstad, Laughlin, Polek, Rutledge, & Hause, 1991; Liang,

Goodman, Tummala-Narra, & Weintraub, 2005) and help seeking behaviors (Liang et al., 2005) in resource rich contexts.

In India, studies that permit temporal analyses of IPV are limited (Tables 3 and 4). Among studies of IPV determinants described in Tables 3 and 4, only one utilized a longitudinal design and, consequently, considered changing experiences of IPV (Krishnan et al., 2010). It was limited, however, to a non-representative sample of young married women (16-24 years) in two low-income communities in Bangalore (Krishnan et al., 2010) and focused narrowly on associations between employment experiences and IPV (Krishnan et al., 2010). No broadly representative studies were identified that captured changes in IPV or analyzed experiences preceding episodes of IPV, suggesting the data available to inform interventions addressing the initiation and promoting the cessation of violent behaviors presently is limited in India.

The present study addresses these limitations by using a representative cohort of rural women in four Indian states to investigate determinants of the initiation, cessation, and continuation of male-perpetrated physical IPV within marriage.[1] The analysis addresses the aforementioned limitations through its longitudinal design, categorical outcome (absence, initiation, cessation, and continuation of IPV), and inclusion of four states broadly representative of the socio-demographic diversity of India. These methodological improvements help to

[1] Important research is emerging on diverse forms of violence, including female-perpetrated IPV (Brisibe, Ordinioha, & Dienye, 2011; Schafer, Caetano, & Clark, 1998; Zaleski, Pinsky, Laranjeira, Ramisetty-Mikler, & Caetano, 2010) and IPV in same-sex partnerships (Burke & Follingstad, 1999; Halpern, Young, Waller, Martin, & Kupper, 2004; Messinger, 2011; Stephenson, Rentsch, Salazar, & Sullivan, 2011). Yet male-perpetrated physical IPV enacted in marital relationship remains contextually important in India. Globally, female victims may more commonly experience severe and escalating IPV and injury, and, in India, physical violence, absent of sexual or emotional violence, is most prevalent (International Institute for Population Sciences (IIPS) and Macro International, 2007).

generate empirical evidence that can be used to inform IPV interventions and, indirectly, to address the limitations imposed by theoretical heterogeneity.

Chapter III: Manuscript

Reproduction, empowerment, and changing experiences of intimate partner violence within marriage in India

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Contribution of the Student

This work is the product of a secondary data analysis performed by the student. The student was not involved in producing the survey or data collection. However, the student did perform all subsequent work, including analysis, writing, and table development independently. The student's thesis advisor provided advisement throughout the process. The third author reviewed the manuscript for content and clarity prior to submission for peer review.

Abstract

Background: In India, the reported lifetime prevalence of intimate partner violence (IPV) exceeds 34% among women of reproductive age. Despite growing attention to IPV and its determinants, few consistent associations have emerged as targets for intervention. This study addresses methodological limitations that may underlie this heterogeneity, including reliance on cross-sectional studies and limited consideration of temporal patterns of violence within relationships, to enhance our understanding of physical IPV in rural India.

Methodology: Data were collected prospectively from a representative cohort of married women (N = 4749) in four socio-demographically diverse states in 1998-99 and 2002-03. A variety of changes and events during the inter-survey period were evaluated as determinants using a multinomial regression model fitted to a categorical outcome measuring the absence (reference), initiation, cessation, and continuation of IPV.

Results: Among changes and events, direct measures of functional autonomy (freedom of movement, financial autonomy) and fulfillment of reproductive roles (ceasing to be childless) were associated with decreased IPV risk. Indirect measures (employment, relative female economic contribution) and adverse reproductive experiences (child death, unwanted pregnancy) were associated with increased risk.

Discussion: Associations between direct measures of functional autonomy and IPV suggest that social norms may support increased empowerment, whereas associations between indirect measures of functional autonomy and IPV suggest spousal and familial experiences should be

considered. Combined with associations between reproductive experiences and IPV, this study suggests increasing functional autonomy and creating alternative for women to gain social capital, status, and power may reduce risk of IPV initiation and continuation.

Introduction

Despite growing interest in research and intervention, male-perpetrated intimate partner violence (IPV) continues to be the most common form of violence against women, significantly impacting the health of women and children (World Health Organization, 2002). In resource poor settings, the reported lifetime prevalence of IPV ranges from 15-75%, resulting in adverse health outcomes and increased mortality (Campbell, 2002; World Health Organization, 2002). Although recognition has motivated a growing emphasis on prevention and control (Sabarwal, McCormick, Subramanian, & Silverman, 2012), research has revealed few social and demographic characteristics that consistently define risk (Jewkes, 2002). Some interventions, including those intended to empower women, have resulted in increased IPV (Jejeebhoy & Cook, 1997; Krishnan, 2005b; Rocca, Rathod, Falle, Pande, & Krishnan, 2009).

As few studies in resource poor settings have enabled temporal analyses (Jewkes, 2002; World Health Organization, 2002) or considered the dynamic nature with which IPV manifests in relationships (Bogat, Levendosky, & von Eye, 2005), analytic limitations may contribute to inconsistent findings. Considering the characteristics and experiences that precede changes in IPV within relationships is particularly important in resource poor settings characterized by a high prevalence of IPV, as interventions are needed to prevent the onset of violence and address ongoing violence.

The present study uses a representative cohort of women in four Indian states to investigate determinants of the initiation, cessation, and continuation of IPV within marital relationships. Although IPV is prevalent and demonstrates considerable dynamism in India, the authors are unaware of temporal analyses using broadly representative population-based data or

analyses that consider determinants of changing experiences of IPV within marital relationships. By redressing these limitations, this analysis furthers our understanding of how to address IPV.

Background

The burden of IPV in South Asia is among the highest in the world (Hindin, Kishor, & Ansara, 2008; Jejeebhoy & Cook, 1997; Kishor & Johnson, 2006; Martin, Tsui, Maitra, & Marinshaw, 1999). In India, nationally representative data suggest that the reported lifetime prevalence of IPV exceeds 34% among women of reproductive age (International Institute for Population Sciences (IIPS) and Macro International, 2007), often resulting in poor health outcomes for women and children. IPV has been associated with poor nutritional status (Ackerson & Subramanian, 2008; Chowdhary & Patel, 2008), mental health (Chandra, Satyanarayana, & Carey, 2009; Chowdhary & Patel, 2008; Gururaj, Isaac, Subbakrishna, & Ranjani, 2004; Kumar, Jeyaseelan, Suresh, & Ahuja, 2005; Shahmanesh et al., 2009; Shidhaye & Patel, 2010), and reproductive health (Begum, Dwivedi, Pandey, & Mittal, 2010; Chowdhary & Patel, 2008; Decker et al., 2009; Silverman, Decker, Saggurti, Balaiah, & Raj, 2008; Stephenson, Koenig, Acharya, & Roy, 2008; Stephenson, Koenig, & Ahmed, 2006b; Sudha & Morrison, 2011; Sudha, Morrison, & Zhu, 2007). It also has been associated with increased maternal and child mortality (Ackerson & Subramanian, 2009; Ganatra, Coyaji, & Rao, 1998; Jejeebhoy, 1998a; Koenig et al., 2010; Silverman et al., 2011) and decreased health seeking (Koski, Stephenson, & Koenig, 2011; Sabarwal, McCormick, Silverman, & Subramanian, 2011; Stephenson, Koenig, & Ahmed, 2006a; Sudha & Morrison, 2011).

The burden of IPV in South Asia also is exacerbated by the context in which it occurs; IPV has been described as a normative and tolerated element of traditional society (Koenig, Stephenson, Ahmed, Jejeebhoy, & Campbell, 2006). In India, gender disparities disadvantage

women, including limited educational opportunities and functional autonomy and social norms emphasizing reproductive roles and the ability to produce sons (Jejeebhoy, 1998b). Social and structural norms also legitimize and perpetuate violence by limiting the protections available to women (Krishnan, 2005a). Criminal prosecution is limited, and protective mechanisms, including laws proscribing the minimum age of marriage, prohibiting dowry, and protecting inheritance, are enforced infrequently (Jejeebhoy, 1998b).

Despite growing attention to these contextual factors, few consistent associations have emerged as targets for intervention. A review of 23 published quantitative analyses revealed more than 53 variables with varied associations to physical IPV; only childhood exposure to parental IPV was consistently associated with elevated physical IPV across multiple studies. The preponderance of cross-sectional analyses may contribute to this heterogeneity; temporal analyses are needed to differentiate concurrent or subsequent experiences from determinants of IPV (Krishnan et al., 2010).

Current studies also fail to capture the dynamic nature with which IPV manifests in relationships. Longitudinal studies from industrialized countries suggest that patterns of IPV differentially affect health (Allard, Albelda, Colten, & Cosenza, 1997; Follingstad, Brennan, Hause, Polek, & Rutlaedge, 1991; Liang, Goodman, Tummala-Narra, & Weintraub, 2005) and help-seeking behaviors (Liang et al., 2005); however, a longitudinal study of young married women from two urban low-income communities in Bangalore is among limited studies considering changing IPV in India (Krishnan et al., 2010). Given the high prevalence of IPV and evidence that health improves with violence cessation (Allard et al., 1997; Campbell & Soeken, 1999; Follingstad et al., 1991), analyses of change are needed to inform interventions that prevent initiation and address continuation.

Methodology

Study Setting

Four culturally and economically distinct Indian states are included in this analysis: Bihar, Jharkhand, Maharashtra, and Tamil Nadu. These states were chosen to represent different demographic, socioeconomic, and cultural contexts and consequently vary across a range of socioeconomic indicators and sociocultural norms affecting the status of women. Most notably, there is a developmental, social, and cultural divide that distinguishes the geographic areas, with a principal demarcation between the northern states of Bihar and Jharkhand and the central and southern states of Maharashtra and Tamil Nadu (Dyson, 1983). Women in Bihar and Jharkhand fare considerably worse than women in Maharashtra and Tamil Nadu on multiple indicators of status (Table 1).

