THE ROLE OF IN-LAWS AS PERPETRATORS OF VIOLENCE AGAINST WOMEN IN MUMBAI

ABIGAIL BENTLEY

Abstract

Background: Globally, one in three women experiences intimate partner violence (IPV) in her lifetime. This is also true in India, where 30-40% of cases also involve members of the wider household, particularly female in-laws. We identified the main perpetrators of household violence against women within a study assessing violence against mothers living in informal settlements of Mumbai.

Methods: We examined experiences of violence in a cross-sectional follow-up of a previously established cohort of 601 mothers. We compared the characteristics of women who most frequently identified their in-laws as the main perpetrators of emotional and economic violence to those of women who most frequently identified their partner as the main perpetrator. We used independent two-sample t-tests for means and Pearson's chi-square tests for proportions to investigate differences between groups.

Results: We collected data for 484/601 (81%) mothers with a mean age of 28.5 years (SD 4.6). 40% had experienced at least one act of violence at some point after marriage, and 23% had experienced at least one act in the 12 months prior to the survey. After marriage, in-laws were the main perpetrators of emotional or economic violence (77%), while husbands were the main perpetrators of physical (86%) or sexual (84%) violence during the same period. Women who most frequently identified their in-laws as the main perpetrators of emotional violence had spent more years in education and fewer years in the city than women who identified their partner as the main perpetrator (6.8 years versus 5.2 years of education, p=0.04; 17.1 years versus 19.6 years, p=0.03, respectively). For economic violence, the same pattern was seen for education (6.5 years versus 4.3 years, p=0.02) and number of years spent in the city (15.2 years versus 20.4 years, p<0.001). More women identifying their in-laws as the main perpetrator were Hindu, and fewer were Muslim when compared to women mostly identifying their partners (16.7% versus 2.9%, p=0.04; 83.3% versus 97.1%, p=0.04, respectively).

Discussion: In line with previous studies, we found that in-laws were common perpetrators of emotional and economic violence. Women who suffer violence predominantly from their in-laws might be more educated than other women, perhaps causing more of a threat to the patrilocal family structure, and more recent migrants to the city with fewer support networks and higher economic vulnerability. Both of these may increase their risk of being a target for violence. The implication of in-laws in the perpetration of violence, particularly mothers-in-law, may tie in with the role of women in the marital family and gender roles in India: a new woman's arrival into the household may cause threats to the mother-son relationship. Some feminist scholars have expressed discomfort with the idea that women might perpetrate violence against other women. However, others have recognised the role of women as perpetrators and discussed mechanisms through which they are involved. This study adds to the current literature by investigating in detail violence perpetrated in the family at any point after marriage. Future research to explore the severity of these experiences would help to further understand the dynamics of household violence and its impact on health outcomes.

1. Background

Intimate partner violence (IPV) is *"behaviour by an intimate partner or ex-partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, psychological abuse and controlling behaviours"* (WHO 2016). IPV is a major global public health problem: around one in three women experiences physical or sexual violence by a partner in her lifetime (WHO 2016). In India, 28.8% of women report spousal violence (IIPS 2017). However, 30-40% of cases of IPV also involve members of the wider household (Dave & Solanki 2000; Gangoli & Rew 2011; Panchanadeswaran & Koverola 2005). Domestic violence can be defined as *"any incident of threatening behaviour, violence or abuse (psychological, physical, sexual, financial, or emotional) by an intimate partner or any member of a shared household"* (PWDV Act 2005) and the World Health Organisation (WHO) classifies family violence along with IPV as one sub-category of interpersonal violence. It defines family violence as *"violence largely between family members… usually, though not exclusively, taking place in the home"* (Krug et al 2002).

In-laws have been implicated in perpetrating or exacerbating violence against their daughters-in-law in a number of Indian studies. This often includes physical and emotional forms of abuse; for example, forcing a woman to demand money from her natal family, harassment over dowry, being humiliated, or having her character or domestic skills criticised, being criticised for having a boy child, being evicted or sent back to her natal family, being treated like a servant with forced domestic labour, being denied food, rest and access to medical care, being beaten, receiving threats of fatal abuse, and experiencing life-threatening violence such as burning (Jeyaseelan et al 2015; Panchanadeswaran & Koverola 2005; Raj et al 2011; Silverman et al 2016a; Siverman et al 2016b, Wagman et al 2016). The mother-in-law is often the main person cited as instigating or exacerbating violence (Gangoli & Rew 2011; Khosla et al 2005; Krishnan et al 2012a; Rew et al 2013); 40% of women surveyed in a postnatal ward in New Delhi reported that their mothers-in-law were the main instigators of violence against them (Muthal-Rathore et al 2002).

Allendorf argues that, because domestic violence research focuses on neutral or negative family dynamics, the potential health benefits of positive relationships with members of the marital family are often missed (Allendorf 2010). Daughters-in-law often build loving and supportive relationships with their marital family, particularly their mother-in-law, and this can increase their agency, improve their access to healthcare, provide support after pregnancy, and increase their ability to cope with violence from husbands (Allendorf 2010; Allendorf 2012; Krishnan et al 2012a; Krishnan et al 2012b; Wagman et al 2016). Living in a joint family has also been shown to be protective against physical violence (Allendorf 2013). Women have noted how their mother-in-law can help to influence her son's behaviour and reduce domestic violence (Krishnan et al 2012a; Krishnan et al 2012b).

