

Association between abuse and the onset of chronic diseases among middle-aged and older adults in India

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Abstract

Evidence on the relationship between chronic diseases and abuse among middle-aged and older adults remains limited. In India, existing studies have largely underexplored the association between a broad spectrum of chronic conditions and elder abuse. To bridge this gap, this study examines the association between chronic diseases and the risk of abuse among individuals aged 45 years and above at both the national and state levels in India. Data were drawn from 64,901 respondents in the first wave of the Longitudinal Ageing Study in India (LASI, 2017–18). Descriptive and bivariate analyses were undertaken to explore the unadjusted relationship between abuse and chronic diseases. Multivariate logistic regression was performed to assess the association between abuse and selected predictor variables. The overall prevalence of abuse was 4.8%, with considerable variation across states. The prevalence of abuse with no chronic diseases was 4.3%, which increased to 5.4% with chronic diseases. The risk of abuse was significantly higher among individuals with lung disease (AOR: 1.35, 95% CI: 1.07–1.71), stroke (AOR: 1.86, 95% CI: 1.14–3.04), arthritis (AOR: 1.42, 95% CI: 1.23–1.63), and neurological conditions (AOR: 1.85, 95% CI: 1.30–2.62). Higher likelihood of abuse was also observed among older adults, females, those living alone, rural residents, individuals who consume alcohol or smoke, and those reporting poor self-rated health. Findings also suggest that education level and household wealth emerged as protective factors against elder abuse. Targeted interventions are needed for middle-aged and older adults who are diagnosed with chronic disease conditions.

Introduction

Abuse against middle-aged adults and older adults is recognized as a significant global public health and human rights concern with serious implications for dignity, health, and well-being (Sathya & Premkumar, 2020; S. Srivastava & Muhammad, 2020). Globally, one in six older adults aged 60 and above experiences some form of abuse (World Health Organization, 2024). The World Health Organization defines elder abuse as *“Elder abuse is a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, which causes harm or distress to an older person”* (World Health Organization, 2002). Abuse in later life may take multiple forms, including physical, financial, and neglect, and is widely considered a serious violation of human rights (Evandrou et al., 2017; Maurya et al., 2020; Sathya & Premkumar, 2020; Skirbekk & James, 2014). Population ageing is often accompanied by a growing burden of chronic diseases. Old age is strongly associated with the onset and accumulation of long-term health conditions (Chauhan et al., 2022), which not only compromises functional ability and quality of life but also imposes a substantial burden on the individual, the family, and the health system. Chronic diseases account for a large share of mortality worldwide, with an estimated 41 million deaths each year, and nearly three-quarters of these deaths occur among older adults (Karaman et al., 2025). Moreover, a recent systematic review and meta-analysis estimated that nearly 46% older adults live with multimorbidity (Zhu et al., 2025).

Chronic diseases are linked with abuse in later life. A systematic review and meta-analysis by Wang et al., (2019) further showed that chronic diseases were significantly associated with increased risk of abuse among older adults. In particular, neurological disorders, heart diseases, and other chronic illnesses were linked to a higher likelihood of abuse (Wang et al., 2019). Similar evidence has also been reported from other settings. For example, older adults in Korea with two chronic conditions had a significantly higher likelihood of experiencing abuse than those without such conditions (Lee et al., 2021), while a study from Poland found that older adults with chronic diseases were significantly more likely to experience abuse, particularly in the form of social isolation (Filipska et al., 2020). However, evidence also suggests that abuse in later life is closely linked with poor physical and mental health. Previous studies have documented an association between older adults abuse and impaired physical functioning (Pengpid & Peltzer, 2021; S. Srivastava & Muhammad, 2020), diabetes (Alias et al., 2023), hypertension (Ibrahime Mohammed et al., 2025), cardiovascular diseases (Mawar et al., 2018), chronic pain (Gurjar & Kumari, 2025; Pengpid & Peltzer, 2021; Yunus et al.,

2017), depression (Giraldo-Rodríguez et al., 2024; Gurjar & Kumari, 2025; Sathya, Selvamani, et al., 2022), and multiple chronic diseases (Maurya et al., 2020; Pengpid & Peltzer, 2021).