Data Source

The data come from two linked datasets: the 1998-99 National Family Health Survey (NFHS-2) and a prospective survey conducted in 2002-03. The NFHS-2 was the second national survey; the sample represented 99% of the population and included a total of 89,199 reproductive aged (15-49 years) women residing in 91,196 households (International Institute for Population Sciences (IIPS) and ORC Macro, 2000). Overall response rates for sampled women were high (96%), ranging from 94-100% in the states included in this study (International Institute for Population Sciences (IIPS) and ORC Macro, 2000). The International Institute for Population Sciences (IIPS) in Mumbai and the Johns Hopkins Bloomberg School of Public Health in Baltimore conducted the prospective survey in 2002-03 to explore family planning service quality, subsequent contraceptive use, and the predicative validity of stated fertility intentions (International Institute for Population Sciences (IIPS) and Johns Hopkins University,

2005). The sampling frame for the follow-up study included married women who were the usual residents of rural households in Bihar, Jharkhand, Maharashtra, and Tamil Nadu and who were interviewed in the original study. The sample was restricted to rural areas because it was expected that gaining complete information on family planning services would be more feasible in rural areas, and only married women were interviewed because of the focus on fertility and contraceptive behavior. High rates of re-interview were achieved in all four states, ranging from 76% in Maharashtra to 94% in Tamil Nadu. With the exception of lower baseline contraceptive use and domestic violence prevalence in Bihar and Tamil Nadu (International Institute for Population Sciences (IIPS) and Johns Hopkins University, 2005), the characteristics of the re-interviewed and non-re-interviewed samples were generally similar, indicating no significant selectivity in the re-interviewed sample.

Trained female interviewers administered both surveys, either within a private area of the home or outside the home. Among women who completed the follow-up survey (N = 6437), the domestic violence module was administered only to the youngest woman in households with multiple eligible respondents (N = 6303). To reduce known misclassification, women who reported IPV in the NFHS-2 but reported never having experienced IPV in the follow-up survey were excluded (n = 713, 11%). An additional 841 women (13%) were excluded due to missing data, yielding a final sample size of N = 4749.

Measures

- *IPV outcome*

A categorical variable describing changes in the reported presence of IPV was created from the NFHS-2 and follow-up survey. In the NFHS-2, a woman who responded *yes* to the stem question, “Since you completed 15 years of age, have you been beaten or mistreated physically

by any person," identified her husband as a perpetrator, and reported an occurrence in the past 12 months was classified as positive for IPV. In the follow-up survey, a woman was classified as positive for IPV if she reported that her husband had perpetrated any of the following acts at least once in the past 12 months: pushed, pulled, or held down; hit with fist or did something that could cause injury; kicked or dragged; tried to strangle or burn; or attacked with a knife, gun, or other weapon. The categorical variable classified women as (a) not reporting IPV within 12 months of either survey (reference group; *no IPV*), (b) not reporting IPV within 12 months of baseline (NHFS-2) but reporting IPV within 12 months of follow-up (*IPV initiation*), (c) reporting IPV within 12 months of baseline but not reporting IPV within 12 months of follow-up (*IPV cessation*), or (d) reporting IPV within 12 months of both surveys (*IPV continuation*).

- *Risk and protective factors*

A comprehensive list of characteristics and experiences hypothesized or previously demonstrated to be associated with IPV was developed from the data (Tables 1-3). Background characteristics were evaluated as control variables, and inter-survey changes and events were evaluated as independent variables. Measures meriting explanation include attitudes toward physical IPV, which captured agreement that a husband is justified in beating his wife if she (a) neglects household responsibilities or (b) is unfaithful (*neither, either,* or *both*). Financial autonomy measured being allowed to have some money set aside (*yes* or *no*). Freedom of movement measured not needing permission to go (a) to the market or (b) to visit friends, rather than needing permission or not being allowed to go (*yes* or *no*). Household decision-making measured participation in decisions to (a) seek healthcare, (b) purchase jewelry, and (c) visit friends or relatives. Women were assigned a score for each question (2 = *decided independently or jointly with their husbands*, 1 = *decided with other family members*, and 0 = *their husbands or*

others family members decided), the scores summed, and a dichotomous variable created (2 or less = *limited authority*, 3 or more = *increased authority*). The effect of childlessness captured the potential protection conferred by ceasing to be childless, rather than the potential risk imposed by remaining childless, because of collinearity with parity when the later was explored. Unwanted pregnancy was measured prospectively to reduce post-birth rationalization and subsequent misclassification (Stephenson et al., 2008); a woman who indicated she or her husband did not want to have any more children at baseline and who had a child during the inter-survey period was categorized as having an unwanted pregnancy by her or her husband's preference, respectively. Reflecting the potential influence of son preference, a prospective measure of gender preference was used to capture fulfillment of baseline preference for the birth of a boy or a girl during the inter-survey period. The potential impact of gender preference on child death, measured by the difference in the number of boys and girls who had ever died at baseline and follow-up, also was tested. As no differential effect was found by gender, binary variables for birth and death were used in the final model.

Statistical Method

Bivariate analyses were used to estimate crude associations between each independent variable and the categorical outcome. A multinomial regression model was fitted to the categorical outcome, with no experience of IPV used as the referent category. Three sets of variables were included: stable background characteristics, changes occurring between baseline and follow-up, and events occurring during the inter-survey period. Where collinearity occurred or intervening variables obscured relationships, variables with the greatest predictive value were chosen for the final model. All analyses were performed using STATA 11.0.

Results

Sample Characteristics

Descriptive statistics are presented in Tables 1-3 (Tables 1-3 here). Seventy-one percent of women reported no experience of IPV, 17% reported IPV only at follow-up (*initiation*), 6% reported IPV only at baseline (*cessation*), and 7% reported IPV at both baseline and follow-up (*continuation*). Between one third and one half reported a change in employment (33%), financial autonomy (38%), or freedom of movement (44%). Nine percent ceased to be childless. Approximately one quarter had an unwanted pregnancy by their (12%) or their husband's preference (11%), and 13% experienced the death of a child.

Regression Analysis

Results of the regression analysis are presented in Table 4 (Table 4 here). Key control variables included previous exposure to violence: Witnessing IPV in childhood and experiencing non-IPV physical violence were associated with higher risk of reporting IPV initiation (RRR 2.35, 95%CI [1.96, 2.82]; RRR 2.09, 95%CI [1.43, 3.07]) and continuation (RRR 2.70, 95%CI [2.07, 3.51]; RRR 5.07, 95%CI [3.32, 7.74]) and lower risk of reporting IPV cessation (RRR 1.55, 95%CI [1.15, 2.07]; RRR 5.33, 95%CI [3.45, 8.24]) than no IPV. Women and their husbands who attained a secondary education or higher also had lower risk of reporting IPV initiation (RRR 0.69, 95%CI [0.52, 0.91]; RRR 0.80, 95%CI [0.65,0.99]) and continuation (RRR 0.63, 95%CI [0.41, 0.98]; RRR 0.64, 95%CI [0.46, 0.88]) than no IPV. Additionally, compared to women whose husbands were unsatisfied with the dowry, women whose husbands were satisfied with the dowry had lower risk of IPV initiation (RRR 0.37, 95%CI [0.25, 0.53]), cessation (RRR 0.45, 95%CI [0.25, 0.81]), and continuation (RRR 0.23, 95%CI [0.15, 0.37]), and women whose husbands were neutral or who did not bring a dowry had lower risk of IPV

initiation (RRR 0.39, 95%CI [0.25, 0.60]; RRR 0.47, 95%CI [0.29, 0.75]) and continuation (RRR 0.31, 95%CI [0.18, 0.54]; RRR 0.35, 95%CI [0.19, 0.63]).

- *IPV initiation*

Among inter-survey changes and events, which were evaluated as triggers for changing experiences of violence, continued freedom of movement, increased freedom of movement, and continued financial autonomy were associated with lower risk of reporting IPV initiation (RRR 0.71, 95%CI [0.57, 0.90]; RRR 0.72, 95%CI [0.55, 1.00]; RRR 0.72, 95%CI [0.55, 0.93]) than no IPV. Ceasing to be childless also was associated with lower risk of reporting IPV initiation (RRR 0.60, 95%CI [0.38, 0.95]) than no IPV. The death of a child was associated with higher risk of IPV initiation (RRR 1.43, 95%CI [1.13, 1.79]).

- *IPV cessation*

Women who reported decreased freedom of movement had lower risk of reporting IPV cessation (RRR 0.27, 95%CI [0.09, 0.77]) than no IPV. Employment at both time points was associated with higher risk of reporting IPV cessation (RRR 2.28, 95%CI [1.53, 3.41]) than no IPV.

- *IPV continuation*

Decreased, increased, or continued autonomy was associated with lower risk (RRR 0.67, 95%CI [0.45, 1.00]; RRR 0.52, 95%CI [0.34, 0.81]; RRR 0.46, 95%CI [0.32, 0.66]) of IPV continuation than no IPV, as was ceasing to be childless (RRR 0.16, 95%CI [0.07, 0.38]). In contrast, women who reported that their relative economic contribution to the household decreased or increased (RRR 1.76, 95%CI [1.17, 2.66]; RRR 1.75, 95%CI [1.12, 2.75]) and women who experienced an unwanted pregnancy had higher risk of reporting IPV continuation (RRR 1.47, 95%CI [1.04, 2.07]) than no IPV.

Discussion

Functional Autonomy

Two categories of experiences emerge as determinants of changing experiences of IPV within marriages in rural India: functional autonomy and reproductive roles. Regarding functional autonomy [a dimension of empowerment that captures the independence gained through control of material and social resources (Jejeebhoy, 2000)], stability in the employment status, relative economic contribution, and financial autonomy of women were protective. Stability may be protective because changes independently increase risk for IPV. For example, consistent with previous findings (Krishnan et al., 2010), changes in employment status may increase risk for IPV by challenging household power structures economically (where increased access to resources grants women more decision-making independence) or symbolically (where employment or increased independence challenge prevailing norms and values, resulting in significant societal costs). Alternatively, changes may reflect experiences that increase risk for IPV. For example, an increase in a woman's relative economic contribution may occur when she seeks employment to mitigate the effects of poverty or when the contribution of her husband decreases due to employment instability.

Some evidence exists for the later hypothesis. Positive associations with more direct measures of functional autonomy suggest that social norms may support increased functional autonomy for women. Changes in financial autonomy and increased freedom of movement also were protective, and decreased freedom of movement was associated with decreased risk of IPV cessation. Congruously, changes in the relative economic contribution of women may not increase risk directly but may reflect the importance of changing spousal experiences. The

association between decreased freedom of movement and increased IPV may reflect the controlling behaviors that frequently accompany IPV.

Reproductive Roles

Second, determinants related to the reproductive roles of women were associated with IPV in a consistent pattern. Child death and unwanted pregnancy were associated with increased risk, and ceasing to be childless was associated with decreased risk. Similar to intra-household power, these experiences may confer protection directly. Socio-cultural analyses of Indian society suggest that fulfilling reproductive roles may grant women status and power or decrease relationship stress and conflict, decreasing risk for IPV (Jejeebhoy, 1998b). Alternatively, these experiences may be correlates or consequences of IPV. Controlling behaviors frequently accompany IPV, limiting the ability of women to use family planning (Stephenson et al., 2008; Stephenson et al., 2006a) and to seek health care for themselves and their children (Koski et al., 2011; Sudha & Morrison, 2011); sexual violence may accompany physical violence (Ellsberg, Pena, Herrera, Liljestrand, & Winkvist, 2000; Granados Shiroma, 1996; Leibrich, Paulin, & Ranson, 1995; Yoshihama & Sorenson, 1994), increasing risk for unwanted pregnancy; and physical violence may affect children directly, increasing risk for injury and death.