Nonetheless, while the extended patrilocal family system can protect the daughter-in-law from violence, it can also exacerbate it (Fernandez 1997; Siverman et al 2016b). The role of the daughter-in-law within the joint family is to continue the family line and provide a source of labour and care, usually under the direction of the mother-in-law (Allendorf 2010; Allendorf 2013; Rabindranthan 2004). At this point, a daughter-in-law's status in the household is low: she is at the bottom of the gender and generational hierarchy and, until she has produced a son, may be replaced by another woman (Allendorf 2013; Fernandez 1997). In-laws are the main decision-makers within the household and exert control over the family, often making the woman feel like an outsider and leading to an environment that supports her mistreatment (Allendorf 2012; Allendorf 2013; Jeyaseelan et al 2015; Rabindranathan 2004; Panchanadeswaran & Koverola 2005; Wagman et al 2016). The maltreatment of daughters-in-law is frequently condoned and normalised in Indian families (Allendorf 2010; Wagman et al 2016). This normalisation may be linked to an anticipated gain within the family, as *"the deprivation and hardship she experiences as a young bride is eventually superseded by the authority she will have over her own subservient daughters-in-law"* (Kandiyoti 1988, p279; Rew et al 2011). The joint family structure is said to be on the decline in India (Niranjan et al 2005; Allendorf 2013), but generational hierarchies still exist and the dynamics may be present

even when not residing in the same household. For example, women's agency is strongly influenced by the husband's primary loyalty to his wife or to his parents, whether they live in a nuclear set-up or a joint one (Allendorf 2012).

Many studies on violence perpetrated by in-laws have focused on the perinatal period. However, as violence often begins soon after marriage (Panchanadeswaran & Koverola 2005) and endures much beyond the perinatal period, it is important to investigate it before a woman gives birth, and throughout the remainder of her married life whilst she may be under the influence of her in-laws. The aim of this paper is to examine experiences of violence at any point after marriage in mothers living in informal settlement areas of Mumbai. Violence against women perpetrated by members of the marital family, such as being physically beaten, sent to her natal home and being treated like a servant, have been shown to be highest in "*urban slum*" areas compared with "*urban non-slum*" and rural areas (Jeyaseelan et al 2015), suggesting a need to further understand experiences of violence within these populations.

2. Methods

2.1. Study setting

Mumbai, the capital of Maharashtra state, is located on the western coast of India and has a population of 12.4 million (Office of the Registrar General and Census Commissioner, 2011a). 41% of Mumbai's households are in informal settlements (Chandramouli, 2011), formerly referred to as slums. Informal settlements are *"residential areas where dwellings are in any respect unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and design of such buildings, narrowness or faulty arrangement of streets"* and *"lack of ventilation, light, or sanitation facilities or any combination of these"* (Office of the Registrar General and Census Commissioner, 2013).

In 2013, the Society for Nutrition, Education and Health Action (SNEHA), a non-governmental organisation based in Mumbai, established a trial to assess the impact of community resource centres on the health of women and children living in Mumbai's informal settlement areas. The trial targeted two of the city's 24 municipal wards (M East and L ward), covering a population of around 700,000. These municipal wards were selected because they ranked low on the Human Development Index and had high proportions of informal settlements. 40 clusters were selected for inclusion in the trial, each containing around 600 households. 20 clusters were randomised to the intervention and 20 to a control arm (Shah More et al 2013).

2.2. Participants

Nested within the trial, a birth cohort was established to assess the impact of the intervention on child nutrition over time. Following a pre-intervention census, data collectors identified all pregnancies in the 20 intervention clusters and all women who gave birth between March 2013 and April 2014 were approached for inclusion in the cohort, along with their newborn infant. Eligible women had given birth to a live, singleton infant delivered at eight months gestation or greater. 1012 women and their respective infants were identified and 975 consented to inclusion in the cohort. A first data collection visit was made within 72 hours after the birth of the child, followed by monthly visits to assess growth and other outcomes, until the child reached two years of age.

We approached women recruited to the cohort for inclusion in the current study as this provided us with an opportunity to explore violence among women beyond the perinatal period. The survey was able to utilise the same data collection team who had been visiting the cohort women monthly for two years. This meant that the data collectors had built a trusting relationship with the women, which increased the likelihood of good quality data on violence.

2.3. Data collection

Data collection occurred between June and July 2016. At the last cohort follow-up in March 2016, 618 women remained in the study, with 601 remaining in June 2016 at the start of data collection. Data collectors visited women at home, explained the study, and provided a participant information sheet. If a woman agreed to take part, the data collector arranged for a suitable time and a private space to conduct the survey. If a woman was not at home or available on the first attempt, an additional two attempts were made to locate her. Women who were not available at this time (some of whom were in their villages over the summer months) were revisited in November 2016.

