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Prevalence, Socioeconomic Determinants, and Regional Disparities of Intimate Partner Violence (IPV) in India: A Review Over the Three National Family Health Surveys

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Abstract

Context: Intimate partner violence (IPV) remains a significant public health issue. In India, IPV is a major problem resulting in various physical, mental, emotional, social, economic, and familial issues.

Objectives: This study aimed to estimate the prevalence rate of IPV across all Indian states during 2005, 2015, and 2020. Additionally, the study assessed sociodemographic factors, including the economic empowerment of IPV victims aged 15 to 49 years.

Evidence Acquisition: This quantitative study utilized secondary data from the national family health surveys (NFHS) conducted during 2005 - 2006 (NFHS-3), 2015 - 2016 (NFHS-4), and 2019 - 2021 (NFHS-5). Data were collected using a pretested questionnaire with face-to-face interviews across India. Exposure to emotional, physical, and sexual violence was considered under IPV. Factors such as age, residential area, education status, religion, economic status, current working status, and employment seasonality were considered. NFHS-3 included 124,385 women, NFHS-4 included 351,625 women, and NFHS-5 included 63,851 women. Bivariate and binary logistic regression analyses were implemented with $P < 0.05$.

Results: The prevalence of violence varied across Indian states, with Karnataka showing consistently increasing rates, while Tripura experienced consistently decreasing rates of all three types of violence. In 2021, the prevalence of emotional violence was 12.5%, physical violence 27%, and sexual violence 5.5% in India. A decreasing trend was observed, as in 2005, emotional violence was 14%, physical violence 31%, and sexual violence 8%. In 2021, 9%, 18%, and 5% of women under 19 experienced emotional, physical, and sexual violence, respectively, while 14%, 29%, and 6% of women aged 45 - 49 experienced the same ($P < 0.001$). Education plays a crucial role, as women with no education exhibit higher rates of violence. Compared to higher-educated women, those with no education in India during 2021 were more likely to experience emotional (OR = 1.93, 95% confidence interval [CI]: 1.61 - 2.31), physical (OR = 2.29, 95% CI: 1.99 - 2.63), and sexual violence (OR = 1.75, 95% CI: 1.34 - 2.28), while during 2005, it was emotional (OR = 2.62, 95% CI: 2.16 - 3.18), physical (OR = 3.74, 95% CI: 3.20 - 4.37), and sexual violence (OR = 2.32, 95% CI: 1.75 - 3.08) with $P < 0.001$. Additionally, religion and economic status are influential factors, with significant variations observed over the years. The study reveals that education, religion, economic status, and employment status significantly influence the likelihood of experiencing emotional, physical, or sexual violence.

Conclusions: The study underscores the need for a multidimensional approach to address IPV in India, considering cultural, political, legal, and economic factors. The findings call for increased community awareness, especially within the medical system, to promote early detection and intervention in cases of IPV.

Keywords: Domestic Violence, Intimate Partner Violence, Socioeconomic Factors, Physical Violence, Sexual Violence, India

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1. Context

According to the World Health Organization (WHO), "Intimate partner violence (IPV) refers to behavior within an intimate relationship that causes physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse, and controlling behaviors" (1). The frequency and severity of IPV can fluctuate, manifesting in diverse patterns (2). Globally, about 41% of women have experienced various forms of IPV, including sexual violence, physical violence, and/or stalking from their husbands or intimate partners (3). The IPV occurs across diverse settings, encompassing all socioeconomic, religious, ethnic, and cultural groups. Women bear the predominant global burden of IPV, with male intimate partners or ex-partners being the most frequent perpetrators of violence against women (4). The prevalent form of IPV is emotional violence, impacting an estimated 35% to 49% of both men and women in Europe and the USA (5). According to the Journal of Epidemiology and Community Health, one in every three women in India is subjected to IPV of a physical, emotional, or sexual nature (1). Factors affecting the prevalence of violence include early marriage, husbands' alcohol use, women's employment, and justification of wife beating. Indian women are exposed to IPV due to factors operating at multiple contextual levels in their lives (2); for instance, in India, factors such as the cultural practice of dowry, growing up witnessing violence, the presence of multiple children in the family, forced sex, and partner threats to harm have been found to be positively associated with IPV. It is driven by patriarchal socio-cultural norms (6). Women in India are subjected to various heinous crimes, violence, and abuses, starting from the womb (e.g., foeticide), various child abuse, child marriage, honor killing, dowry killing, and wife-beating (7). Women also experience sexual abuse at homes, roads, and workplaces, as well as acid attacks (8, 9). The WHO first study of its kind, "Multi-country Study on Women's Health and Domestic Violence Against Women," reveals that intimate partner abuse is the most prevalent form of violence against women (10). Women are often lauded for silently suffering from IPV. Women IPV victims experience various consequences of violence, such as physical injuries of varying severity, including traumatic brain injury; various mental health problems, such as depression, anxiety, post-traumatic stress disorder (PTSD), and suicidality. The IPV victims suffer from headaches, insomnia, substance abuse, and even physical and social phobias. Homicide is an especially devastating consequence, where an intimate partner kills female victims (10). In the face of violence, it is still mostly the victims' responsibility to take care of themselves (11). Indian girls, young and elderly women suffer severely from IPV-related physical and mental ill health (12, 13). India is a land of diversity. Its various cultures and communities have distinct geography, language, ethnicity, religion, and economic diversities. There is a strong association between IPV prevalence and socioeconomic factors in India. Indian national data from 2005 - 06, 2015 - 16, and 2019 - 21 focus on IPV. Therefore, it is interesting to know how women in India are being victimized by IPV. The current study has aimed to understand the predictors of IPV in India over a period of 15 years. As national data is available, a comparison of IPV prevalence over 15 years in India could help policymakers. Studying the socioeconomic factors of IPV and how they have changed through time is crucial for policy development.