Limitations

This study is subject to several important limitations. First, background characteristics were selected as control variables, and inter-survey changes and events were evaluated as acute stressors. Although this enabled the identification of triggers for changing experiences of IPV, it risked deemphasizing the significant risk associated with chronic stress (Aneshensel, 1992). Similarly, the ability to evaluate community norms, social support, and spousal experiences was limited by the data available. Second, although the analysis describes risk and protective factors

for the initiation, cessation, and continuation of IPV, the survey design limited the ability to capture complex patterns of change and to order temporal experiences precisely. Risk should be interpreted cautiously. Third, although prior research suggests widespread acceptance of male-to-female violence in India, potentially reducing stigma and social desirability bias (Stephenson et al., 2008), IPV may be subject to underreporting. The present study also was limited to physical IPV, although sexual and psychological IPV may coexist with physical violence (Ellsberg et al., 2000; Granados Shiroma, 1996; Leibrich et al., 1995; Yoshihama & Sorenson, 1994) and may be equally impactful (Crowell & Burgess, 1996), and it focused on male-to-female IPV, although female-to-male IPV is an important emerging area.

Conclusions

The significance of functional autonomy and reproductive roles in this analysis suggests that empowerment may provide multiple benefits in relation to physical IPV within marital relationships in rural India. Women may benefit directly from increased functional autonomy, which grants increased independence and bargaining power, and indirectly from the creation of alternative pathways for developing social capital, status, and power that challenge the primacy of reproductive roles. However, as the analysis did not capture the circumstances and pathways leading to increased functional autonomy, careful attention to context remains imperative.

As this study represents an initial attempt to explore determinants of changing experiences of IPV within marital relationships in rural India, additional studies are needed to confirm the findings. These should include additional measures of risk related to social context and familial relationships. As the final point suggests, representative studies that capture the complex dynamics of changing IPV within relationships and the conditions and pathways through which experiences affect IPV risk also are imperative.

References

Ackerson, L. K., & Subramanian, S. V. (2008). Domestic violence and chronic malnutrition among women and children in India. *American Journal of Epidemiology, 167*(10), 1188-1196.

Ackerson, L. K., & Subramanian, S. V. (2009). Intimate partner violence and death among infants and children in India. *Pediatrics, 124*(5), e878-889. doi: 10.1542/peds.2009-0524

Allard, M. A., Albelda, R., Colten, M. E., & Cosenza, C. (1997). *In harm's way? Domestic violence, AFDC receipt, and welfare reform in Massachusetts*. Boston: University of Massachusetts, McCormack Institute and Center for Survey Research.

Aneshensel, C. S. (1992). Social Stress - Theory and Research. [Review]. *Annual Review of Sociology, 18*, 15-38.

Begum, S., Dwivedi, S. N., Pandey, A., & Mittal, S. (2010). Association between domestic violence and unintended pregnancies in India: Findings from the National Family Health Survey-2 data. *National Medical Journal of India, 23*(4), 198-200.

Bogat, G. A., Levendosky, A. A., & von Eye, A. (2005). The future of research on intimate partner violence: Person-oriented and variable-oriented perspectives. *American Journal of Community Psychology, 36*(1-2), 49-70. doi: 10.1007/s10464-005-6232-7

Campbell, J. C. (2002). Health consequences of intimate partner violence. *Lancet, 359*(9314), 1331-1336. doi: 10.1016/s0140-6736(02)08336-8

Campbell, J. C., & Soeken, K. L. (1999). Women's responses to battering over time - An analysis of change. *Journal of Interpersonal Violence, 14*(1), 21-40.

Chandra, P. S., Satyanarayana, V. A., & Carey, M. P. (2009). Women reporting intimate partner violence in India: Associations with PTSD and depressive symptoms. *Archives of Women's Mental Health, 12*(4), 203-209. doi: 10.1007/s00737-009-0065-6

Chowdhary, N., & Patel, V. (2008). The effect of spousal violence on women's health: Findings from the Stree Arogya Shodh in Goa, India. *Journal of Postgraduate Medicine, 54*(4), 306-312.

Crowell, N., & Burgess, A. W. (1996). *Understanding violence against women.* Washington, DC: National Academy Press.

Decker, M. R., Seage, G. R., 3rd, Hemenway, D., Raj, A., Saggurti, N., Balaiah, D., & Silverman, J. G. (2009). Intimate partner violence functions as both a risk marker and risk factor for women's HIV infection: Findings from Indian husband-wife dyads. *Journal of Acquired Immune Deficiency Syndromes, 51*(5), 593-600. doi: 10.1097/QAI.0b013e3181a255d6

Dyson, T. M. M. (1983). On kinship structure, female autonomy, and demographic behavior in India. *Population and development review, 9*(1), 35-60.

Ellsberg, M., Pena, R., Herrera, A., Liljestrand, J., & Winkvist, A. (2000). Candies in hell: Women's experiences of violence in Nicaragua. *Social Science & Medicine, 51*(11), 1595-1610.

Follingstad, D. R., Brennan, A. F., Hause, E. S., Polek, D., & Rutlaedge, L. (1991). Factors moderating physical and physiological symptoms of battered women. *Journal of Family Violence, 6*, 81-95.

Ganatra, B. R., Coyaji, K. J., & Rao, V. N. (1998). Too far, too little, too late: A community-based case-control study of maternal mortality in rural west Maharashtra, India. *Bulletin of the World Health Organization, 76*(6), 591-598.

Granados Shiroma, M. (1996). *Salud reproductiva y violencia contra la mujer: Un analisis desde la perspectiva de genero*. [Reproductive health and violence against women: A gender perspective.]: Nuevo Leon, Asociacion Mexicana de Poblacion, Consejo Estatal de Poblacion.

Gururaj, G., Isaac, M. K., Subbakrishna, D. K., & Ranjani, R. (2004). Risk factors for completed suicides: A case-control study from Bangalore, India. *Injury Control and Safety Promotion, 11*(3), 183-191. doi: 10.1080/156609704/233/289706

Hindin, M. J., Kishor, S., & Ansara, D. L. (2008). *Intimate partner violence among couples in 10 DHS countries: Predictors and health outcomes*.

International Institute for Population Sciences (IIPS) and Johns Hopkins University. (2005). *Final report of the 2003 NFHS-2 four-state follow-up survey*. Mumbai: IIPS.

International Institute for Population Sciences (IIPS) and Macro International. (2007). *National Family Health Survey (NFHS-3), 2005-06*: India. Mumbai: IIPS.

International Institute for Population Sciences (IIPS) and ORC Macro. (2000). *National Family Health Survey (NFHS-2), 1998–99: India*. Mumbai: IIPS.

Jejeebhoy, S. (2000). Women's autonomy in rural India: Its dimensions, determinants, and the influence of context. In H. B. Presser & G. Sen (Eds.), *Women's empowerment and demographic processes: Moving beyond Cairo*. Oxford: Clarendon Press.

Jejeebhoy, S. J. (1998a). Associations between wife-beating and fetal and infant death: Impressions from a survey in rural India. *Studies in Family Planning, 29*(3), 300-308.

Jejeebhoy, S. J. (1998b). Wife-beating in rural India: a husband's right? Evidence from survey data. *Economic and Political Weekly, 33*(15), 855-862.

Jejeebhoy, S. J., & Cook, R. J. (1997). State accountability for wife-beating: The Indian challenge. *Lancet, 349 Suppl 1*, sI10-12.

Jewkes, R. (2002). Intimate partner violence: Causes and prevention. *Lancet, 359*(9315), 1423-1429. doi: 10.1016/s0140-6736(02)08357-5

Kishor, S., & Johnson, K. (2006). Reproductive health and domestic violence: Are the poorest women uniquely disadvantaged? *Demography, 43*(2), 293-307.

Koenig, M. A., Stephenson, R., Acharya, R., Barrick, L., Ahmed, S., & Hindin, M. (2010). Domestic violence and early childhood mortality in rural India: Evidence from prospective data. *Internatioal Journal of Epidemiology, 39*(3), 825-833.

Koenig, M. A., Stephenson, R., Ahmed, S., Jejeebhoy, S. J., & Campbell, J. (2006). Individual and contextual determinants of domestic violence in North India. *American Journal of Public Health, 96*(1), 132-138. doi: 10.2105/ajph.2004.050872

Koski, A. D., Stephenson, R., & Koenig, M. R. (2011). Physical violence by partner during pregnancy and use of prenatal care in rural India. *Journal of Health, Population, and Nutrition, 29*(3), 245-254.

Krishnan, S. (2005a). Do structural inequalities contribute to marital violence? Ethnographic evidence from rural South India. *Violence Against Women, 11*(6), 759-775. doi: 10.1177/1077801205276078

Krishnan, S. (2005b). Gender, caste, and economic inequalities and marital violence in rural South India. *Health Care for Women International, 26*(1), 87-99. doi: 10.1080/07399330490493368

Krishnan, S., Rocca, C. H., Hubbard, A. E., Subbiah, K., Edmeades, J., & Padian, N. S. (2010). Do changes in spousal employment status lead to domestic violence? Insights from a prospective study in Bangalore, India. *Social Science & Medicine, 70*(1), 136-143. doi: 10.1016/j.socscimed.2009.09.026

Kumar, S., Jeyaseelan, L., Suresh, S., & Ahuja, R. C. (2005). Domestic violence and its mental health correlates in Indian women. *British Journal of Psychiatry, 187*, 62-67.

Leibrich, J., Paulin, J., & Ranson, R. (1995). *Hitting home: Men speak about domestic abuse of women partners*. Wellington, New Zealand: New Zealand Department of Justice and AGB McNair.

Liang, B., Goodman, L., Tummala-Narra, P., & Weintraub, S. (2005). A theoretical framework for understanding help-seeking processes among survivors of intimate partner violence. *American Journal of Community Psychology, 36*(1-2), 71-84. doi: 10.1007/s10464-005-6233-6

Martin, S. L., Tsui, A. O., Maitra, K., & Marinshaw, R. (1999). Domestic violence in northern India. *American Journal of Epidemiology, 150*(4), 417-426.