A detailed cross-sectional survey was developed to assess experiences of violence. The survey investigated experiences of 49 different acts, when they occurred (at any point in the lifetime, before marriage, after marriage, during pregnancy, just after pregnancy, in the 12 months before the survey, in the month before the survey), severity of violence in relation to pregnancy, who the main perpetrator was, and frequency in the past 12 months. The questions were informed by existing questionnaires on gender-based violence, including the WHO multi-country study on women's health and domestic violence against women (Ellsberg & Heise 2005) and the 2005-2006 National Family Health Survey of India (NFHS-3) (IIPS 2008), alongside questionnaires used by SNEHA to assess women who seek help from the organisation. The survey was developed from an analysis of case records of women who accessed the SNEHA counselling centre and inputs from SNEHA staff members who have been working with survivors of violence for the past two decades. Following training of the team of 12 cohort data collectors on issues around gender-based violence and questionnaire administration, we piloted the survey with 20 women and amended it based on their feedback and that of the data collection team. Whilst incorporating the questions from the previously validated national and international surveys on gender-based violence, the final questionnaire included a much more detailed assessment of emotional, economic and sexual violence to reflect the experiences of the local community and the knowledge of the organisations that work closely with them. Data were collected on smartphones through CommCare, a mobile data collection platform (Dimagi, Inc. Cambridge MA, USA).

With the exception of marital status and number of children, which might have changed since the women were first recruited to the cohort and were therefore reassessed, the demographic characteristics of the women were obtained by linking the current survey with the original cohort database. A probabilistic linking method was used to match women across the two datasets, based on a combination of identifiers for cluster and household, family name, woman's name and the name of the index child on recruitment to the cohort. Of the women who were available for, and consented to interview, 99.2% had demographic information matched, with only four women missing these data.

2.4. Statistical analysis

Individual acts of violence were classified into four types: emotional, economic, physical, or sexual. We calculated the proportion of women experiencing at least one act of each type of violence for three periods: across the lifetime, at any point after marriage, and within the 12 months prior to the survey. We then compared levels of physical, sexual, and emotional violence in our study with those reported from Mumbai "*slum*" areas in the NFHS-3 and those currently available from the NFHS-4, conducted in 2005-2006 and 2015-2016, respectively (IIPS 2008; IIPS 2017), by restricting the data to questions only asked in the NFHS survey.

We investigated perpetrators for each individual act of violence experienced after marriage. We compared differences in the proportion of women citing their husband or their in-laws as the main perpetrator for each type of violence using Pearson's chi-square tests. Perpetrators were then divided into four mutually exclusive categories: partner only, in-laws only, partner and in-laws equally, or other. The final category included violence perpetrated by the natal family or another family member, or any other combination of perpetrators. These data were then

used to plot 100% stacked bar charts to show the patterns of violence perpetration after marriage within each different violence category.

We compared the demographic characteristics of women who most frequently mentioned *either* their partner *or* their in-laws as the main perpetrators of violence. All demographic information was taken from the cohort baseline survey aside from marital status and parity. We generated a score for socioeconomic status (SES) by taking the first component of a principal components analysis derived from housing characteristics and the possession of household assets (Filmer & Pritchett 2001; Vyas & Kumaranayake 2006). We also created a proxy variable for living in a joint family by including any women who said that there was one or more other woman or two or more men living in the same household. We used independent two-sample t-tests for continuous variables and Pearson's chi-square tests for categorical variables to investigate differences between women who mentioned their partner and those who mentioned their in-laws as the main violence perpetrators. All analyses were carried out in Stata 14 (StataCorp, College Station, TX, USA; www.stata.com).

2.5. Ethics

Data collectors explained the study fully to the women and data collection was only carried out if a safe and private space could be found. We informed the women of their right to withdraw from the study at any point, and those who disclosed experiences of violence were given detailed information about SNEHA services and referred for counselling if required. The study was approved by the UCL Research Ethics Committee (London) and the Tata Institute of Social Sciences ethics board (Mumbai).

3. Results

3.1. Sample

484 (80.5%) of the 601 women remaining in the cohort at the time of follow-up participated in the study. 112 women (18.6%) were not available and 5 women (0.8%) did not consent. Women's mean age was 28.5 years (SD 4.6 ; range 20 - 44). They had been married 9.5 years on average, and around a third (33%) had two children. Over half lived in solid housing structures built with high quality materials throughout (pucca houses) (Office of the Registrar General and Census Commissioner, 2011b), and 44% lived in a joint family while 53% lived in a nuclear family. 87% of women were Muslim.

3.2. Experiences of violence

44% of women had experienced at least one act of violence during their lifetime. 39% had experienced emotional or economic violence, almost a quarter had experienced physical violence, and nearly 12% had experienced sexual violence (Table 1).

Over 90% of the women who experienced at least one act of violence in their lifetime experienced some or all of that violence after marriage, except for emotional violence (Table 1). Emotional violence was the category most experienced before marriage (data not shown). In the 12 months prior to the survey, 22.9% of women had experienced at least one act of violence (15.3% emotional, 10.7% economic, 6.8% physical and 6.6% sexual violence) (Table 1).

When assessing the comparable survey questions, the proportion of women experiencing violence from their partner reflected the levels seen in the NFHS-3. Emotional violence was experienced by 7.0% of women in our study, compared to 8.9% in the NFHS-3. The level of physical violence experienced was slightly higher in the NFHS-3

than in the current study (22.9% vs 19.4%) and sexual violence was 0.4 percentage points higher in our study (2.3% vs 1.9%) (IIPS 2008). The questions used to compare to the NFHS-3 are presented in Appendix Table A.