2. Objectives

The present study aimed to estimate the prevalence rate of IPV across all Indian states during 2005, 2015, and 2020. The study also assessed the sociodemographic factors, including the economic empowerment of IPV victims of reproductive age during the same period.

3. Evidence Acquisition

The study utilized quantitative secondary data. Data sources were from the national family health surveys (NFHS) round three (NFHS-3) (14), conducted during 2005 - 2006, round four (NFHS-4) (15), during 2015 - 2016, and round five (NFHS-5) (16), conducted during 2019 - 2021. The NFHSs are nationally representative as they use the Indian population census as the sampling base from all the member states and union territories (UTs). The NFHSs employ a uniform sample design procedure. Probability proportional to population size (PPS) based on the latest census is the base for the sampling procedure. The NFHSs use two-stage sampling techniques for rural areas and three-stage sampling techniques for urban areas.

Sample selections in rural areas were made in two stages based on PPS villages, which were designated as primary sampling units (PSUs) for the random selection of households. Urban sample selections involved three stages: First, PSUs were selected in the municipality wards using PPS; then, a random selection of census enumeration blocks (CEBs) was performed from each PSU; finally, a random selection of households from the previously selected individual CEBs was conducted.

NFHSs selected one woman (aged 15 - 49 years) from each household according to the ethical committee's guidelines. All three surveys used the same methodology. Due to population growth and changes in PPS, along with variations in administrative boundaries, it is unlikely that the same CEBs were included in the surveys. Therefore, it is more likely that the same households were included in consecutive surveys.

National family health surveys-3 included 124,385 women of reproductive age (15 - 49 years) with a response rate of 95%. National family health surveys-4 included 351,625 women of reproductive age with a response rate of 94.5%. The NFHS-5 included 63,851 women of reproductive age with a response rate of 97%. The data collection methods of each NFHS are described elsewhere (14-16). The NFHSs were designed to provide information on critical health and family welfare issues to supply relevant national representative data for improved monitoring of health and family welfare programs and policies by the government of India. The NFHSs used three types of pretested, comprehensive questionnaires for households, women, and men, each covering a broad range of demographic and health topics.

Women's questionnaires collected detailed information on the demographic and socioeconomic backgrounds of women and their husbands, as well as empowerment and social status, reproductive history, attitudes toward family planning, maternal healthcare, antenatal and delivery care, child care and nutrition, child mortality, immunization and general health, awareness and precautions related to sexually transmitted diseases, female genital mutilation, attitudes toward wife abuse, and experiences of violence among women and children. For this current study, we focused on the women's questionnaires, specifically utilizing data on their sociodemographic backgrounds and IPV experiences. Details of the questionnaires are available elsewhere (14-16).

The study population includes women of reproductive age (15 - 49 years) residing in various regions of India. The data sources are rich in existing databases, surveys, and reports that inform our understanding of IPV and women's well-being (16). The NFHSs are targeted to gather information on important health and family welfare issues in India, focusing on essential state and national level data. NFHSs aim to improve various health and family welfare policies and programs under the Ministry of Health and Family Welfare and other Indian ministries and agencies. The NFHS questionnaires mainly focus on the household, the women, and the men living in India. The questionnaires are developed, validated, and used in several phases in collaboration with the measures DHS program (14-16).

3.1. Variables of Interests

The dependent variable in the study was IPV, defined as whether the woman (respondent) has ever experienced emotional, physical, and sexual violence by her husband/partner in their conjugal life. Emotional violence was defined as the respondent having ever experienced (1) humiliation; (2) threats of harm; and (3) insult by her husband/partner (14-16). Physical violence was defined as the respondent having ever experienced (1) pushing, shaking, or having something thrown at her; (2) slapping; (3) punching; (4) kicking or dragging; (5) attempted strangling or burning by the spouse; and (6) being threatened with a knife, gun, or other weapons by her husband/partner (14-16). Sexual violence was defined as the respondent having ever experienced (1) physically forced sex when she did not want it; and (2) other forced sexual acts when she did not want them, by her husband/partner (14-16).

The independent variables of this study include age, residential areas, education, religion, and economic status. Economic status, also known as the wealth index, is categorized into five groups: Poorest, poorer, middle, richer, and richest (17). Respondents' current working status and year-round employment status were also included (16, 18).

3.2. Statistical Analysis

Cross-tabulation was employed to assess the relationship between the dependent variables of the three types of violence and the independent variables of different sociodemographic factors. The levels of significance in the cross-tabulation were verified using chi-squared tests. Associations between emotional, physical, and sexual violence and sociodemographic factors were analyzed using binary logistic regression analyses. A 95% confidence interval (CI) and statistical significance at $P < 0.05$ were used.