Rocca, C. H., Rathod, S., Falle, T., Pande, R. P., & Krishnan, S. (2009). Challenging assumptions about women's empowerment: Social and economic resources and domestic violence among young married women in urban South India. *International Journal of Epidemiology, 38*(2), 577-585. doi: 10.1093/ije/dyn226

Sabarwal, S., McCormick, M. C., Silverman, J. G., & Subramanian, S. V. (2011). Association between maternal intimate partner violence victimization and childhood immunization in India. *Journal of Tropical Pediatrics*. doi: 10.1093/tropej/fmr052

Sabarwal, S., McCormick, M. C., Subramanian, S. V., & Silverman, J. G. (2012). Son preference and intimate partner violence victimization in India: Examining the role of actual and desired family composition. *Journal of Biosocial Science, 44*(1), 43-56. doi: 10.1017/s002193201100037x

Shahmanesh, M., Wayal, S., Cowan, F., Mabey, D., Copas, A., & Patel, V. (2009). Suicidal behavior among female sex workers in Goa, India: The silent epidemic. *American Journal of Public Health, 99*(7), 1239-1246. doi: 10.2105/ajph.2008.149930

Shidhaye, R., & Patel, V. (2010). Association of socio-economic, gender and health factors with common mental disorders in women: A population-based study of 5703 married rural women in India. *International Journal of Epidemiology, 39*(6), 1510-1521. doi: 10.1093/ije/dyq179

Silverman, J. G., Decker, M. R., Cheng, D. M., Wirth, K., Saggurti, N., McCauley, H. L., . . . Raj, A. (2011). Gender-based disparities in infant and child mortality based on maternal exposure to spousal violence: the heavy burden borne by Indian girls. *Archives of Pediatric Adolescent Medicine, 165*(1), 22-27. doi: 10.1001/archpediatrics.2010.261

Silverman, J. G., Decker, M. R., Saggurti, N., Balaiah, D., & Raj, A. (2008). Intimate partner violence and HIV infection among married Indian women. *JAMA, 300*(6), 703-710. doi: 10.1001/jama.300.6.703

Stephenson, R., Koenig, M. A., Acharya, R., & Roy, T. K. (2008). Domestic violence, contraceptive use, and unwanted pregnancy in rural India. *Studies in Family Planning, 39*(3), 177-186.

Stephenson, R., Koenig, M. A., & Ahmed, S. (2006a). Domestic violence and contraceptive adoption in Uttar Pradesh, India. *Studies in Family Planning, 37*(2), 75-86.

Stephenson, R., Koenig, M. A., & Ahmed, S. (2006b). Domestic violence and symptoms of gynecologic morbidity among women in north India. *International Family Planning Perspectives, 32*(4), 201-208.

Sudha, S., & Morrison, S. (2011). Marital violence and women's reproductive health care in Uttar Pradesh, India. *Women's Health Issues, 21*(3), 214-221.

Sudha, S., Morrison, S., & Zhu, L. (2007). Violence against women, symptom reporting, and treatment for reproductive tract infections in Kerala state, Southern India. *Health Care for Women International, 28*(3), 268-284. doi: 10.1080/07399330601180164

World Health Organization. (2002). Violence by intimate partners. In E. G. Krug, L. L. Dahlberg, J. A. Mercy, A. B. Zwi & R. Lozano (Eds.), *World Report on Violence and Health*: World Health Organization.

Yoshihama, M., & Sorenson, S. B. (1994). Physical, sexual, and emotional abuse by male intimates: experiences of women in Japan. *Violence and Victims, 9*(1), 63-77.

Appendix A: Tables

Table 1. *Background characteristics of women in rural Bihar, Jharkhand, Maharashtra, and Tamil Nadu, 1998-2002 (*N*=4749)*

	Total (%)	**No IPV** (%) (*n*=3379)	**IPV Initiation** (%) (*n*=781)	**IPV Cessation** (%) (*n*=271)	**IPV Continuation** (%) (*n*=318)	X^2 *p*-value
State						<.001
Bihar	40.2	71.5	15.8	6.1	6.6	
Jharkhand	13.9	69.2	21.0	3.3	6.5	
Maharashtra	17.9	85.9	9.1	2.2	2.8	
Tamil Nadu	28.1	62.3	19.8	8.5	9.4	
Religion						.103
Hindu	88.2	70.7	16.4	6.0	6.9	
Muslim	8.8	73.8	16.7	4.1	5.5	
Other	3.0	77.5	16.9	2.1	3.5	
Caste						<.001
General caste	18.8	85.8	8.3	2.6	3.4	
Scheduled caste/tribe	28.8	62.4	20.2	7.4	10.0	
Other backward caste	52.4	70.7	17.3	5.9	6.1	
Age						<.001
15-19	12.9	71.5	21.2	2.8	4.6	
20-24	23.4	69.5	18.5	4.5	7.6	
25-29	26.2	69.5	16.8	6.8	7.0	
30-34	20.8	71.2	14.7	6.7	7.4	
35-39	16.7	75.9	11.5	6.8	5.8	
Respondent's education						<.001
No education	61.7	66.8	18.7	6.5	8.1	
Primary	14.9	72.0	15.8	5.8	6.4	
Secondary or higher	23.4	82.2	10.9	3.6	3.3	
Husband's education						<.001
No education	34.0	63.1	20.4	7.1	9.4	
Primary	19.0	68.8	17.2	5.9	8.2	
Secondary/Higher	47.0	77.9	13.3	4.7	4.1	
Baseline standard of living						<.001
Low	53.0	64.9	19.6	6.6	8.9	
Medium	38.7	75.4	14.5	5.3	4.8	
High	8.4	91.2	5.5	1.8	1.5	
Head of household						<.001
Husband	68.3	69.0	16.8	6.7	7.5	

Table 1. *Background characteristics of women in rural Bihar, Jharkhand, Maharashtra, and Tamil Nadu, 1998-2002 (*N*=4749)*

	Total (%)	**No IPV** (%) (*n*=3379)	**IPV Initiation** (%) (*n*=781)	**IPV Cessation** (%) (*n*=271)	**IPV Continuation** (%) (*n*=318)	X^2 *p*-value
Mother-in-law	24.0	75.6	15.6	3.6	5.2	
Other	7.8	76.2	16.0	3.8	4.1	
Baseline marital duration						<.001
0-4 years	4.1	72.4	19.9	3.2	4.5	
5-9 years	23.4	67.2	18.7	5.9	8.2	
10+ years	52.5	72.3	13.9	6.7	7.1	
Age at start of current union						.127
12-14 years	23.7	69.3	16.5	6.6	7.7	
15-17 years	43.0	70.8	16.9	5.2	7.1	
18+ years	33.3	73.0	15.8	5.8	5.5	
Spousal age difference						.207
Wife older or husband 0-4 years older	35.5	70.6	16.7	5.0	7.6	
Husband 5-9 years older	45.4	70.7	16.5	6.4	6.5	
Husband 10+ years older	19.0	73.2	16.0	5.4	5.4	
Husband's reaction to dowry						<.001
Unsatisfied	4.0	45.0	29.1	7.9	18.0	
Neutral/unsure	12.5	69.6	15.5	7.6	7.3	
Satisfied	76.3	73.2	15.8	5.2	5.8	
Did not bring dowry	7.3	66.6	18.2	6.6	8.7	
Baseline parity						<.001
0	12.9	72.3	20.6	2.6	4.4	
1	15.9	67.1	21.0	4.6	7.3	
2	20.9	70.9	16.4	6.5	6.3	
3	20.9	71.8	14.0	6.2	8.1	
4+	29.5	72.6	13.9	6.8	6.7	
Witnessed IPV in childhood						<.001
	23.8	54.8	26.0	7.3	12.0	
Non-IPV violence since age 15						<.001
	4.4	40.8	22.3	17.1	19.9	

Table 2. *Changes experienced from baseline to follow-up by women in rural Bihar, Jharkhand, Maharashtra, and Tamil Nadu, 1998-2002 (*N*=4749)*

	Total (%)	**No IPV** (%) (*n*=3379)	**IPV Initiation** (%) (*n*=781)	**IPV Cessation** (%) (*n*=271)	**IPV Continuation** (%) (*n*=318)	**X^2** ***p*-value**
Relative economic condition of household						<.001
Same	46.4	73.2	16.4	5.0	5.4	
Decrease	26.2	63.2	18.9	8.0	10.0	
Increase	27.5	14.2	4.8	5.8	75.2	
Relative economic condition of household, by baseline standard of living						<.001
Low, same	25.4	67.8	19.7	5.2	7.3	
Low, decrease	15.9	59.4	20.1	8.6	12.0	
Low, increase	11.7	66.1	18.9	6.8	8.3	
Med/high, same	21.0	79.8	12.5	4.7	3.0	
Med/high, decrease	10.3	69.0	17.1	6.9	6.9	
Med/high, increase	15.7	82.1	10.7	3.2	4.0	
Relative (female) economic contribution						<.001
Same	85.9	72.7	15.8	5.6	5.9	
Decrease	7.8	58.3	22.3	6.5	12.9	
Increase	6.3	66.3	17.3	6.3	10.0	
Employment status						<.001
No employment	30.0	77.5	14.3	3.5	4.6	
Decrease	6.4	69.9	15.2	7.0	8.0	
Increase	26.7	69.7	18.3	5.2	6.8	
Continued employment	37.0	67.3	17.0	7.6	8.1	
Attitudes toward physical IPV						.049
No agreement	13.7	74.4	15.7	4.2	5.7	
Decrease in agreement	16.2	72.0	14.5	5.9	7.7	
Increase in agreement	48.5	69.6	17.8	5.5	7.0	
Continued agreement	21.7	71.9	15.3	7.0	5.8	
Financial autonomy						.008
No autonomy	12.7	66.1	19.3	5.0	9.6	
Decrease in autonomy	21.6	69.8	16.4	6.4	7.4	
Increase in autonomy	16.2	71.0	17.7	5.3	6.0	
Continued autonomy	49.5	73.1	15.3	5.7	5.9	
Decision-making authority						.811

Table 2. *Changes experienced from baseline to follow-up by women in rural Bihar, Jharkhand, Maharashtra, and Tamil Nadu, 1998-2002 (*N*=4749)*