Table 1: Frequency and percentage of women experiencing at least one act of violence across the lifetime, at any point after marriage and in the past 12 months, by type

Type of violence	Time period	Frequency	Proportion of all women (n=484)	Proportion of women with at least one lifetime experience, (n= lifetime total)
Any violence	Lifetime	213	44.0%	-
	After marriage	194	40.1%	91.1% (213)
	Past 12 months	111	22.9%	52.1% (213)
Emotional violence	Lifetime	161	33.3%	-
	After marriage	136	28.1%	84.5% (161)
	Past 12 months	74	15.3%	46.0% (161)
Economic violence	Lifetime	107	22.1%	-
	After marriage	103	21.3%	96.3% (107)
	Past 12 months	52	10.7%	48.6% (107)
Emotional or economic violence	Lifetime	189	39.0%	-
	After marriage	164	33.9%	86.8% (189)
	Past 12 months	94	19.4%	49.7%
Physical violence	Lifetime	114	23.6%	-
	After marriage	110	22.7%	96.5% (114)
	Past 12 months	33	6.8%	29.0% (114)
Sexual violence	Lifetime	57	11.8%	-
	After marriage	57	11.8%	100.0% (57)
	Past 12 months	32	6.6%	56.1% (57)

3.3. Experiences of violence by perpetrator

Over three-quarters (76.8%) of women who experienced emotional or economic violence at any point after marriage cited their in-laws as main perpetrators, compared to 64.6% citing their partners (p=0.02). Partners were more frequently cited than in-laws as the main perpetrators of physical and sexual violence after marriage (85.5% compared to 23.6% for physical and 84.2% compared to 19.3% for sexual, p<0.001) (Table 2).

Figure 1 describes the main perpetrators of individual acts of violence experienced after marriage, and shows that in-laws were the main perpetrators of emotional and economic violence while partners were the main perpetrators of physical and sexual violence. The partner was cited most frequently as the main perpetrator for only six out of 26 individual acts of emotional or economic violence measured. Over 50% of women cited the in-laws as the main perpetrator of the following acts: insisting on knowing where they were at all times; ignoring them or treating them indifferently; insulting them or making them feel bad about themselves; belittling or humiliating them in front of other people; insulting them for not having a boy child; forcing them out of the house; preventing them from using

or accessing parts of the house; and excluding them from household decisions. For physical and sexual violence experienced at least once after marriage, the partner was cited as the main perpetrator for all except 4 of the 23 individual acts measured. Three of these, where the in-laws were also implicated, were related to family planning decisions such as forced use of contraception, coercion to have children and coerced abortion. For one act of sexual violence, withholding sexual pleasure on purpose, all eight women who experienced this after marriage cited someone other than their husband (Figure 1).

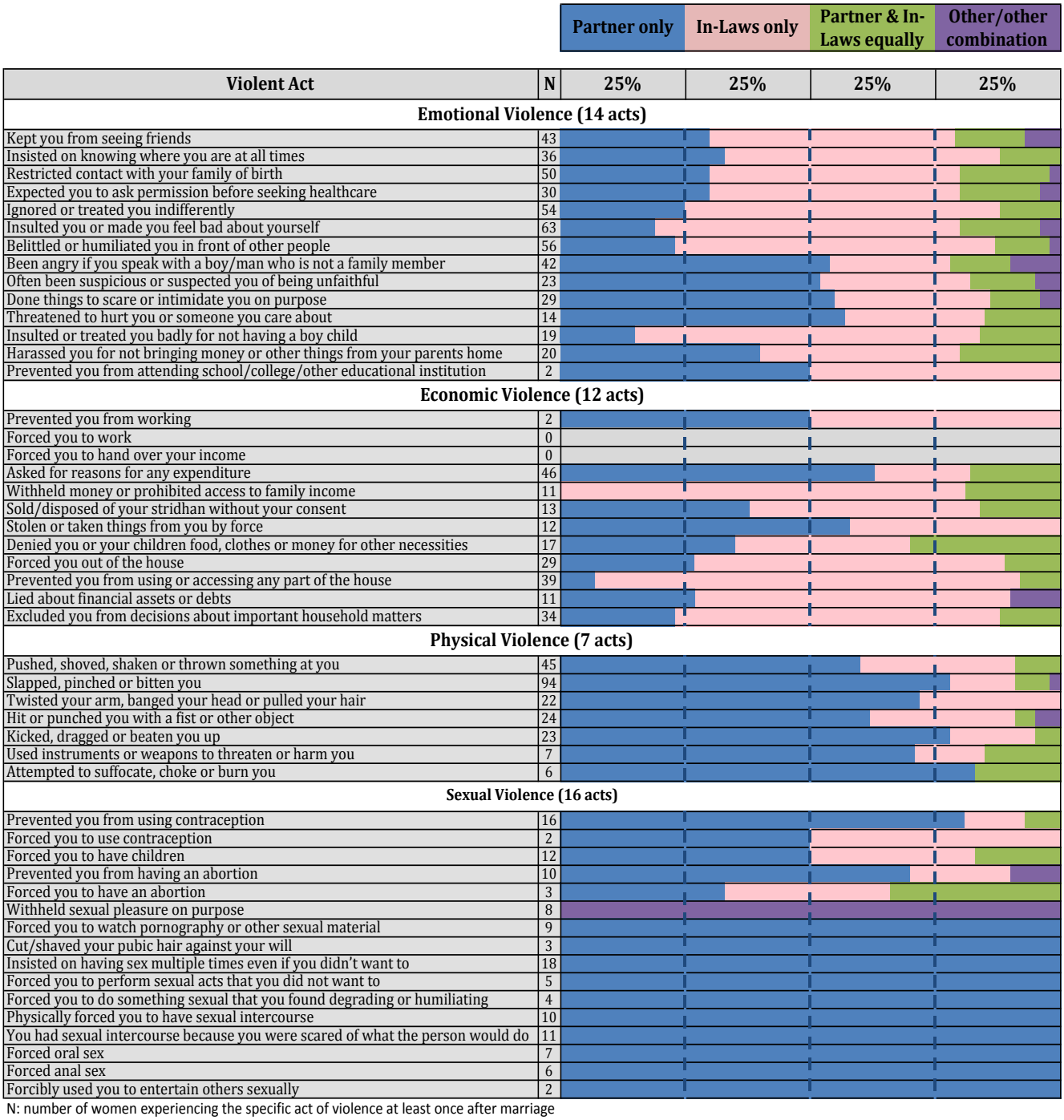
Partners were also the most frequently cited perpetrators of physical and sexual violence in the 12 months prior to the survey. However, emotional and economic violence was perpetrated as much, if not more, by partners as in-laws in this same period (Table 3).