4. Results

In 2021, the prevalence of IPV against women of reproductive age in India was as follows: Emotional violence, 12.5%; physical violence, 27%; and sexual violence, 5.5%. Comparatively, in 2015, emotional violence stood at 13%, physical violence at 28%, and sexual violence at 7%. In 2005, emotional violence was at 14%, physical violence at 31%, and sexual violence at 8%. The proportion of women exposed to violence in 2005,

2015, and 2021 was recorded in each state and union territory of India (Table 1). In 2021, among all Indian states, the highest percentage of emotional violence was observed in Karnataka (26%), the highest percentage of physical violence was in Bihar (42%), and the highest percentage of sexual violence was in Karnataka (11%). The highest percentage of physical violence was noted in Bihar (from 58% in 2005, 44% in 2015, and 42% in 2021), but it has also shown a decrease in the percentage of emotional (23%, 21%, and 18%, respectively) and sexual violence (21% in 2005 to 8% in 2021). Karnataka has shown a consistent increase, whereas Tripura has shown a consistent decrease in all three aspects of violence from 2005 to 2021. Physical violence has more than doubled in prevalence in Karnataka (20% in 2005 to 44% in 2021). In Karnataka, sexual violence was 4% in 2005, 6% in 2015, and 11% in 2021. Andhra Pradesh (10% in 2005 to 4% in 2021), Kerala (5% in 2005 to 1% in 2021), Rajasthan (20% in 2005 to 5% in 2021), and West Bengal (19% in 2005 to 8% in 2021) have shown a significant decrease in sexual violence. Maharashtra, Meghalaya, Delhi, and Goa have shown an increasing trend of sexual violence during the study period.

Cross-tabulation was employed to assess the relationship between the dependent variables of the three types of violence and the independent variables of different sociodemographic factors (Table 2). The rate of physical violence is higher than emotional or sexual violence in the age group of 19 to 49 years. The rate of physical violence has decreased in all age groups from 2015 to 2021, with $P < 0.001$ significance. In 2021, the physical violence rate is higher in rural areas (28%) than in urban areas (23%), with $P < 0.001$ significance. Education plays an important role; women with no education showed 35% of physical violence in 2021, reduced from 42% in 2005 and 37% in 2015, with $P < 0.001$ significance. The rate of physical violence has shown a reduction when women had access to primary education (30%), secondary education (24%), or higher education (14%). However, the rate of emotional violence increased from 11% to 12% in secondary education and from 6% to 7% in higher education from 2015 to 2021, whereas there is no prominent change in the rate of sexual violence.

Religion is also a notable criterion where the rate of physical violence reduced from 30% in 2015 to 29% in 2021 among Hindus. However, the rate of physical violence increased among Muslims from 24% in 2015 to 26% in 2021. The rate of emotional violence remained constant at 13% in both 2015 and 2021 among Hindus. It reduced from 13% in 2015 to 12% in 2021 among Muslims, with $P < 0.001$ significance. The economic status of the family, especially the women in the family, also depends on whether the woman is working. Women who do not currently work experience less violence than working women, with $P < 0.001$ significance. Physical violence decreased from an alarming 46% in 2005 and 41% in 2015 to 35% in 2021 in the poorest strata, with $P < 0.001$ significance. The physical violence rate is significant even in the richest economic status, from 15% in 2005, 16% in 2015, to 16% in 2021. The physical violence rate of women currently working reduced to 33% in 2021 from 36% in 2015. Emotional violence remained constant at 17% in both 2015 and 2021. The sexual violence rate reduced from 9% in 2015 to 7% in 2021. The rate of physical violence in respondents currently not working decreased from 26% in 2015 to 24% in 2021.

Table 3 presents the adjusted odds ratio (aOR) for IPV and 95% CIs of aOR in relation to socioeconomic variables in 2005, 2015, and 2021. Urban women are more likely to experience all three types of violence than rural women in India. Education has emerged as a strong predictor of IPV in India over the three NFHSs. Illiterate, primary, and secondary educated women are more likely to experience IPV in India compared to higher-educated women. Compared to women from the richest economic status, the poorest and poorer women are almost twice as likely to experience IPV victimization. Compared to working women, their counterparts who do not work are less likely to experience IPV in India.

5. Discussion

In India, the overall prevalence of IPV has seen a slight decrease in 2021 compared to data from 2005. However, physical violence remains the most prevalent form of IPV. The NFHS-5 (2019 - 2021) data indicates a decline in the prevalence of physical violence among women compared to NFHS-4 (2015 - 2016). Despite these nuanced shifts, IPV persists as a growing public health concern, particularly in low-income and middle-income countries, albeit with modest declining trends in India as a whole (19). Recent research suggests that approximately 30% of women in India have experienced physical and/or sexual violence from their partners, reflecting findings from previous studies (20). The WHO reports that one in three women aged 15 to 49 has been subjected to IPV (21). Gender inequality serves as a significant driver of IPV globally (22). Low-income countries, in contrast to their high-income counterparts, exhibit higher rates of IPV (22). This study shows that physical violence is higher among the poorest states, although it has been reduced from 2005 to 2021. The physical violence rate is significant even in

Table 1. Proportion of Women Exposed to Intimate Partner Violence in 2005, 2015 and 2021 [a, b]