	Total (%)	**No IPV** (%) (*n*=3379)	**IPV Initiation** (%) (*n*=781)	**IPV Cessation** (%) (*n*=271)	**IPV Continuation** (%) (*n*=318)	**X^2** ***p*-value**
Limited authority	28.4	72.3	16.2	5.6	5.9	
Decrease in authority	18.4	72.6	15.6	5.1	6.8	
Increase in authority	26.6	69.6	16.9	6.1	7.4	
Continued authority	26.6	70.5	16.8	5.9	6.8	
Freedom of movement						.001
No freedom	23.1	71.8	17.7	4.8	5.7	
Decrease in freedom	5.5	15.3	1.5	6.9	76.3	
Increase in freedom	38.6	14.5	6.0	6.4	73.1	
Freedom persists	32.9	18.0	6.7	7.7	67.6	
Childlessness						<.001
No change	90.7	70.7	16.1	6.0	7.2	
Ceased to be childless	9.3	75.9	19.4	2.5	2.3	
Contraceptive use						<.001
No use	49.2	67.7	19.0	5.9	7.4	
Adoption	17.5	73.4	15.3	5.3	6.0	
Cessation	1.5	71.4	14.3	5.7	8.6	
Continuation	31.9	75.2	13.2	5.6	6.0	

*Table 3. Events experienced during the inter-survey period by women in rural Bihar, Jharkhand, Maharashtra, and Tamil Nadu, 1998-2002 (*N*=4749)*

	Total (%)	**No IPV** (%) (*n*=3379)	**IPV Initiation** (%) (*n*=781)	**IPV Cessation** (%) (*n*=271)	**IPV Continuation** (%) (*n*=318)	X^2 ***p*-value**
Birth						<.001
	45.3	68.5	18.9	5.6	7.0	
Unwanted pregnancy, respondent's preference						.004
	12.3	65.8	17.5	7.5	9.3	
Unwanted pregnancy, husband's preference						.013
	11.4	65.9	17.8	7.8	8.5	
Unfulfilled gender preference						.028
No unfulfilled preference	87.8	71.8	15.8	5.7	6.7	
Unfulfilled preference for boy	10.1	67.0	21.6	5.7	5.9	
Unfulfilled preference for girl	2.2	64.1	18.5	6.8	10.7	
Pregnancy termination						.030
	7.4	65.7	21.5	4.8	7.9	
Child death						.003
	13.4	65.2	20.9	6.4	7.5	

Table 4. *Multinomial regression analysis for variables predicting changes in IPV experienced by women in rural Bihar, Jharkhand, Maharashtra, and Tamil Nadu, 1998-2002 (*N*=4749)*

	IPV Initiation v. No IPV RRR (95% CI)	**IPV Cessation v. No IPV** RRR (95% CI)	**IPV Continuation v. No IPV** RRR (95% CI)
Background characteristics			
State			
Bihar (*r)*	1.00	1.00	1.00
Jharkhand	1.30 (1.01, 1.68)	0.53 (0.32, 0.86)	0.87 (0.58, 1.30)
Maharashtra	0.58 (0.42, 0.82)	0.25 (0.14, 0.45)	0.28 (0.16, 0.50)
Tamil Nadu	1.56 (1.15, 2.10)	1.77 (1.12, 2.78)	1.71 (1.10, 2.66)
Caste			
General caste (*r*)	1.00	1.00	1.00
Scheduled caste/tribe	1.53 (1.11, 2.11)	1.46 (0.85, 2.51)	1.27 (0.78, 2.06)
Other backward caste	1.43 (1.06, 1.94)	1.13 (0.67, 1.91)	0.88 (0.55, 1.42)
Respondent's education			
No education (*r*)	1.00	1.00	1.00
Primary	0.86 (0.66, 1.12)	0.82 (0.54, 1.23)	0.80 (0.54, 1.18)
Secondary or higher	0.69 (0.52, 0.91)	0.67 (0.43, 1.04)	0.63 (0.41, 0.98)
Husband's education			
No education (*r*)	1.00	1.00	1.00
Primary	0.79 (0.62, 1.01)	0.78 (0.53, 1.14)	0.80 (0.57, 1.12)
Secondary or higher	0.80 (0.65, 0.99)	0.93 (0.66, 1.30)	0.64 (0.46, 0.88)
Baseline standard of living			
Low (*r*)	1.00	1.00	1.00
Medium	0.81 (0.67, 0.98)	0.97 (0.71, 1.31)	0.71 (0.53, 0.96)
High	0.34 (0.21, 0.55)	0.33 (0.14, 0.76)	0.26 (0.11, 0.63)
Age at start of current union			
12-14 years (*r*)	1.00	1.00	1.00
15-17 years	0.93 (0.75, 1.15)	0.77 (0.55, 1.07)	0.85 (0.63, 1.16)
18+ years	0.85 (0.67, 1.09)	0.83 (0.57, 1.21)	0.67 (0.46, 0.95)
Spousal age difference			
Wife older or husband 0-4 years older (*r*)	1.00	1.00	1.00
Husband 5-9 years older	1.09 (0.91, 1.31)	1.36 (1.01, 1.83)	0.90 (0.69, 1.18)
Husband 10+ years older	0.88 (0.70, 1.12)	0.86 (0.59, 1.27)	0.57 (0.39, 0.82)
Husband's reaction to dowry			
Unsatisfied (*r*)	1.00	1.00	1.00
Neutral/unsure	0.39 (0.25, 0.60)	0.62 (0.32, 1.20)	0.31 (0.18, 0.54)
Satisfied	0.37 (0.25, 0.53)	0.45 (0.25, 0.81)	0.23 (0.15, 0.37)
Did not bring dowry	0.47 (0.29, 0.75)	0.66 (0.32, 1.36)	0.35 (0.19, 0.63)
Baseline parity			
0 (*r*)	1.00	1.00	1.00
1	0.80 (0.52, 1.22)	1.59 (0.59, 4.24)	0.65 (0.35, 1.21)
2	0.59 (0.38, 0.90)	1.99 (0.77, 5.19)	0.52 (0.28, 0.96)
3	0.52 (0.34, 0.80)	2.09 (0.80, 5.44)	0.72 (0.39, 1.32)
4+	0.42 (0.27, 0.64)	1.84 (0.71, 4.76)	0.44 (0.24, 0.81)
Witnessed IPV in childhood			
No (*r*)	1.00	1.00	1.00
Yes	2.35 (1.96, 2.82)	1.55 (1.15, 2.07)	2.70 (2.07, 3.51)
Non-IPV violence since age 15			
No (*r*)	1.00	1.00	1.00
Yes	2.09 (1.43, 3.07)	5.33 (3.45, 8.24)	5.07 (3.32, 7.74)
Changes from baseline to follow-up			
Relative (female) economic contribution			

Table 4. *Multinomial regression analysis for variables predicting changes in IPV experienced by women in rural Bihar, Jharkhand, Maharashtra, and Tamil Nadu, 1998-2002 (*N*=4749)*

	IPV Initiation v. No IPV RRR (95% CI)	**IPV Cessation v. No IPV** RRR (95% CI)	**IPV Continuation v. No IPV** RRR (95% CI)
Same (*r)*	1.00	1.00	1.00
Decrease	1.27 (0.93, 1.73)	0.73 (0.45, 1.19)	1.76 (1.17, 2.66)
Increase	1.11 (0.78, 1.56)	0.98 (0.58, 1.65)	1.75 (1.12, 2.75)
Employment status			
No employment (*r*)	1.00	1.00	1.00
Decrease	0.75 (0.51, 1.09)	1.47 (0.83, 2.60)	0.93 (0.54, 1.59)
Increase	1.05 (0.83, 1.33)	1.45 (0.96, 2.19)	0.97 (0.67, 1.42)
Continued employment	1.09 (0.85, 1.40)	2.28 (1.53, 3.41)	1.13 (0.77, 1.65)
Financial autonomy			
No autonomy (*r*)	1.00	1.00	1.00
Decrease in autonomy	0.81 (0.61, 1.08)	1.20 (0.74, 1.92)	0.67 (0.45, 1.00)
Increase in autonomy	0.83 (0.62, 1.12)	0.91 (0.55, 1.52)	0.52 (0.34, 0.81)
Continued autonomy	0.72 (0.55, 0.93)	0.92 (0.59, 1.44)	0.46 (0.32, 0.66)
Freedom of movement			
No freedom (*r*)	1.00	1.00	1.00
Decrease in freedom	0.72 (0.48, 1.08)	0.27 (0.09, 0.77)	1.16 (0.64, 2.10)
Increase in freedom	0.71 (0.57, 0.90)	0.86 (0.60, 1.25)	0.95 (0.67, 1.36)
Continued freedom	0.72 (0.55, 0.96)	0.71 (0.45, 1.13)	0.82 (0.53, 1.27)
Childlessness			
No change (*r*)	1.00	1.00	1.00
Ceased to be childless	0.60 (0.38, 0.95)	0.79 (0.26, 2.39)	0.16 (0.07, 0.38)
Events during the inter-survey period			
Unwanted pregnancy, respondent's preference			
No (*r*)	1.00	1.00	1.00
Yes	1.21 (0.94, 1.56)	1.35 (0.94, 1.94)	1.47 (1.04, 2.07)
Child death			
No (*r*)	1.00	1.00	1.00
Yes	1.43 (1.13, 1.79)	1.19 (0.82, 1.73)	1.15 (0.81, 1.63)

Note: *P*-value for decrease in autonomy < .05.

Chapter IV: Conclusions and Recommendations

Public Health Implications

The public health implications of this study are multiple. First, as IPV is a dynamic experience within marriage in rural India, preventative interventions should target both women at risk for the initiation of violence and women at risk for the continuation or recurrence of violence. The later may be undertaken in conjunction with rehabilitative interventions that provide care to women who have experienced violence. Similarly, as a significant proportion of women remain in relationships characterized by ongoing or intermittent violence, interventions to establish healthful relationships and to assist women to leave dangerous relationships may be considered. The balance of these strategies must be contextually sensitive and consider the enduring difficulties experienced by single women in rural India. Further study of patterns of violence, in combination with community input, may help to identify circumstances when each strategy is appropriate.

Second, dynamic characteristics and experiences associated with changing experiences of violence should be the targets of interventions. Stable background characteristics, including economic status and inter-generational exposure to violence, may help to identify populations for selected interventions; however, their exclusive focus disregards significant antecedents of violence. Functional autonomy and the reproductive experiences of women are foremost among the dynamic characteristics identified in this study, suggesting that efforts to address risk and bolster protective factors must be linked with broader efforts to address gender inequities.

Although attempts to understand intimate partner violence, identify correlates, and develop appropriate public health interventions are growing in the Indian subcontinent, several

important additions must be made to the current public health agenda. As the following suggests, public health interventions should retain the multi-faceted approaches of developed countries while contending with the pervasive gender inequities of the Indian context.