Abuse and chronic health conditions in the Indian context

In India, abuse against middle-aged adults and older adults has historically received limited attention despite its social and health consequences. Since the late 1990s, the issue has gained increasing attention from researchers, civil society organisations, and policymakers (Shankardass, 2013). This concern has become more relevant in the context of rapid population ageing, which is likely to increase the number of older adults exposed to social, economic and health vulnerabilities (Chang & Levy, 2021). Evidence from India suggested that abuse among middle-aged and older adults is not uncommon. National level studies estimated the prevalence of abuse to range between 5.2% and 6.4% (Gurjar & Kumari, 2025; Maurya et al., 2020; Pengpid & Peltzer, 2021; Skirbekk & James, 2014). State and community-level studies have reported a wider variation, with prevalence estimates ranging from 2.3% to 50.2% (Bansod et al., 2021; Chandanshive et al., 2022; Kumar et al., 2024; Mawar et al., 2018; Ramalingam et al., 2019; Sathya, Selvamani, et al., 2022; S. Srivastava & Muhammad, 2020). According to a report by HelpAge India, 94% of the older adults who experienced abuse reported at least one chronic disease (Help Age India, 2024). Similarly, a national level estimate highlighted that victims of elder abuse were more likely to report poor physical and mental health conditions and greater health care utilisation than those who do not (Pengpid & Peltzer, 2021).

The burden of chronic diseases among older adults in India is itself substantial. Nearly 30% of older adults report at least one chronic disease, while around 16% live with two or more chronic diseases (Chauhan et al., 2022). Chronic illness may increase the risk of abuse through several pathways. It often leads to physical limitations, reduced independence, and a greater need for support in daily living. In such circumstances, the older adult may become more vulnerable to neglect, emotional mistreatment, or other forms of abuse (Pengpid & Peltzer, 2021). Devraj et al. (2024) reported that illness, physical weakness, and substantial self-care deficits were significantly associated with an increased risk of abuse (Devaraj et al., 2024). Similarly, another study from India found that older adults with two, three, and four or more chronic conditions were significantly more likely to experience abuse than those without any chronic conditions (Sathya, Selvamani, et al., 2022).

At the same time, both chronic diseases and abuse are shaped by broader social and economic conditions. Previous studies have identified several factors associated with a higher risk of abuse, including physical and cognitive impairment, living alone, low economic status, lack of social support, and female gender (Bansod et al., 2021; Maurya et al., 2020; Sathya, Selvamani, et al., 2022; Sathya & Premkumar, 2020). Marital status also appears to be a matter; for instance, currently married older adult individuals have been found to be reported lower level of abuse than widowed, separated, divorced, or never married individuals (Skirbekk & James, 2014). These vulnerabilities are particularly relevant in India, where a substantial proportion of the older population remains socioeconomically disadvantaged and lives with one or more chronic health conditions (Sathya, Selvamani, et al., 2022; Skirbekk & James, 2014).

Aim of the research

Although abuse against middle-aged and older adults is increasingly recognised as a serious concern, empirical evidence on its relationship with chronic diseases remains limited, particularly in low and middle-income settings such as India. Existing research has often focused more on the psychological consequences of abuse than on its relationship with physical morbidity and long-term disease burden (Yunus et al., 2017). In the Indian context, a few studies have shown that chronic morbidity and multimorbidity are associated with abuse (Maurya et al., 2020; Sathya, Selvamani, et al., 2022; Sathya & Premkumar, 2020). But these studies have not examined a broader range of diagnosed chronic conditions in detail. To the best of our knowledge, no previous nationally representative study from India has

systematically assessed abuse among middle-aged and older adults in relation to chronic diseases at both the national and state levels. This is an important gap, particularly in a setting where ageing, chronic disease burden, and family-based care structures intersect. Understanding this relationship is also relevant from a policy perspective, as existing welfare and ageing-related measures in India do not adequately address abuse prevention within the context of chronic illness and dependency. Against this background, the present study examines the association between chronic morbidity and abuse among middle-aged and older adults in India using nationally representative data. In addition, the study explores whether this relationship may be shaped by socio-demographic characteristics, lifestyle behaviours, and psychological and functional health conditions that could further influence the risk of abuse.

Methods

Data source

The present study utilised data from the Longitudinal Ageing Study in India (LASI) Wave-I, conducted in 2017-18. LASI is India's first and largest nationally representative survey of middle-aged and older adults, conducted across 35 states and Union territories, except Sikkim. The LASI was undertaken in collaboration with the Harvard T. H. Chan School of Public Health and the University of Southern California, with major sponsorship of the Ministry of Health and Family Welfare, Government of India, and the United Nations Population Fund-India. It provides detailed information on key measures, such as economic, social and health outcomes of older adults aged 45 years and above, including elder abuse and age discrimination. This survey used a multistage stratified area probability cluster sampling design, with a three-stage sampling approach in rural areas and a four-stage sampling design in urban areas, to select the final observation units. The details of sampling and methodology of the survey design and data collection are published in the survey report (International Institute for Population Sciences (IIPS) and ICF, n.d., 2020). The LASI survey sample included 72,250 people. This study considered the data of individuals aged 45 years and above. Therefore, the present study analysed data from 64,901 middle-aged and older adults aged 45 years and above.