States	Numbers			Emotional Violence			Physical Violence			Sexual Violence		
	2005	2015	2021	2005	2015	2021	2005	2015	2021	2005	2015	2021
Andaman and Nicobar Islands		259	217	-	18 (7)	13 (6)	-	41 (16)	28 (13)	-	5 (2)	4 (2)
Andhra Pradesh	4279	1060	1155	513 (12)	201 (19)	173 (15)	1369 (32)	456 (43)	347 (30)	428 (10)	64 (6)	46 (4)
Arunachal Pradesh	942	1299	1779	160 (17)	208 (16)	196 (11)	339 (36)	364 (28)	374 (21)	38 (4)	91 (7)	107 (6)
Assam	2261	2630	3394	317 (14)	289 (11)	339 (10)	814 (36)	631 (24)	1018 (30)	317 (14)	132 (5)	204 (6)
Bihar	2095	4087	3713	482 (23)	858 (21)	668 (18)	1215 (58)	1798 (44)	1559 (42)	440 (21)	572 (14)	297 (8)
Chandigarh	-	74	74	-	5 (7)	2 (3)	-	15 (20)	7 (10)	-	4 (5)	1 (1)
Chhattisgarh	2093	2133	2446	272 (13)	341 (16)	171 (7)	649 (31)	768 (36)	563 (23)	147 (7)	149 (7)	98 (4)
Dadra and Nagar Haveli	-	94	249	-	14 (15)	15 (6)	-	28 (30)	35 (14)	-	4 (4)	7 (3)
Daman and Diu	-	196	249	-	24 (12)	15 (6)	-	37 (19)	35 (14)	-	12 (6)	7 (3)
Delhi	1892	374	918	95 (5)	45 (12)	110 (12)	359 (19)	112 (30)	174 (19)	38 (2)	22 (6)	55 (6)
Goa	1693	472	170	203 (12)	24 (5)	12 (7)	288 (17)	57 (12)	15 (9)	51 (3)	5 (1)	9 (5)
Gujarat	2223	3257	2968	422 (19)	391 (12)	267 (9)	578 (26)	619 (19)	505 (17)	178 (8)	163 (5)	119 (4)
Haryana	1578	1941	1848	158 (10)	252 (13)	203 (11)	442 (28)	621 (32)	333 (18)	126 (8)	175 (9)	92 (5)
Himachal Pradesh	1705	1635	989	51 (3)	65 (4)	59 (6)	102 (6)	82 (5)	79 (8)	34 (2)	33 (2)	30 (3)
Jammu and Kashmir	1443	3307	1663	130 (9)	331 (10)	133 (8)	173 (12)	331 (10)	150 (9)	58 (4)	99 (3)	67 (4)
Jharkhand	1721	2673	2461	310 (18)	267 (10)	295 (12)	602 (35)	855 (32)	763 (31)	207 (12)	214 (8)	172 (7)
Karnataka	3452	2230	2737	276 (8)	268 (12)	712 (26)	690 (20)	446 (20)	1204 (44)	138 (4)	134 (6)	301 (11)
Kerala	1985	1463	1041	199 (10)	146 (10)	73 (7)	318 (16)	205 (14)	104 (10)	99 (5)	59 (4)	10 (1)
Lakshadweep	-	98	88	-	3 (3)	1 (1)	-	7 (7)	1 (1)	-	3 (3)	1 (1)
Madhya Pradesh	3802	5354	4060	874 (23)	642 (12)	609 (15)	1597 (42)	1713 (32)	1177 (29)	418 (11)	428 (8)	244 (6)
Maharashtra	5134	2677	3162	770 (15)	268 (10)	474 (15)	1386 (27)	616 (23)	917 (29)	103 (2)	80 (3)	190 (6)
Manipur	2175	1137	729	283 (13)	159 (14)	80 (11)	892 (41)	603 (53)	284 (39)	305 (14)	159 (14)	44 (6)
Meghalaya	1039	721	1153	73 (7)	87 (12)	161 (14)	125 (12)	173 (24)	161 (14)	21 (2)	29 (4)	81 (7)
Mizoram	937	976	635	103 (11)	98 (10)	25 (4)	206 (22)	156 (16)	64 (10)	19 (2)	29 (3)	6 (1)
Nagaland	2041	860	801	245 (12)	86 (10)	72 (9)	286 (14)	95 (11)	48 (6)	61 (3)	52 (6)	8 (1)
Odisha	2582	3132	2800	491 (19)	376 (12)	280 (10)	852 (33)	1065 (34)	812 (29)	361 (14)	282 (9)	140 (5)
Puducherry	-	479	338	-	91 (19)	34 (10)	-	153 (32)	88 (26)	-	19 (4)	7 (2)
Punjab	1918	1721	1854	211 (11)	120 (7)	130 (7)	480 (25)	344 (20)	222 (12)	134 (7)	86 (5)	56 (3)
Rajasthan	2242	3604	3559	516 (23)	324 (9)	320 (9)	919 (41)	901 (25)	854 (24)	448 (20)	144 (4)	178 (5)
Sikkim	1119	524	280	112 (10)	16 (3)	34 (12)	157 (14)	10 (2)	25 (9)	56 (5)	5 (1)	11 (4)
Tamil Nadu	3836	3550	2480	690 (18)	781 (22)	273 (11)	1688 (44)	1456 (41)	942 (38)	153 (4)	284 (8)	50 (2)
Telangana	-	795	2755	-	175 (22)	551 (20)	-	342 (43)	1047 (38)	-	56 (7)	138 (5)
Tripura	1102	619	811	242 (22)	80 (13)	97 (12)	441 (40)	167 (27)	162 (20)	209 (19)	56 (9)	49 (6)
Uttar Pradesh	6505	7454	7190	976 (15)	1044 (14)	1007 (14)	2797 (43)	2683 (36)	2517 (35)	585 (9)	596 (8)	503 (7)
Uttarakhand	1607	1406	1140	161 (10)	70 (5)	91 (8)	450 (28)	169 (12)	137 (12)	96 (6)	42 (3)	23 (2)
West Bengal	4026	1722	2027	443 (11)	241 (14)	304 (15)	1248 (31)	551 (32)	486 (24)	765 (19)	155 (9)	162 (8)
Ladakh	-	-	167	-	-	32 (19)	-	-	27 (16)	-	-	12 (7)

[a] Table 1 has analyzed all three rounds of NFHS data. However, a previously published article used data from NFHS 2005 and 2015 (13). We must use them to compare the data with the current study, which may look similar due to data overlapping.