Table 2: *Frequency and percentage of women identifying their partner or in-laws as a main perpetrator of violence at any point after marriage and in the last 12 months, by type*

		Perpetrator		p
		Partner	**In-Laws**	
Emotional Violence	After marriage (n=136)	88 (64.7%)	99 (72.8%)	0.15
	Past 12 months (n=74)	54 (73.0%)	55 (74.3%)	0.85
Economic Violence	After marriage (n=103)	53 (51.5%)	75 (72.8%)	0.002*
	Past 12 months (n=52)	41 (78.8%)	32 (61.5%)	0.05
Emotional or economic violence	After marriage (n=164)	106 (64.6%)	126 (76.8%)	0.02*
	Past 12 months (n=94)	73 (77.7%)	72 (76.6%)	0.86
Physical Violence	After marriage (n=110)	94 (85.5%)	26 (23.6%)	<0.001*
	Past 12 months (n=33)	31 (93.9%)	9 (27.3%)	<0.001*
Sexual Violence	After marriage (n=57)	48 (84.2%)	11 (19.3%)	<0.001*
	Past 12 months (n=32)	30 (93.8%)	6 (18.8%)	<0.001*

*Statistically significant at a level of p<0.05

Figure 1: 100% stacked bar chart of the most frequently cited perpetrator of violent acts experienced after marriage



N: number of women experiencing the specific act of violence at least once after marriage

Differences between women who cited in-laws rather than partners as main perpetrators

Of the women who experienced emotional violence at least once after marriage, had demographic information available, and only cited either their partner or in-laws as a perpetrator (not both equally), 64 women most frequently cited their in-laws and 49 women most frequently cited their partner as the main perpetrator. We found no differences between these groups in age, marital status, age at marriage, number of years married, parity, whether they had been living in Mumbai since birth, living in a joint household, or religion. However, women who mostly implicated their in-laws in their experiences of emotional violence after marriage had completed more years of education and had lived in Mumbai for less time than women who mostly implicated their partners (6.8 years vs 5.2 years, p=0.04 and 17.1 years vs 19.6 years, p=0.03, respectively).

A smaller proportion of women who experienced emotional violence predominantly from their in-laws compared to their partners fell into the lowest socioeconomic quintile (9.4% vs 24.5% p=0.03), however no difference was seen for any other quintile or in overall mean SES score (Table 3).

Table 3: *Demographic characteristics for women who most frequently cited either their in-laws or their partner as the main perpetrator of emotional violence after marriage, and had demographic information available (n=133).*

Characteristic		In-laws (n=64)		Partner (n=49)		p
		Mean (SD)	No. (%)	Mean (SD)	No. (%)	
Age		27.6 (4.4)	-	27.8 (4.7)	-	0.82
Years of education		6.8 (4.0)	-	5.2 (4.2)	-	0.04*
Marital status	Married: living with husband	-	60 (93.8%)	-	47 (95.9%)	0.61
	Married: not living with husband	-	4 (6.3%)	-	1 (2.0%)	0.28
	Separated	-	0 (0.0%)	-	1 (2.0%)	0.25
	Widowed	-	0 (0.0%)	-	0 (0.0%)	-
Age at marriage		19.0 (2.7)		18.3 (2.3)	-	0.15
Number of years married		8.6 (4.8)		9.5 (5.7)	-	0.36
Living in Mumbai since birth		-	45 (70.3%)	-	32 (65.3%)	0.57
Number. of years living in Mumbai if not since birth		17.1 (5.8)		19.6 (6.5)	-	0.03*
Number of children (parity)	One	-	13 (20.3%)	-	7 (14.3%)	0.41
	Two	-	22 (34.4%)	-	14 (28.6%)	0.51
	Three	-	14 (21.9%)	-	10 (20.4%)	0.85
	Four	-	5 (7.8%)	-	8 (16.3%)	0.16
	Five	-	7 (10.9%)	-	3 (6.1%)	0.37
	More than five	-	3 (4.7%)	-	7 (14.3%)	0.08
Living in a joint household		-	32 (50.0%)	-	24	0.91