1. *Empower women, expanding their functional autonomy and societal roles beyond tasks of reproduction and childrearing*

As these findings suggest that increased functional autonomy and fulfillment of reproductive roles decrease IPV risk, interventions should aim to increase functional autonomy and create alternate pathways for social participation for women. National strategies designed to address these goals include microfinance programs implemented through microfinance institutions and self-help groups. Recent analyses of high debt burdens and rates of default, however, suggest the need for better regulatory frameworks (Jacob, 2011). Similarly, notably complex relationships between increased income and functional autonomy in India (P. Kantor, 2003) suggests the need for continued innovation. Public-private partnerships may be essential to this process, as nongovernmental organizations may drive innovation at the intersection of gender and development while governmental agencies ensure the inclusion of impact evaluations in the design of interventions and bring the most effective strategies to scale through public health policies.

Similarly, the potential for extant programs to reduce IPV should be considered. For example, the National Rural Health Mission of the Ministry of Health of India presently is undertaking the Accredited Social Health Activist (ASHA) program, which aims to train and support one female community health worker per 1000 persons (Scott & Shanker, 2010). Although the program goals are related to quantitative health policy goals, the broader implications of these roles also should be considered. Maximizing the functional autonomy and

social status of health workers and, indirectly, female community members may require attention to broader constraints, such outcome-based payment structures, limited institutional support, and rigid hierarchies within the health care system (Scott & Shanker, 2010), yet it also likely would increase program effectiveness.

2. *Create supportive environments for this empowerment, including engaging family members in social change and enforcing legal protections for women*

As direct measures of functional autonomy (e.g., financial autonomy and freedom of movement) were associated with *decreased* IPV risk and indirect measures of functional autonomy (e.g., relative economic contribution and employment status) were associated with *increased* IPV risk, further investigation of spousal and familial experiences is warranted. Similarly, the present study suggests that social norms may support increased empowerment generally, as increased functional autonomy in the absence of social support may increase IPV risk (Krishnan et al., 2010). However, the circumstances through which functional autonomy increased during the study are unknown. Careful attention to local context and social support at both the microsystem [e.g., the role that mother-in-laws play in sanctioning IPV (Krishnan et al., 2012)] and macrosystem [e.g., the impartial enforcement of laws prohibiting dowry and supporting prosecution for IPV (Jejeebhoy, 1998b)] is warranted as a corollary to empowerment interventions.

3. *Focus prevention services broadly, including reinforcing the assets of women who do not currently report violence and instituting routine screening for IPV*

As IPV was found to be a dynamic experience and its initiation and cessation associated with changing experiences and events, primary and secondary prevention activities must be ongoing. Primary prevention should include identifying and reinforcing the assets of women who have not experienced violence and, as previously described, facilitating increased autonomy and expanded roles for women within supportive social environments. Imperative social change includes challenging both legitimization of IPV and social stigma that prevents help seeking (Krishnan et al., 2012).

Secondary prevention should include private, routine screening coupled with guidelines for immediate care and referral (Sohani et al., 2012). Although women may be targeted by background characteristics, women whose experiences increase risk for the initiation and continuation of violence also should be screened. Given associations between reproductive experiences and IPV, important screening opportunities include antenatal and delivery care for women and acute care for children. Both formal and informal service providers, as well as religious leaders who perform cremation or burial services, may be considered for training to screen and refer women. Law enforcement professionals also should be sensitized to recognize signs of IPV, as limited functional autonomy and social stigma may inhibit health seeking among affected women (Koski et al., 2011; Stephenson et al., 2006a; Sudha & Morrison, 2011).

4. *Integrate therapeutic and preventative services for women who experience IPV*

Furthermore, as findings indicate that a significant proportion of women remain in relationships characterized by continued violence, therapeutic and preventative services should

be integrated. Women who present for physical or mental health care should receive support to establish healthful relationships or leave dangerous relationships. The enduring difficulties faced by single women in India suggest that services must sensitively integrate personal preferences, familial support, and community characteristics. However, at minimum, they should include ongoing culturally appropriate health care to mitigate poor health outcomes and education regarding laws to protect women, including the Protection of Women from Domestic Violence Act, 2005. Important structural supports also may include the establishment of social networks, which provide extra-familial support and aggregate power for structural transformation (Gurnani et al., 2011), and intergenerational familial engagement, which may focus on the role mother-in-laws play in supporting and sanctioning IPV within marriage (Krishnan et al., 2012).

As attention to IPV in resource poor settings and the Indian subcontinent increases, there remains a need to consider antecedents of changing experiences of violence and to rigorously examine strategies designed to prevent the initiation and continuation of violence. As this study suggests, epidemiologic research and intervention development must consider the dynamism of both risk and victimization and must address broader familial and social factors that grant meaning to the experiences of women in rural India.

References

Abrahams, N., Jewkes, R., Laubscher, R., & Hoffman, M. (2006). Intimate partner violence: Prevalence and risk factors for men in Cape Town, South Africa. *Violence and Victims, 21*(2), 247-264.

Ackerson, L. K., Kawachi, I., Barbeau, E. M., & Subramanian, S. V. (2008). Effects of individual and proximate educational context on intimate partner violence: A population-based study of women in India. *American Journal of Public Health, 98*(3), 507-514. doi: 10.2105/ajph.2007.113738

Ackerson, L. K., & Subramanian, S. V. (2008a). Domestic violence and chronic malnutrition among women and children in India. *American Journal of Epidemiology, 167*(10), 1188-1196.

Ackerson, L. K., & Subramanian, S. V. (2008b). State gender inequality, socioeconomic status and intimate partner violence (IPV) in india: A multilevel analysis. *Australian Journal of Social Issues, 43*(1), 81-102.

Ackerson, L. K., & Subramanian, S. V. (2009). Intimate partner violence and death among infants and children in India. *Pediatrics, 124*(5), e878-889. doi: 10.1542/peds.2009-0524

Allard, M. A., Albelda, R., Colten, M. E., & Cosenza, C. (1997). *In harm's way? Domestic violence, AFDC receipt, and welfare reform in Massachusetts*. Boston, MA: University of Massachusetts, McCormack Institute and Center for Survey Research.

Babu, B. V., & Kar, S. K. (2009). Domestic violence against women in eastern India: A population-based study on prevalence and related issues. *BMC Public Health, 9*, 129. doi: 10.1186/1471-2458-9-129

Babu, B. V., & Kar, S. K. (2010). Domestic violence in Eastern India: Factors associated with victimization and perpetration. *Public Health, 124*(3), 136-148. doi: 10.1016/j.puhe.2010.01.014

Bangdiwala, S. I., Ramiro, L., Sadowski, L. S., Bordin, I. A., Hunter, W., & Shankar, V. (2004). Intimate partner violence and the role of socioeconomic indicators in WorldSAFE communities in Chile, Egypt, India and the Philippines. *Injury Control and Safety Promotion, 11*(2), 101-109. doi: 10.1080/15660970412331292324

Begum, S., Dwivedi, S. N., Pandey, A., & Mittal, S. (2010). Association between domestic violence and unintended pregnancies in India: Findings from the National Family Health Survey-2 data. *National Medical Journal of India, 23*(4), 198-200.

Bell, K. M., & Naugle, A. E. (2008). Intimate partner violence theoretical considerations: Moving towards a contextual framework. *Clinical Psychology Review, 28*(7), 1096-1107. doi: 10.1016/j.cpr.2008.03.003

Berg, M. J., Kremelberg, D., Dwivedi, P., Verma, S., Schensul, J. J., Gupta, K., . . . Singh, S. K. (2010). The effects of husband's alcohol consumption on married women in three low-income areas of Greater Mumbai. *AIDS and Behavior, 14 Supplement 1*, S126-135. doi: 10.1007/s10461-010-9735-7

Bhattacharyya, M., Bedi, A. S., & Chhachhi, A. (2011). Marital violence and women's employment and property status: Evidence from north Indian villages. *World Development, 39*(9), 1676-1689.

Black, D. A., Schumacher, J., Smith Slep, A. M., & Heyman, R. E. (1999). *Partner, child abuse risk factors literature review*. Stony Brook, NY: State University of New York.

Bogat, G. A., Levendosky, A. A., & von Eye, A. (2005). The future of research on intimate partner violence: person-oriented and variable-oriented perspectives. *Am J Community Psychol, 36*(1-2), 49-70. doi: 10.1007/s10464-005-6232-7

Boyle, M. H., Georgiades, K., Cullen, J., & Racine, Y. (2009). Community influences on intimate partner violence in India: Women's education, attitudes towards mistreatment and standards of living. *Social Science & Medicine, 69*(5), 691-697. doi: 10.1016/j.socscimed.2009.06.039

Brisibe, S., Ordinioha, B., & Dienye, P. O. (2011). Intersection between alcohol abuse and intimate partner's violence in a rural Ijaw community in Bayelsa State, south-south Nigeria. *Journal of Interpersonal Violence*. doi: 10.1177/0886260511421676

Burke, L. K., & Follingstad, D. R. (1999). Violence in lesbian and gay relationships: Theory, prevalence, and correlational factors. *Clinical Psychology Review, 19*(5), 487-512.

Caeser, P. (1998). Exposure to violence in the families of origin among wife abusers and maritally nonviolent men. *Violence and Victims, 3*, 49–63.

Campbell, J. C. (2002). Health consequences of intimate partner violence. *Lancet, 359*(9314), 1331-1336. doi: 10.1016/s0140-6736(02)08336-8

Carlson, B. E. (1984). Causes and maintenance of domestic violence: An ecological analysis. *Social Service Review, 58*(4), 569-587.

Castro, R., Casique, I., & Brindis, C. D. (2008). Empowerment and physical violence throughout women's reproductive life in Mexico. *Violence Against Women, 14*(6), 655-677.

Centers for Disease Control. (2010). Intimate partner violence: Definitions Retrieved February 9, 2012, from http://www.cdc.gov/violenceprevention/intimatepartnerviolence/definitions.html

Chandra, P. S., Satyanarayana, V. A., & Carey, M. P. (2009). Women reporting intimate partner violence in India: Associations with PTSD and depressive symptoms. *Archives of Women's Mental Health, 12*(4), 203-209. doi: 10.1007/s00737-009-0065-6

Chowdhary, N., & Patel, V. (2008). The effect of spousal violence on women's health: Findings from the Stree Arogya Shodh in Goa, India. *Journal of Postgraduate Medicine, 54*(4), 306-312.

Counts, D. A., Brown, J., & Campbell, J. (1992). *Sanctions and sanctuary: cultural perspectives on the beating of wives*. Boulder, CO: Westview Press.