[b] Values are expressed as No. (%).

the wealthiest economic status, from 15% in 2005, 16% in 2015, to 16% in 2021. Consistent with other research, this study underscores a significant association between economic status and IPV, with wealthier women reporting fewer IPV instances than their poorer counterparts (23). However, a few member states like Karnataka and Bihar still show very high prevalence rates of all three kinds of IPV. Karnataka has had a more than twofold increase in both physical and sexual violence during the last two decades. Karnataka received a high number of migrant laborers from poorer member states like Bihar. Under stressful work and living conditions, these migrant male laborers may perpetrate IPV (24). In Bihar, seasonal and migrant male

Table 2. Number of Women and Proportion Within Each Category Exposed to Intimate Partner Violence in Relation to Socioeconomic Variables in 2005, 2015 and 2021 [a, b, c]

Variables	Numbers			Emotional Violence			Physical Violence			Sexual Violence		
	2005	2015	2021	2005	2015	2021	2005	2015	2021	2005	2015	2021
Age (y)	-	-	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-	P < 0.001	P = 0.272	
< 19	3029	1642	1039	363 (12)	197 (12)	94 (9)	757 (25)	328 (20)	187 (18)	333 (11)	115 (7)	52 (5)
20 - 24	10729	8847	7322	1395 (13)	973 (11)	879 (12)	3111 (29)	2300 (26)	1757 (24)	966 (9)	619 (7)	366 (5)
25 - 29	14974	13970	12453	2096 (14)	1676 (12)	1494 (12)	4642 (31)	3772 (27)	3238 (26)	1348 (9)	978 (7)	623 (5)
30 - 34	14398	13598	12916	2016 (14)	1768 (13)	1679 (13)	4607 (32)	4079 (30)	3616 (28)	1152 (8)	952 (7)	775 (6)
35 - 39	11827	11402	12400	1774 (15)	1482 (13)	1612 (13)	3785 (32)	3307 (29)	3472 (28)	946 (8)	798 (7)	744 (6)
40 - 44	8480	8677	9048	1272 (15)	1128 (13)	1176 (13)	2629 (31)	2516 (29)	2533 (28)	594 (7)	607 (7)	452 (5)
45 - 49	5993	7877	8673	899 (15)	1103 (14)	1214 (14)	1798 (30)	2363 (30)	2515 (29)	420 (7)	473 (6)	520 (6)
Residential area	-	-	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-
Urban	30500	19469	15488	3965 (13)	2336 (12)	17(11)	8540 (28)	4673 (24)	3562 (23)	2135 (7)	973 (5)	774 (5)
Rural	38928	46544	48363	5839 (15)	6051 (13)	6287 (13)	13236 (34)	13963 (30)	13542 (28)	3893 (10)	3258 (7)	2902 (6)
Education level	-	-	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001		P < 0.001	P < 0.001	-
No education	27529	22028	18783	4955 (18)	3745 (17)	3005 (16)	11562 (42)	8150 (37)	6574 (35)	3028 (11)	1983 (9)	1315 (7)
Primary	10733	9669	9302	1825 (17)	1354 (14)	1302 (14)	3864 (36)	3191 (33)	2791 (30)	1073 (10)	774 (8)	558 (6)
Secondary	25129	28187	28943	2764 (11)	3101 (11)	3473 (12)	5780 (23)	6483 (23)	6946 (24)	1508 (6)	1409 (5)	1447 (5)
Higher	6030	6129	6823	362 (6)	368 (6)	478 (7)	543 (9)	797 (13)	955 (14)	181 (3)	184 (3)	205 (3)
Religion	-	-	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-
Hindu	51619	49546	48548	7227 (14)	6441 (13)	6311 (13)	16518 (32)	14864 (30)	14079 (29)	4646 (9)	3468 (7)	2913 (6)
Muslim	8594	8614	7585	1289 (15)	1120 (13)	910 (12)	3008 (35)	2067 (24)	1972 (26)	945 (11)	517 (6)	455 (6)
Others	5709	7853	7718	685 (12)	785 (10)	772 (10)	1199 (21)	1806 (23)	1389 (18)	228 (4)	471 (6)	386 (5)
Economic status	-	-	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-	P < 0.001	P<0.001	-
Poorest	9728	12838	14147	2043 (21)	2311 (18)	2264 (16)	4475 (46)	5264 (41)	4951 (35)	1362 (14)	1412 (11)	1132 (8)
Poorer	11111	13992	14497	2111 (19)	2099 (15)	2030 (14)	4667 (42)	4617 (33)	4494 (31)	1333 (12)	1119 (8)	1015 (7)
Middle	13540	13790	13263	2166 (16)	1793 (13)	1724 (13)	4874 (36)	3861 (28)	3581 (27)	1354 (10)	965 (7)	663 (5)
Richer	16039	13142	11853	2085 (13)	1314 (10)	1304 (11)	4812 (30)	3023 (23)	2726 (23)	1123 (7)	657 (5)	474 (4)
Richest	19014	12251	10091	1521 (8)	858 (7)	807 (8)	2852 (15)	1960 (16)	1615 (16)	761 (4)	368 (3)	303 (3)
Respondent currently working	-	-	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.001	-
No	43736	49355	44868	5248 (12)	5429 (11)	4935 (11)	12246 (28)	12832 (26)	10768 (24)	3499 (8)	2961 (6)	2243 (5)
Yes	25574	16658	18983	4603 (18)	2832 (17)	3227 (17)	9462 (37)	5997 (36)	6264 (33)	2557 (10)	1499 (9)	1329 (7)
Respondent employed all year/seasonal	-	-	-	P = 0.197	P < 0.05	-	P < 0.001	P < 0.001	-	P < 0.001	P < 0.05	-
All year	18915	12165	13471	3405 (18)	1946 (16)	2155 (16)	6809 (36)	4014 (33)	13471 (31)	1702 (9)	1095 (9)	943 (7)
Seasonal	9345	8436	8897	1776 (19)	1518 (18)	1424 (16)	3925 (42)	3459 (41)	8897 (36)	1028 (11)	844 (10)	623 (7)
Occasional	1254	1066	868	238 (19)	181 (17)	148 (17)	502 (40)	384 (36)	868 (32)	138 (11)	107 (10)	69 (8)

[a] Chi^2 significance level: P < 0.001, P < 0.05.