					(49.0%)	
SES score		0.35 (0.94)	-	-0.003 (0.99)	-	0.06
	1 (lowest)	-	6 (9.4%)	-	12 (24.5%)	0.03*
Proportion of women in each SES quintile	2	-	11 (17.2%)	-	6 (12.2%)	0.47
	3	-	14 (21.9%)	-	12 (24.5%)	0.74
	4	-	15 (23.4%)	-	7 (14.3%)	0.22
	5 (highest)	-	18 (28.1%)	-	12 (24.5%)	0.67
	Hindu	-	4 (6.3%)	-	7 (14.3%)	0.15
Religion	Muslim	-	60 (93.8%)	-	42 (85.7%)	0.15
	Other	-	0 (0.0%)	-	0 (0.0%)	-

* Statistically significant at a level of p<0.05

Of the 89 women who experienced at least one act of economic violence after marriage and had demographic information available, excluding those who cited their in-laws and partner equally as a main perpetrator or any other perpetrators, 54 reported that their in-laws were the main perpetrator of economic violence, compared to 35 reporting their partner. As with emotional violence, these two groups of women did not differ by age, marital status, age at marriage, number of years married, whether they had lived in Mumbai since birth, parity, or whether they lived in a joint family. There was also no significant difference in the socioeconomic status of the two groups.

Again, women most frequently citing their in-laws as the main perpetrator of economic violence had completed more years of education (6.5 vs 4.3, p=0.02) and had lived in Mumbai for fewer years (15.2 vs 20.4, p<0.001) than women most frequently citing their partner. For economic violence, there was also a higher proportion of Hindu women (16.7% vs 2,9%, p=0.04) and a smaller proportion of Muslim women (83.3% vs 97.1%, p=0.04) identifying their in-laws compared to their partner as the main perpetrator (Table 4). None of the women in the sample were formally employed and this variable has not been included in Tables 3 or 4.

Table 4: *Demographic characteristics for women who most frequently cited either their in-laws or their partner as the main perpetrator of economic violence after marriage, and had demographic information available (n=89)*

Characteristic		**In-laws (n=54)**		**Partner (n=35)**		**p**
		Mean (SD)	**No. (%)**	**Mean (SD)**	**No. (%)**	
Age		27.9 (4.2)	-	28.9 (3.9)	-	0.26
Years of education		6.5 (4.5)	-	4.3 (3.8)	-	0.02*
Marital status	Married: living with husband	-	54 (100.0%)	-	33 (94.3%)	0.08
	Married: not living with husband	-	0 (0.0%)	-	1 (2.9%)	0.21
	Separated	-	0 (0.0%)	-	1 (2.9%)	0.21

	Widowed	-	0 (0.0%)	-	0 (0.0%)	-
Age at marriage		18.6 (2.6)	-	18.5 (2.5)	-	0.86
Number of years married		9.2 (4.8)	-	10.4 (4.9)	-	0.26
Living in Mumbai since birth		-	36 (66.7%)	-	17 (48.6%)	0.09
Number of years living in Mumbai if not since birth		15.2 (6.3)	-	20.4 (4.9)	-	<0.001*
Number of children (parity)	One	-	9 (16.7%)	-	2 (5.7%)	0.13
	Two	-	12 (22.2%)	-	6 (17.1%)	0.56
	Three	-	15 (27.8%)	-	13 (37.1%)	0.35
	Four	-	7 (13.0%)	-	7 (20.0%)	0.37
	Five	-	7 (13.0%)	-	3 (8.6%)	0.52
	More than five	-	4 (7.4%)	-	4 (11.4%)	0.52
Living in a joint household		-	24 (44.4%)	-	13 (37.1%)	0.50
SES score		-0.15 (0.92)	-	0.03 (0.81)	-	0.35
Proportion of women in each SES quintile	1 (lowest)	-	11 (20.4%)	-	5 (14.3%)	0.47
	2	-	10 (18.5%)	-	7 (20.0%)	0.86
	3	-	16 (29.6%)	-	9 (25.7%)	0.69
	4	-	12 (22.2%)	-	10 (28.6%)	0.50
	5 (highest)	-	5 (9.3%)	-	4 (11.4%)	0.74
Religion	Hindu	-	9 (16.7%)	-	1 (2.9%)	0.04*
	Muslim	-	45 (83.3%)	-	34 (97.1%)	0.04*
	Other	-	0 (0.0%)	-	0 (0.0%)	-

* Statistically significant at a level of p<0.05

4. Discussion

At 44%, the proportion of mothers ever experiencing any form of violence during their lifetime was higher than global and national figures. In the most recent National Family Health Survey of India 2015-16 (NFHS-4), the prevalence of spousal violence at the national level was 28.8%, down from 37.2% in the NFHS-3 conducted 10 years earlier (IIPS 2017). We think that the higher prevalence found in our study can be explained by three factors. First, our questionnaire contained a much more detailed assessment of emotional, economic and sexual violence than other national and international surveys. Second, our study's data collectors were familiar with participants and this rapport could have led to more detailed disclosure. Finally, unlike other studies that mainly assessed violence by intimate partners, we assessed violence by any family member, including women's natal and marital family members.