Dalal, K. (2011). Does economic empowerment protect women from intimate partner violence? *Journal of Injury and Violence Research, 3*(1), 35-44. doi: 10.5249/jivr.v3i1.76

Decker, M. R., Seage, G. R., Hemenway, D., Raj, A., Saggurti, N., Balaiah, D., & Silverman, J. G. (2009). Intimate partner violence functions as both a risk marker and risk factor for women's HIV infection: Findings from Indian husband-wife dyads. *Journal of Acquired Immune Deficiency Syndromes, 51*(5), 593-600. doi: 10.1097/QAI.0b013e3181a255d6

Dobash, R. E., & Dobash, R. P. (1979). *Violence against wives: A case against the patriarchy*. New York, NY: Free Press.

Dobash, R. E., & Dobash, R. P. (1988). Research as social action: The struggle for battered women. In K. Yilo & M. Bograd (Eds.), *Feminist Perspectives on Wife Abuse*. Newbury Park, CA: Sage.

Dutton, D. G. (1985). An ecologically nested theory of male violence toward intimates. *International Journal of Women's Studies, 8*(4), 404-413.

Edleson, J., & Tolman, R. M. (1992). *Intervention for men who batter: An ecological approach.* Newbury Park, CA: Sage.

Ellsberg, M., Pena, R., Herrera, A., Liljestrand, J., & Winkvist, A. (1999). Wife abuse among women of childbearing age in Nicaragua. *American Journal of Public Health, 89*(2), 241-244.

Ellsberg, M., Pena, R., Herrera, A., Liljestrand, J., & Winkvist, A. (2000). Candies in hell: Women's experiences of violence in Nicaragua. *Social Science & Medicine, 51*(11), 1595-1610.

Finkel, E. J., & Eckhardt, C. I. (2011, in press). Intimate partner violence. In J. A. Simpson & L. Campbell (Eds.), *The Oxford Handbook of Close Relationship*. New York, NY: Oxford.

Flake, D. F. (2005). Individual, family, and community risk markers for domestic violence in Peru. *Violence Against Women, 11*(2), 353-373.

Follingstad, D. R., Laughlin, J. E., Polek, D. S., Rutledge, L. L., & Hause, E. S. (1991). Identification of patterns of wife abuse. *Journal of Interpersonal Violence, 6*(2), 187-204.

Gage, A. J. (2005). Women's experience of intimate partner violence in Haiti. *Social Science & Medicine, 61*(2), 343-364. doi: 10.1016/j.socscimed.2004.11.078

Ganatra, B. R., Coyaji, K. J., & Rao, V. N. (1998). Too far, too little, too late: A community-based case-control study of maternal mortality in rural west Maharashtra, India. *Bulletin of the World Health Organization, 76*(6), 591-598.

Garcia-Moreno, C., Jansen, H. A., Ellsberg, M., Heise, L., & Watts, C. H. (2006). Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. *Lancet, 368*(9543), 1260-1269. doi: 10.1016/s0140-6736(06)69523-8

Gaunekar, G., Patel, V., & Rane, A. (2005). The impact and patterns of hazardous drinking amongst male industrial workers in Goa, India. *Social Psychiatry and Psychiatric Epidemiology, 40*(4), 267-275. doi: 10.1007/s00127-005-0886-1

Gerstein, L. (2000). In India, poverty and lack of education are associated with men's physical and sexual abuse of their wives. [Editorial Material]. *International Family Planning Perspectives, 26*(1), 44-45.

Granados Shiroma, M. (1996). Salud reproductiva y violencia contra la mujer: Un analisis desde la perspectiva de genero. [Reproductive health and violence against women: A gender perspective]. Nuevo Leon, Asociacion Mexicana de Poblacion, Consejo Estatal de Poblacion.

Gurnani, V., Beattie, T. S., Bhattacharjee, P., Mohan, H. L., Maddur, S., Washington, R., . . . Blanchard, J. F. (2011). An integrated structural intervention to reduce vulnerability to HIV and sexually transmitted infections among female sex workers in Karnataka state, south India. *BMC Public Health, 11*.

Gururaj, G., Isaac, M. K., Subbakrishna, D. K., & Ranjani, R. (2004). Risk factors for completed suicides: A case-control study from Bangalore, India. *Injury Control and Safety Promotion, 11*(3), 183-191. doi: 10.1080/156609704/233/289706

Halpern, C. T., Young, M. L., Waller, M. W., Martin, S. L., & Kupper, L. L. (2004). Prevalence of partner violence in same-sex romantic and sexual relationships in a national sample of adolescents. *Journal of Adolescent Health, 35*(2), 124-131. doi: 10.1016/j.jadohealth.2003.09.003

Heise, L. L. (1998). Violence against women: An integrated, ecological framework. *Violence Against Women, 4*(3), 262-290.

Hindin, M. J., & Adair, L. S. (2002). Who's at risk? Factors associated with intimate partner violence in the Philippines. *Social Science & Medicine, 55*(8), 1385-1399.

Hindin, M. J., Kishor, S., & Ansara, D. L. (2008). Intimate partner violence among couples in 10 DHS Countries: Predictors and health outcomes. Calverton, MD: Macro International Inc.

Hoffman, K. L., Demo, D. H., & Edwards, J. N. (1994). Physical wife abuse in a non-Western society: An integrated theoretical approach. *Journal of Marriage and Family, 56,* 131-146.

Hotaling, G. T., & Sugarman, D. B. (1986). An analysis of risk markers in husband to wife violence: The current state of knowledge. *Violence and Victims, 1*(2), 101-124.

International Clinical Epidemiologists Network. (2000a). Domestic violence in India: A summary report of a mulit-site household survey. Washington, D.C.: International Center for Research on Women.

International Clinical Epidemiologists Network. (2000b). Domestic violence in India: A summary report of a multi-site household survey. Washington, D.C.: International Center for Research on Women.

International Institute for Population Sciences (IIPS) and Macro International. (2007). National Family Health Survey (NFHS-3), 2005-06: India. Mumbai: IIPS.

International Institute for Population Sciences (IIPS) and ORC Macro. (2000). National Family Health Survey (NFHS-2), 1998–99: India. Mumbai: IIPS.

Jacob, V. V. (2011). Microfinance: Current status and growing concerns in India. Avant Garde: IIT Kanpur MBA Monthly e-Newsletter.

Jejeebhoy, S. J. (1998a). Associations between wife-beating and fetal and infant death: Impressions from a survey in rural India. *Studies in Family Planning, 29*(3), 300-308.

Jejeebhoy, S. J. (1998b). Wife-beating in rural India: A husband's right? Evidence from survey data. *Economic and Political Weekly, 33*(15), 855-862.

Jejeebhoy, S. J., & Cook, R. J. (1997). State accountability for wife-beating: The Indian challenge. *Lancet, 349 Supplement 1*, s10-12.

Jewkes, R. (2002). Intimate partner violence: Causes and prevention. *Lancet, 359*(9315), 1423-1429. doi: 10.1016/s0140-6736(02)08357-5

Jewkes, R., Dunkle, K., Nduna, M., & Shai, N. (2010). Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: A cohort study. *Lancet, 376*(9734), 41-48. doi: 10.1016/s0140-6736(10)60548-x

Jewkes, R., Levin, J., & Penn-Kekana, L. (2002). Risk factors for domestic violence: Findings from a South African cross-sectional study. *Social Science & Medicine, 55*(9), 1603-1617.

Jeyaseelan, L., Kumar, S., Neelakantan, N., Peedicayil, A., Pillai, R., & Duvvury, N. (2007). Physical spousal violence against women in India: Some risk factors. *Journal of Biosocial Science, 39*(5), 657-670.

Jeyaseelan, L., Sadowski, L. S., Kumar, S., Hassan, F., Ramiro, L., & Vizcarra, B. (2004). World studies of abuse in the family environment: Risk factors for physical intimate partner violence. *Injury Control and Safety Promotion, 11*(2), 117-124. doi: 10.1080/15660970412331292342

Kantor, G. K., & Jasinski, J. L. (1998). Dynamics and risk factors in partner violence. In J. L. Jasinski & W. L.M. (Eds.), *Partner violence: A comprehensive review of 20 years of research*. Thousand Oaks, CA: Sage.

Kantor, P. (2003). Women's empowerment through home-based work: Evidence from India. [Article]. *Development and Change, 34*(3), 425-445.

Kimuna, S. R., & Djamba, Y. K. (2008). Gender based violence: Correlates of physical and sexual wife abuse in Kenya. *Journal of Family Violence, 23*(5), 333-342.

Kishor, S., & Johnson, K. (2004). Profiling domestic violence: A multi-country study. Calverton, MD: ORC Macro.

Kishor, S., & Johnson, K. (2006). Reproductive health and domestic violence: Are the poorest women uniquely disadvantaged? *Demography, 43*(2), 293-307.

Koenig, M. A., Lutalo, T., Zhao, F., Nalugoda, F., Wabwire-Mangen, F., Kiwanuka, N., . . . Gray, R. (2003). Domestic violence in rural Uganda: Evidence from a community-based study. *Bulletin of the World Health Organization, 81*(1), 53-60.

Koenig, M. A., Stephenson, R., Acharya, R., Barrick, L., Ahmed, S., & Hindin, M. (2010). Domestic violence and early childhood mortality in rural India: Evidence from prospective data. *International Journal of Epidemiology, 39*(3), 825-833.

Koenig, M. A., Stephenson, R., Ahmed, S., Jejeebhoy, S. J., & Campbell, J. (2006). Individual and contextual determinants of domestic violence in North India. *American Journal of Public Health, 96*(1), 132-138. doi: 10.2105/ajph.2004.050872

Koski, A. D., Stephenson, R., & Koenig, M. R. (2011). Physical violence by partner during pregnancy and use of prenatal care in rural India. *Journal of Health, Population, and Nutrition, 29*(3), 245-254.

Krishnan, S. (2005a). Do structural inequalities contribute to marital violence? Ethnographic evidence from rural South India. *Violence Against Women, 11*(6), 759-775. doi: 10.1177/1077801205276078

Krishnan, S. (2005b). Gender, caste, and economic inequalities and marital violence in rural South India. *Health Care for Women International, 26*(1), 87-99. doi: 10.1080/07399330490493368

Krishnan, S., Rocca, C. H., Hubbard, A. E., Subbiah, K., Edmeades, J., & Padian, N. S. (2010). Do changes in spousal employment status lead to domestic violence? Insights from a prospective study in Bangalore, India. *Social Science & Medicine, 70*(1), 136-143. doi: 10.1016/j.socscimed.2009.09.026

Krishnan, S., Subbiah, K., Chandra, P., & Srinivasan, K. (2012). Minimizing risks and monitoring safety of an antenatal care intervention to mitigate domestic violence among young Indian women: The Dil Mil trial. *BMC Public Health, 12*(1), 943. doi: 10.1186/1471-2458-12-943

Kumar, S., Jeyaseelan, L., Suresh, S., & Ahuja, R. C. (2005). Domestic violence and its mental health correlates in Indian women. [Article]. *British Journal of Psychiatry, 187*, 62-67.