[b] Table 2 has analyzed all three rounds of NFHS data. However, a previously published article used data from NFHS 2005 and 2015 (13). We must use them to compare the data with the current study, which may look similar due to data overlapping.

[c] Values are expressed as No. (%).

laborers return to their homes after their contractual assignments where their wives live, potentially triggering various episodes of IPV (13, 25, 26). Union territories where presidential rules are active, such as Chandigarh and Lakshadweep, show major improvement in IPV with minimal prevalence. States with significant economic growth, such as Gujarat and Uttarakhand (26), have significantly reduced IPV rates over the last 15 years. Tripura has shown major improvement in IPV rates, with physical violence decreasing from 24% in 2005 to 20% in 2021, and sexual violence from 19% in 2005 to 6% in 2021, which could be due to its major economic development during the last decade (27). Previous studies explored the issue of IPV in India and found significant variations in the prevalence of IPV across socioeconomic and demographic characteristics (13, 25, 28). Living in urban areas of India exposes women to higher rates of IPV compared to their rural counterparts, consistent with previous research (13, 23-25). Furthermore, education levels show a

significant correlation with physical violence. In 2021, women with no education experienced a 35% incidence of physical violence, a decrease from 42% in 2015. Similar findings from studies in low-income countries indicate that individuals with lower education levels are at elevated risk of IPV (13, 27, 29). Conversely, research suggests that women with secondary or higher education encounter lower instances of IPV compared to those with primary or lower levels of education (30).

The study shows that physical violence has increased among Muslims in 2021 compared to 2015. In the Sub-Saharan Africa region, studies have shown a relationship between religion and IPV, with a higher likelihood of IPV occurrence among Christians compared to Muslims (30, 31). Women who endure IPV from their partners face risks to both their physical and mental well-being. IPV is associated with adverse outcomes during pregnancy, including obstetric complications and childhood morbidity and mortality. Additionally, it can hinder access to antenatal care services and skilled birth attendants during delivery. Furthermore, IPV can contribute to low birth weight and premature births. As a result, the escalating prevalence of IPV, particularly physical violence, exacerbates maternal and perinatal morbidity and mortality rates (23, 32).

Over the past 15 years, the prevalence of emotional, physical, and sexual IPV has demonstrated declining patterns in India. However, certain autonomous regions have exhibited rising trends in different forms of IPV. As India progresses towards sustainable development goals, addressing IPV becomes a crucial intervention to mitigate violence-related maternal morbidity. Achieving this requires a comprehensive understanding and exploration of various potential solutions to both physical and emotional violence.

The study has certain methodological limitations. It is a cross-sectional design that prevents establishing causality between IPV occurrences and their associated risk factors. Further research utilizing mixed methods is necessary to delve deeper into why some member states are witnessing increasing trends in IPV. However, the study also presents notable advantages. It offers a comprehensive analysis, including nationally representative samples, ensuring the generalizability of IPV prevalence results. Moreover, consistency in methodology across three surveys conducted in 2005 - 2006, 2015 - 2016, and 2019 - 2021, including data collection, cleaning, and analysis procedures, strengthens the reliability of findings. The NFHSs have a more than 94% response rate, indicating an actual representation of the national prevalence of all three types of IPV, which are also supported by the literature (13, 25).

5.1. Conclusions

Comparing IPV prevalence and socioeconomic determinants over the past fifteen years provides a representative picture of IPV across Indian member states, potentially guiding policymakers in developing state-specific prevention strategies. This study stands out as a unique endeavor, encompassing all three types of IPV across all Indian member states and union territories over a fifteen-year span.

Footnotes

Authors' Contribution: Study concept and design, acquisition of data, and analysis and interpretation of data: K. D.; Drafting of the manuscript: A. B., S. C., and C. D.; Critical revision of the manuscript for important intellectual content, statistical analysis, administrative, technical, and material support, and study supervision: K. D.

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Table 3. Adjusted Odds Ratio for Intimate Partner Violence, and 95% Confidence Intervals of Adjusted Odds Ratio in Relation to Socioeconomic Variables in 2005, 2015 and 2021 [a]