When comparing the current study to the NFHS-3 using the same questions and restricting the ambit to violence perpetrated by the husband at any point after marriage, the prevalence of violence seen was similar, providing a level of reassurance. It is uncertain whether we would expect levels of violence to change in the 10-year period between the NFHS-3 and our study. As violence against women becomes more prominent on national and international agendas, awareness is raised and efforts to address it emerge. We hope that over time these efforts

will lead to a reduction in incidence. However, awareness of the issues may also lead to an increase in reporting. It will therefore be useful to compare the results of our study with those of the NFHS-4 for Mumbai slum areas, which was conducted around the same time, once the estimates are published.

The fact that 44% of women experienced violence from their partner or a family member in their lifetime, and 40% of women experienced violence after marriage, suggests that violence against women in India goes beyond the boundaries of marital relationships and highlights more complex family dynamics that are likely to be detrimental to women's physical, reproductive and mental health. The involvement of in-laws in violence against women after marriage is demonstrated clearly. They are particularly important perpetrators of emotional and economic violence. Figure 1 highlights that in-laws also perpetrate physical violence and have influence over daughters-in-laws' sexual and reproductive health. For one act of sexual violence, sexual pleasure being withheld on purpose, all eight women who experienced it mentioned a perpetrator other than their partner. This could be the product of extra-marital relations, or women experiencing this from their partners or in-laws; for example, in-laws preventing sexual relations between husband and wife, but not wanting to disclose it.

Comparing husbands with in-laws as the main perpetrators of violence probably does not capture the reality of the situation. The inclusion of a joint category that implicates both parties equally goes some way to investigating the dynamics of different perpetrators in the family, and Figure 1 shows that they were both equally cited as the main perpetrator for many acts of emotional and economic abuse, some physical violence and the acts of sexual violence that tie in with women's sexual and reproductive health. Husbands and in-laws were mainly implicated equally in acts of emotional violence, which may explain the lack of difference seen in Table 2 between this type of violence perpetrated by the two groups at any point after marriage because, unlike in Figure 1, these categories are not mutually exclusive. In-laws as the main perpetrators of economic violence reflects them being the main decision-makers in the joint household and having control over household matters. The emotional abuse of women within the household may involve more complex dynamics with husband and in-laws working together, or in-laws influencing and inciting violence from the husband. A number of studies have highlighted how in-laws can play a role in influencing IPV (Jeyaseelan et al 2015; et al 2005; Krishnan et al 2012b; Raj et al 2011). In a study of women in Chennai, 46% said that violence from their husbands was instigated by their in-laws (Panchanadeswaran & Koverola 2005) and women who experienced violence from their partner during pregnancy or within six months after giving birth were over five times more likely to also report violence from their in-laws during the same period (Silverman et al 2016a). Associations have been found between violence perpetrated by in-laws and IPV (Raj et al 2011) and in-law violence has been shown to increase the odds of severe partner-perpetrated burns by almost 20 times (Spiwak et al 2015).

Our study did not document which in-laws were the most common perpetrators, but several studies have identified the mother-in-law as the main instigator or perpetrator of violence in the marital family (Gangoli & Rew 2011; Khosla et al 2005; Krishnan et al 2012a; Muthal-Rathore et al 2002; Rew et al 2013). We can therefore assume that the violence perpetrated by in-laws seen in our results was largely by mothers-in-law. Violence perpetrated by the mother-in-law can be understood by examining the effects of having a new woman in the household. Before marriage, a man's affection, attention and financial support may be directed mainly towards his mother, but after marriage his mother comes into competition with her daughter-in-law for care and support, and the mother-son relationship is threatened, particularly where there may be a level of intimacy between the husband and wife (Allendorf 2010; Gangoli & Rew 2011; Rabindranathan 2004). The threat of potentially losing control over the household may increase the likelihood of violence perpetrated by the mother-in-law, particularly if she views her daughter-in-law as not obedient enough to her or to her family (Krishnan et al 2012b). Conflicts over grandchildren, including not producing them at an appropriate point after marriage, differences in opinion about childcare, and inadequate dowry as perceived by the marital family have also been cited as reasons for violence perpetration by mothers-in-law (Gangoli & Rew 2011; Krishnan et al 2012b; Rabindranathan 2004). One study conducted across

seven sites in India found that over 13% of women reported harassment from their marital family due to dissatisfaction with dowry, and that mothers-in-law who did not have control over the earnings of family members, those who were from lower socioeconomic backgrounds, or those who had themselves been subjected to dowry demands at the time of their marriage were more likely to express dowry demands (Jeyaseelan et al 2015).

Whilst the influence of in-laws can clearly be seen at any point after marriage, there appears to be no difference in the proportion of women citing their husband or their in-laws as the main perpetrator of emotional and economic violence in the 12 months prior to the survey. Women did still experience violence during this period, but it may be that over time the influence of the in-laws diminishes and violence comes more from the husband. The culture of violence may also become normalised within the family to a point where there is no main perpetrator, but instead all parties are involved, and systematic criticism of the woman by the in-laws may legitimise the violence and give the husband more power to perpetrate it. However, it could also be that the number of women who experienced violence in the past 12 months was too small to explore statistical differences.