Outcome Variable

The outcome variable in the study is to examine whether middle-aged and older adults have experienced any form of ill-treatment in the last year. To estimate the prevalence of abuse, questions asked of the respondent were "Have you felt that you were ill-treated in the past year?" Respondents who reported yes were considered to be abused. The variable was binary in nature (yes/no). To examine the pattern of abuse, we took information on the type of ill-treatment (physical abuse, verbal abuse/disrespect, economic exploitation, or emotional/psychological abuse and neglect), which was collected from those who experienced abuse (answered 'yes' in the above question). Based on this information, we constructed a variable 'experience number of abuse' and categorised it into four categories: 1 "Not experienced abuse", 2 "Abuse experienced but not specified", 3 "Single type of abuse", and 4 "Multiple types of abuse".

Explanatory Variables

The explanatory variables were identified through a review of the relevant literature in similar

research areas. Accordingly, selected potential covariates that may influence the outcomes. A description of the explanatory variables is shown in Table 1.

Table 1
Description of the selected health problems and sociodemographic and lifestyle characteristics

Variables	Description
Health Problems	
Chronic disease	Chronic disease was assessed through nine self-reported chronic conditions, including hypertension, diabetes, cancer, lung disease, heart disease, stroke, bone-related disease, neurological/psychiatric diseases, and high cholesterol. Based on these nine chronic conditions, we constructed a composite index “chronic diseases” and categorised it into three categories: 0” no diseases”, 1” only one disease” and 2” multi-morbidity’.
Insomnia symptoms	Insomnia symptoms were assessed with four questions adapted from the Jenkins Sleep Scale (JSS-4) (Jenkins et al., 1988): How often do you have trouble 1) falling asleep? 2) with waking up during the night? 3) with waking up too early and not being able to fall asleep again? 4) “How often did you feel unrested during the day, no matter how many hours of sleep you had?” Response options were “never, rarely (1–2 nights per week), occasionally (3–4 nights per week), and frequently (5 or more nights per week) (item 4 was reverse coded). Insomnia problems were “coded as ‘frequently’ for any of the four symptoms as one.” (Cho & Chen, 2020). The “JSS-4 proved excellent reliability, and it demonstrated good construct validity.” (Fabbri et al., 2021). Internal consistency of the JSS-4 was 0.88 in this study.
Physical or mental impairment	Physical or mental impairment was assessed with the question: ‘Do you have any form of physical or mental impairment?’ with response options of ‘yes’ or ‘no’.
Self-reported health	Self-reported health was measured using a single question: ‘Overall, how is your health in general? Would you say it is: very good, good, fair, poor, or very poor?’. Those who responded ‘very good’ and ‘good’ were coded as 0- ‘good’ health, those who reported ‘fair’ were considered as 1- ‘fair’ health, whereas those who responded ‘very poor’ and ‘poor’ were coded as 2- ‘poor’ health.
Covariates	
Age	Information of age of older adults was collected at the time of the survey and was classified into two categories: 45–59 and ≥ 60 years
Sex	Sex was recorded as male or female.
Place of residence	Place of residence was categorised into two groups: “Urban” and “Rural”
Currently married	Marital status was assessed during the survey. Respondents who reported being currently married were coded as “Yes,” while those who were widowed, divorced, separated, or never married were coded as “No.”
Household Monthly per capita consumer expenditure (MPCE)	Household economic status was measured using the Monthly Per Capita Consumer Expenditure (MPCE). MPCE was calculated using propensity score matching (PSM), including household-reported consumption expenditures on food and non-food items. Based on the PSM score, MPCE were categorised into three categories: poor, middle, and rich.
Living alone	Respondents were categorized based on whether they were living alone (yes/no). Individuals residing alone were coded as “Yes,” while those living with family members or others were coded as “No.”
Smoking Practices	smoking behavior was assessed using two questions in the LASI survey. Respondents were first asked: “Have you ever smoked tobacco (cigarette, bidi, cigar, hookah, cheroot)?” Those who responded “yes” were subsequently asked: “Do you currently smoke any tobacco products (cigarettes, bidi, cigars, hookah, cheroot, etc.)?” Response options were recorded as “yes” or “quit.” Based on these responses, smoking status was categorized into three groups: never smoked, quit, and currently smoking.
Alcohol consumption	Alcohol consumption was assessed using structured questions. Respondents were first asked: “Have you ever consumed any alcoholic beverages such as beer, wine, liquor, or country liquor?” Those who responded “yes” were subsequently asked: “In the past three months, on average, how frequently (on how many days) have you had at least one alcoholic drink?” They were also