Variables	Number			Emotional Violence aOR (95% CI)			Physical Violence aOR (95% CI)			Sexual Violence aOR (95% CI)		
	2005	2015	2021	2005	2015	2021	2005	2015	2021	2005	2015	2021
Age (y)												
15 - 19	3029	1642	1039	0.72 [b]; P < 0.001; (0.59 - 0.88)	1.01 (0.74 - 1.39)	0.97 (0.64 - 1.46)	0.61 [b]; P < 0.001; (0.52 - 0.72)	0.65 [c]; P = 0.002; (0.49 - 0.85)	0.51 [b]; P < 0.001; (0.35 - 0.73)	1.40 [b]; P < 0.001; (1.11 - 1.78)	1.32 (0.88 - 1.98)	0.71 (0.36 - 1.40)
20 - 24	10729	8847	7322	0.90 (0.79 - 1.03)	0.98 (0.83 - 1.15)	1.07 (0.91 - 1.26)	0.92 (0.82 - 1.02)	1.003 (0.88 - 1.14)	0.85 [c]; P = 0.019; (0.75 - 0.97)	1.25 [b]; P < 0.001; (1.05 - 1.49)	1.55 [b]; P < 0.001; (1.27 - 1.91)	1.04 (0.82 - 1.33)
25 - 29	14974	13970	12453	0.97 (0.86 - 1.09)	0.95 (0.84 - 1.09)	1.04 (0.92 - 1.19)	1.09 (0.98 - 1.19)	0.97 (0.87 - 1.07)	0.94 (0.85 - 1.04)	1.22 [b]; P < 0.001; (1.04 - 1.44)	1.39 [b]; P < 0.001; (1.17 - 1.65)	1.20 (0.96 - 1.44)
30 - 34	14398	13598	12916	0.95 (0.84 - 1.07)	0.99 (0.88 - 1.12)	1.04 (0.93 - 1.17)	1.08 (0.98 - 1.19)	1.08 (0.98 - 1.19)	1.07 (0.97 - 1.17)	1.18 [c]; P = 0.001; (1.00 - 1.38)	1.20 [c]; P = 0.029; (1.02 - 1.42)	1.33 [c]; P = 0.001; (1.13 - 1.58)
35 - 39	11827	11402	12400	1.06 (0.94 - 1.19)	0.99 (0.87 - 1.12)	1.01 (0.90 - 1.13)	1.09 (0.99 - 1.21)	0.98 (0.88 - 1.08)	1.00 (0.92 - 1.10)	1.21 [b]; P < 0.001; (1.03 - 1.43)	1.10 (0.93 - 1.30)	1.06 (0.90 - 1.26)
40 - 44	8480	8677	9048	1.04 (0.92 - 1.18)	0.98 (0.86 - 1.11)	1.00 (0.89 - 1.13)	1.08 (0.97 - 1.19)	1.08 (0.98 - 1.19)	0.95 (0.86 - 1.04)	1.12 (0.94 - 1.33)	1.09 (0.91 - 1.30)	0.96 (0.80 - 1.16)
45 - 49	5993	7877	8673	1	1	1	1	1	1	1	1	1
Residential area												
Urban	30500	19469	15488	1.46 [b]; P < 0.001; (1.35 - 1.58)	1.38 [b]; P < 0.001; (1.25 - 1.52)	1.11 [c]; P = 0.042; (1.00 - 1.23)	1.64 [b]; P < 0.001; (1.53 - 1.74)	1.32 [b]; P < 0.001; (1.22 - 1.43)	1.20 [b]; P < 0.001; (1.11 - 1.30)	1.29 [b]; P < 0.001; (1.17 - 1.43)	1.33 [b]; P < 0.001; (1.17 - 1.52)	1.12 (0.96 - 1.29)
Rural	38928	46544	48363	1	1	1	1	1	1	1	1	1
Education												
No education	27529	22028	18783	2.62 [b]; P < 0.001; (2.16 - 3.18)	1.99 [b]; P < 0.001; (1.62 - 2.45)	1.93 [b]; P < 0.001; (1.61 - 2.31)	3.74 [b]; P < 0.001; (3.20 - 4.37)	2.47 [b]; P < 0.001; (2.11 - 2.89)	2.29 [b]; P < 0.001; (1.99 - 2.63)	2.32 [b]; P < 0.001; (1.75 - 3.08)	2.52 [b]; P < 0.001; (1.88 - 3.39)	1.75 [b];P < 0.001; (1.34 - 2.28)
Primary	10733	9669	9302	2.95 [b]; P < 0.001; (2.42 - 3.60)	1.89 [b]; P < 0.001; (1.53 - 2.34)	1.82 [b]; P < 0.001; (1.51 - 2.19)	3.67 [b]; P < 0.001; (3.13 - 4.31)	2.25 [b]; P < 0.001; (1.92 - 2.65)	1.99 [b]; P < 0.001; (1.72 - 2.30)	2.49 [b]; P < 0.001; (1.88 - 3.33)	2.30 [b]; P < 0.001; (1.70 - 3.12)	1.67 [b]; P < 0.001; (1.27 - 2.20)
Secondary	25129	28187	28943	2.21 [b]; P < 0.001; (1.84 - 2.67)	1.71 [b]; P < 0.001; (1.41 - 2.09)	1.62 [b]; P < 0.001; (1.37 - 1.92)	2.65 [b]; P < 0.001; (2.28 - 3.08)	1.84 [b]; P < 0.001; (1.58 - 2.13)	1.76 [b]; P < 0.001; (1.54 - 2.01)	2.00 [b]; P < 0.001; (1.52 - 2.63)	1.99 [b]; P < 0.001; (1.49 - 2.64)	1.57 [b]; P < 0.001; (1.22 - 2.01)
Higher	6030	6129	6823	1	1	1	1	1	1	1	1	1
Religion												
Hindu	51619	49546	48548	0.91 (0.79 - 1.04)	1.20 [b]; P < 0.001; (1.08 - 1.34)	1.27 [b]; P < 0.001; (1.14 - 1.41)	0.87 [b]; P < 0.001; (0.77 - 0.97)	1.35 [b]; P < 0.001; (1.24 - 1.47)	1.72 [b]; P < 0.001; (1.58 - 1.88)	1.11 (0.92 - 1.35)	1.11 (0.97 - 1.28)	1.04 (0.90 - 1.21)
Muslim	8594	8614	7585	0.94 (0.79 - 1.11)	1.34 [b]; P < 0.001; (1.14 - 1.58)	1.54 [b]; P < 0.001; (1.31 - 1.81)	0.84 [b]; P < 0.001; (0.73 - 0.96)	0.99 (0.87 - 1.14)	1.50 [b]; P < 0.001; (1.31 - 1.72)	1.41 [b]; P < 0.001; (1.13 - 1.76)	1.02 (0.82 - 1.27)	1.48 [c]; P = 0.001; (1.19 - 1.85)
Others	5709	7853	7718	1	1	1	1	1	1	1	1	1
Economic status												
Poorest	9728	12838	14147	2.19 [b]; P < 0.001; (1.89 - 2.53)	2.37 [b]; P < 0.001; (1.97 - 2.85)	1.56 [b]; P < 0.001; (1.32 - 1.85)	3.19 [b]; P < 0.001; (2.83 - 3.59)	2.99 [b]; P < 0.001; (2.60 - 3.46)	2.08 [b]; P < 0.001; (1.82 - 2.38)	2.71 [b]; P < 0.001; (2.22 - 3.31)	2.22 [b]; P < 0.001; (1.73 - 2.84)	1.70 [b]; P < 0.001; (1.33 - 2.17)
Poorer	11111	13992	14497	1.97 [b]; P < 0.001; (1.72 - 2.27)	2.08 [b]; P < 0.001; (1.74 - 2.49)	1.50 [b]; P < 0.001; (1.27 - 1.76)	2.83 [b]; P < 0.001; (2.52 - 3.17)	2.42 [b]; P < 0.001; (2.11 - 2.78)	1.88 [b]; P < 0.001; (1.65 - 2.14)	2.17 [b]; P < 0.001; (1.79 - 2.64)	1.72 [b]; P < 0.001; (1.35 - 2.19)	1.53 [c]; P = 0.001; (1.20 - 1.94)
Middle	13540	13790	13263	1.59 [b]; P < 0.001; (1.39 - 1.82)	1.92 [b]; P < 0.001; (1.61 - 2.29)	1.48 [b]; P < 0.001; (1.26 - 1.73)	2.28 [b]; P < 0.001; (2.05 - 2.54)	2.03 [b]; P < 0.001; (1.77 - 2.32)	1.75 [b]; P < 0.001; (1.54 - 1.99)	1.93 [b]; P < 0.001; (1.60 - 2.33)	1.65 [b]; P < 0.001; (1.30 - 2.09)	1.29 [c]; P = 0.034; (1.02 - 1.63)
Richer	16039	13142	11853	1.31 [b]; P < 0.001; (1.15 - 1.48)	1.48 [b]; P < 0.001; (1.24 - 1.76)	1.23 [c]; P = 0.015; (1.04 - 1.44)	1.91 [b]; P < 0.001; (1.72 - 2.11)	1.75 [b]; P < 0.001; (1.53 - 2.00)	1.44 [b]; P < 0.001; (1.27 - 1.64)	1.61 [b]; P < 0.001; (1.34 - 1.93)	1.37 [b]; P < 0.001; (1.08 - 1.74)	1.04 (0.82 - 1.33)
Richest	19014	12251	10091	1	1	1	1	1	1	1	1	1
Respondent currently working												
No	43736	49355	44868	1.08 (0.99 -								