The data suggest that women who experienced emotional or economic violence predominantly from their in-laws might have been more educated, but had lived in Mumbai for fewer years than women who experienced violence predominantly from their husbands. The mother-in-law is of an older generation and likely to be less educated than her daughter-in-law and she may therefore resent her daughter-in-law or view her as more of a threat to the family status quo if she is educated. Whilst women who experienced emotional and economic violence from their in-laws had lived in Mumbai for a relatively long time, they had done so for fewer years than women who experienced the same types of violence predominantly from their partners. More recent migrants may be more socially isolated, with fewer support networks, and economically vulnerable and may therefore put more pressure on the family as a whole, increasing the risk of being the target of violence.

There was a higher proportion of Hindu women and a lower proportion of Muslim women experiencing economic violence perpetrated by their in-laws compared to their partner. This reflects another study in Mumbai that suggests that Muslim women have more control over their finances than Hindu women (Daruwalla et al 2017). Other studies also suggest that, when looking at private rather than publicly visible markers of gender performance, there is often no difference between Hindu and Muslim women and in some cases Muslim women fare better, including greater freedom from domestic violence (Desai & Temsah 2014). This raises interesting questions around the role of religion in certain contexts and the authors of the paper suggest that where religion, social history and politics combine, women may be more likely to *"carry the burden of community identity"* than in other spaces (Desai & Temsah 2014). It would therefore be interesting to investigate further the role of different religious communities in Mumbai's informal settlements and how their interaction influences outcomes for women.

For emotional violence, there was a smaller proportion of women falling into the lowest socieconomic quintile for those who implicated their in-laws as the main perpetrators compared to their partner. Wealthier women may be more willing to report experiences of violence or more able to recognise instances of emotional violence. They may also be more likely to live in joint households, or joint households may be more likely to be wealthier, exposing these women to more violence from the family. However, due to the small numbers falling into each category, and the lack of any difference seen in overall mean SES score, the difference seen here should be interpreted with care. There was also no difference seen between the proportion of women living in a joint family for those who experienced emotional and economic violence most frequently from their in-laws compared to their partner, which reflects the findings of other studies showing that the incidence of abuse was not affected by whether the woman lived in a joint or nuclear family (Khosla et al 2005). This suggests that the household set-up may be of less importance than the relationship with the in-laws, particularly in areas where houses are cramped and women may therefore live close to, but not actually with, their in-laws.

Our study had a number of limitations. First, a large proportion of women have been lost to follow-up since the cohort was established (49.8%). Most of this is due to women moving away from the area, often back to their villages. These missing women were excluded from the analysis, although methods of data imputation and sensitivity analyses may be explored in the future. Additionally, the use of pre-existing data could be a limitation as these were collected two years before the violence data were collected and some of them might have changed over time. For example, the possession of assets might have changed, which would alter the score for socioeconomic status, or the family structure (joint or nuclear) may have changed due to births, deaths and people moving in and out of the city. Finally, whilst the detail of the questionnaire added strength to the study in many ways, it needs to be taken into consideration when conducting any analysis. For example, one incidence of emotional violence, such as being ignored or treated indifferently, at some point in the married lifetime is very different from multiple and frequent accounts of combined physical, sexual and emotional abuse. This warrants further investigation to explore the differences in severity of experiences.

Overall, the initial results from this detailed survey of violence experiences corroborates previous research and shows that violence perpetrated against mothers living in informal settlement areas in Mumbai involved in-laws as well as husbands, particularly in cases of emotional and economic abuse. Some feminist scholars have expressed discomfort with discourses of violence perpetrated by women, but others have recognised the role of women in these settings and the mechanisms through which they are involved. It has been suggested that violence by mothers-in-law acts as a proxy for male violence, often still serving male interests by dividing women and using older women to control younger ones (Gangoli & Rew 2011; Rew et al 2013). Further work will investigate these dynamics in more detail and explore the role of in-laws in the severity of violence and the outcomes experienced.

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APPENDIX

Appendix Table A. Questions compared between the NFHS-3 and the current study

	NFHS-3	**Current study**
Emotional violence	Said or did something to humiliate her in front of others	Belittled or humiliated her in front of others
	Threatened to hurt or harm her or someone close to her	Threatened to hurt her or someone she cares about
	Insulted her or made her feel bad about herself	Insulted her or made her feel bad about herself
Physical violence	Pushed, shook or threw something at her	Pushed, shoved, shaken or thrown something at her
	Slapped her	Slapped, pinched or bitten her
	Twisted her arm or pulled her hair	Twisted her arm, banged her head or pulled her hair

Sexual violence	Punched her with his fist or with something that could hurt her	Hit or punched with fist or with something else that could hurt her
	Kicked, dragged or beat her up	Kicked, dragged or beaten her up
	Tried to choke her or burn her on purpose	Suffocate, choke or burn on purpose
	Threatened her or attacked her with a knife, gun or other weapon	Used instruments or weapons to threaten or harm her
	Physically forced her to have sexual intercourse even when she did not want to	Physically forced her to have sexual intercourse even when she did not want to
	Forced her to perform sexual acts she did not want to	Forced her to perform sexual acts that she did not want to