Leibrich, J., Paulin, J., & Ranson, R. (1995). Hitting home: Men speak about domestic abuse of women partners. Wellington, New Zealand: New Zealand Department of Justice and AGB McNair.

Lenton, R. L. (1995). Power versus feminist theories of wife abuse. [Article]. *Canadian Journal of Criminology, 37*(3), 305-330.

Leonard, K. E., & Senchak, M. (1996). Prospective prediction of husband marital aggression within newlywed couples. *Journal of Abnormal Psychology, 105*(3), 369-380.

Levinson, D. (1989). *Family violence in cross-cultural perspective*. Thousand Oaks, CA: Sage.

Liang, B., Goodman, L., Tummala-Narra, P., & Weintraub, S. (2005). A theoretical framework for understanding help-seeking processes among survivors of intimate partner violence. *American Journal of Community Psychology, 36*(1-2), 71-84. doi: 10.1007/s10464-005-6233-6

Luke, N., Schuler, S. R., Mai, B. T. T., Vu Thien, P., & Minh, T. H. (2007). Exploring couple attributes and attitudes and marital violence in Vietnam. *Violence Against Women, 13*(1), 5-27.

Madhivanan, P., Krupp, K., & Reingold, A. (2011). Correlates of intimate partner physical violence among young reproductive age women in Mysore, India. *Asia-Pacific Journal of Public Health*. doi: 10.1177/1010539511426474

Martin, S. L., Moracco, K. E., Garro, J., Tsui, A. O., Kupper, L. L., Chase, J. L., & Campbell, J. C. (2002). Domestic violence across generations: Findings from northern India. *International Journal of Epidemiology, 31*(3), 560-572.

Martin, S. L., Tsui, A. O., Maitra, K., & Marinshaw, R. (1999). Domestic violence in northern India. *American Journal of Epidemiology, 150*(4), 417-426.

Messinger, A. M. (2011). Invisible victims: Same-sex IPV in the National Violence Against Women Survey. *Journal of Interpersonal Violence, 26*(11), 2228-2243. doi: 10.1177/0886260510383023

Mogford, E. (2011). When status hurts: Dimensions of women's status and domestic abuse in rural northern India. *Violence Against Women, 17*(7), 835-857.

Nelson, E., & Zimmerman, C. (1996). Household survey on domestic violence in Cambodia. Phnom Penh, Cambodia: Ministry of Women's Affairs and Project Against Domestic Violence.

Paris, W. L., Wang, T., Laumann, E. O., Pan, S., & Luo, Y. (2004). Intimate partner violence in China: National prevalence, risk factors, and associated health problems. *International Family Planning Perspectives, 30*(4), 174-181.

Peedicayil, A., Sadowski, L. S., Jeyaseelan, L., Shankar, V., Jain, D., Suresh, S., & Bangdiwala, S. I. (2004). Spousal physical violence against women during pregnancy. *BJOG, 111*(7), 682-687. doi: 10.1111/j.1471-0528.2004.00151.x

Pence, E., & Paymar, M. (2006). *Education groups for men who batter*. New York, NY: Springer.

Pinnewala, P. (2009). Good women, martyrs, and survivors: A theoretical framework for South Asian women's responses to partner violence. *Violence Against Women, 15*(1), 81-105. doi: 10.1177/1077801208328005

Raj, A., Saggurti, N., Lawrence, D., Balaiah, D., & Silverman, J. G. (2010). Association between adolescent marriage and marital violence among young adult women in India. *International Journal of Gynecology & Obstetrics, 110*(1), 35-39.

Rocca, C. H., Rathod, S., Falle, T., Pande, R. P., & Krishnan, S. (2009). Challenging assumptions about women's empowerment: Social and economic resources and domestic violence among young married women in urban South India. *International Journal of Epidemiology, 38*(2), 577-585. doi: 10.1093/ije/dyn226

Sabarwal, S., McCormick, M. C., Silverman, J. G., & Subramanian, S. V. (2012). Association between maternal intimate partner violence victimization and childhood immunization in India. *Journal of Tropical Pediatrics, 58*(2), 107-113. doi: 10.1093/tropej/fmr052

Saltzman, L. E., Fanslow, J. L., McMahon, P. M., & Shelley, G. A. (2002). Intimate partner violence surveillance: Uniform definitions and recommended data elements. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

Schafer, J., Caetano, R., & Clark, C. L. (1998). Rates of intimate partner violence in the United States. *American Journal of Public Health, 88*(11), 1702-1704.

Scott, K., & Shanker, S. (2010). Tying their hands? Institutional obstacles to the success of the ASHA community health worker programme in rural north India. *AIDS Care: Psychological and Socio-Medical Aspects of AIDS/HIV, 22*, 1606-1612.

Shahmanesh, M., Wayal, S., Cowan, F., Mabey, D., Copas, A., & Patel, V. (2009). Suicidal behavior among female sex workers in Goa, India: The silent epidemic. *American Journal of Public Health, 99*(7), 1239-1246. doi: 10.2105/ajph.2008.149930

Shidhaye, R., & Patel, V. (2010). Association of socio-economic, gender and health factors with common mental disorders in women: A population-based study of 5703 married rural women in India. *International Journal of Epidemiology, 39*(6), 1510-1521. doi: 10.1093/ije/dyq179

Silverman, J. G., Decker, M. R., Cheng, D. M., Wirth, K., Saggurti, N., McCauley, H. L., . . . Raj, A. (2011). Gender-based disparities in infant and child mortality based on maternal exposure to spousal violence: The heavy burden borne by Indian girls. *Archives of Pediatric and Adolescent Medicine, 165*(1), 22-27. doi: 10.1001/archpediatrics.2010.261

Silverman, J. G., Decker, M. R., Saggurti, N., Balaiah, D., & Raj, A. (2008). Intimate partner violence and HIV infection among married Indian women. *JAMA, 300*(6), 703-710. doi: 10.1001/jama.300.6.703

Simister, J., & Mehta, P. S. (2010). Gender-based violence in India: Long-term trends. *Journal of Interpersonal Violence, 25*(9), 1594-1611. doi: 10.1177/0886260509354577

Smith, M. D. (1990). Patriarchal ideology and wife beating: A test of a feminist hypothesis. *Violence & Victims, 5*(4), 257-273.

Sohani, Z., Shannon, H., Busse, J. W., Tikacz, D., Sancheti, P., Shende, M., & Bhandari, M. (2012). Feasibility of screening for intimate partner violence at orthopedic trauma hospitals in India. *Journal of Interpersonal Violence*. doi: 10.1177/0886260512468244

Solomon, S., Subbaraman, R., Solomon, S. S., Srikrishnan, A. K., Johnson, S. C., Vasudevan, C. K., . . . Celentano, D. D. (2009). Domestic violence and forced sex among the urban poor in South India: Implications for HIV prevention. *Violence Against Women, 15*(7), 753-773. doi: 10.1177/1077801209334602

Stephenson, R., Koenig, M. A., Acharya, R., & Roy, T. K. (2008). Domestic violence, contraceptive use, and unwanted pregnancy in rural India. *Studies in Family Planning, 39*(3), 177-186.

Stephenson, R., Koenig, M. A., & Ahmed, S. (2006a). Domestic violence and contraceptive adoption in Uttar Pradesh, India. *Studies in Family Planning, 37*(2), 75-86.

Stephenson, R., Koenig, M. A., & Ahmed, S. (2006b). Domestic violence and symptoms of gynecologic morbidity among women in north India. *International Family Planning Perspectives, 32*(4), 201-208.

Stephenson, R., Rentsch, C., Salazar, L. F., & Sullivan, P. S. (2011). Dyadic characteristics and intimate partner violence among men who have sex with men. *Western Journal of Emergency Medicine, 12*(3), 324-332.

Stith, S. M., Smith, D. B., Penn, C. E., Ward, D. B., & Tritt, D. (2004). Intimate partner physical abuse perpetration and victimization risk factors: A meta-analytic review. *Aggression and Violent Behavior, 10*(1), 65-98.

Straus, M. A. (1977a). Sexual inequality, cultural norms, and wife-beating. In J. R. Chapman & M. Gates (Eds.), *Women into wives: The legal and economic impact of marriage* (Vol. 2). Beverly Hills, CA: Sage Publications.

Straus, M. A. (1977b). Societal morphogenesis and intra family violence in cross-cultural perspective. *Annals of the New York Academy of Sciences, 285*, 717-730.

Straus, M. A., Gelles, R. J., & Steinmetz, S. (1980). *Behind closed doors: Violence in the American family*. New York, NY: Doubleday.

Sudha, S., & Morrison, S. (2011). Marital violence and women's reproductive health care in Uttar Pradesh, India. *Women's Health Issues, 21*(3), 214-221.

Sudha, S., Morrison, S., & Zhu, L. (2007). Violence against women, symptom reporting, and treatment for reproductive tract infections in Kerala state, southern India. *Health Care for Women International, 28*(3), 268-284. doi: 10.1080/07399330601180164

Varma, D., Chandra, P. S., Thomas, T., & Carey, M. P. (2007). Intimate partner violence and sexual coercion among pregnant women in India: Relationship with depression and post-traumatic stress disorder. *Journal of Affective Disorders, 102*(1-3), 227-235. doi: 10.1016/j.jad.2006.09.026

Walker, L. E. (1984). Battered women, psychology, and public policy. *American Psychologist, 39*(10), 1178-1182.

Witt, D. D. (1987). A conflict theory of family violence. *Journal of Family Violence, 2*, 291-301.

World Health Organization. (2002). Violence by intimate partners. In E. G. Krug, L. L. Dahlberg, J. A. Mercy, A. B. Zwi & R. Lozano (Eds.), *World Report on Violence and Health*: World Health Organization.

Yoshihama, M., & Sorenson, S. B. (1994). Physical, sexual, and emotional abuse by male intimates: Experiences of women in Japan. *Violence & Victims, 9*(1), 63-77.

Yount, K., & Carrera, J. (2006). Domestic violence against married women in Cambodia. *Social Forces, 85*(1), 355-387.

Zaleski, M., Pinsky, I., Laranjeira, R., Ramisetty-Mikler, S., & Caetano, R. (2010). Intimate partner violence and contribution of drinking and sociodemographics: The Brazilian National Alcohol Survey. *Journal of Interpersonal Violence, 25*(4), 648-665. doi: 10.1177/0886260509334396