Variables	Number			Emotional Violence aOR (95% CI)			Physical Violence aOR (95% CI)			Sexual Violence aOR (95% CI)		
	2005	2015	2021	2005	2015	2021	2005	2015	2021	2005	2015	2021
				1.18)	0.88 [b]; P < 0.001; (0.80 - 0.96)	0.78 [b]; P < 0.001; (0.71 - 0.86)	1.01 (0.94 - 1.09)	0.91 [b]; P < 0.001; (0.85 - 0.97)	0.88 [c]; P = 0.001; (0.82 - 0.95)	1.23 [b]; P < 0.001; (1.09 - 1.37)	0.90 (0.80 - 1.01)	0.81 [c]; P = 0.003; (0.70 - 0.93)
Yes	25574	16658	18983	1	1	1	1	1	1	1	1	1
Respondent employed all year/seasonal												
All year	18915	12165	13471	1.01 (0.87 - 1.18)	0.99 (0.83 - 1.17)	0.92 (0.77 - 1.11)	0.88 [b]; P < 0.001; (0.78 - 0.99)	0.96 (0.84 - 1.09)	0.97 (0.84 - 1.13)	0.99 (0.82 - 1.20)	0.91 (0.73 - 1.12)	0.87 (0.67 - 1.12)
Seasonal	9345	8436	8897	0.93 (0.79 - 1.09)	1.01 (0.85 - 1.19)	0.86 (0.71 - 1.03)	0.93 (0.82 - 1.06)	1.12 (0.98 - 1.28)	1.04 (0.90 - 1.22)	0.99 (0.82 - 1.21)	0.92 (0.74 - 1.14)	0.82 (0.63 - 1.06)
Occasional	1254	1066	868	1	1	1	1	1	1	1	1	1

Abbreviations: aOR, adjusted odds ratio; CI, confidence interval.

[a] Table 3 has analysed all three rounds of NFHS data. However, a previously published article has used NFHS 2005 and 2015 data (13). We must use them to show the data for comparability with the current study, which may look similar due to data overlapping.

[b] P < 0.001.

[c] P < 0.05, also the exact P-values are stated.