Variables	Description
Health Problems	
	asked: <i>"In the last three months, how frequently, on average, have you had five or more drinks on one occasion?"</i> A binary variable for current alcohol consumption was constructed. Respondents who reported consuming alcohol in the past three months and having five or more drinks on at least one occasion were classified as current alcohol consumers, while those who never consumed alcohol or reported no alcohol use in the past three months were categorized as non-consumers.
Low Physical Activity	Physical activity was assessed using the question: <i>"How often do you take part in sports or vigorous activities such as running, jogging, swimming, cycling, heavy lifting, farm work, or similar activities?"</i> Response options included: every day, more than once a week, once a week, one to three times a month, and hardly ever or never. Respondents who reported engaging in vigorous activities one to three times a month or hardly ever/never were classified as having low physical activity, while those reporting activity once a week or more frequently were categorized as not having low physical activity.

Analytical Approach

This study examined the association between health conditions and abuse among older adults in India. Descriptive statistics were used to describe the study population, with categorical variables reported as weighted frequencies and percentages. Bivariate analyses were undertaken to explore the unadjusted relationships between abuse and selected health-related and sociodemographic characteristics. To assess independent associations, multivariate logistic regression models were estimated while adjusting for potential confounders. Given the large number of explanatory variables and the potential for multicollinearity, a stepwise variable selection procedure was used to develop a parsimonious model. This procedure was guided by theoretical relevance and existing empirical evidence, serving as a data-reduction approach rather than a purely statistical selection method. Variables were entered at $p < 0.05$ and retained at $p < 0.10$ to ensure inclusion of factors with potential epidemiological importance. The findings are presented as adjusted odds ratios (AORs) with 95% confidence intervals, with statistical significance evaluated at $p < 0.05$. All analyses were conducted using Stata version 17.

Results

Prevalence of abuse among middle-aged and older adults by health conditions

The distribution of different types of abuse among older adults with chronic disease is presented in **Fig. 2**. The prevalence of abuse varies across specific chronic health conditions, with multiple forms of abuse being more common than single or unspecified abuse across most morbidity categories. Middle-aged and older adults with neurological conditions (8.2%), heart disease (6.6%), and stroke (6.4%) reported the highest prevalence of multiple forms of abuse. Moreover, individuals with arthritis (4.4%) and lung disease (3.5%) also showed relatively higher levels of multiple abuse. The prevalence of a single type of abuse was low across all groups, with slightly higher levels among individuals with hypertension (1.1%) and lung disease (1.2%). Notably, those with multi-morbidity also exhibited elevated levels of abuse, particularly multiple forms (3.1%).

Table 2 shows the prevalence of abuse according to different health conditions. A substantial proportion of middle-aged and older adults experienced abuse, which varies across health conditions. For instance, the prevalence of abuse was higher among those with neurological conditions (10.6%), followed by individuals with stroke (9.5%), heart disease (8.3%), arthritis (7.1%), and lung disease (5.8%). Individuals with multiple chronic diseases (multimorbidity) experienced more abuse (5.6%) than those without chronic conditions (4.4%). Prevalence of abuse was nearly double among

individuals who experienced an insomnia problem (8.5%) relative to those who did not have an insomnia problem (4.3%). Physical or mental impairments were associated with increased abuse prevalence, with 10.2% of middle-aged and older adults with impairments experiencing abuse relative to 4.4% of those without impairments. Middle-aged and older adults who rated their health as poor had the highest prevalence of abuse (8%), followed by those reporting fair health (4.5%), while those with good self-rated health had the lowest prevalence (3.7%).

Table 2
Percentage (weighted and 95% CI) of abuse among middle-aged and older adults according to health outcomes in India, 2018–2019

Health Outcomes	% of respondents	N	Experienced abuse
Chronic morbidity			
No Morbidity	53.8	34,652	4.4 (3.94, 4.77)
Hypertension	11.8	8,529	4.6 (3.69, 5.46)
Diabetes	3.1	2,218	2.1 (1.35, 2.91)
Cancer	0.3	181	1.7 (0.00, 3.80)
Lung disease	2.6	1,454	5.8 (4.33, 7.21)
Heart disease	0.7	443	8.3 (0.00, 19.07)
Stroke	0.4	229	9.5 (4.76, 14.31)
Arthritis	7.3	4,152	7.1 (5.96, 8.18)
Neurological	0.8	426	10.6 (5.60, 15.59)
High cholesterol	0.4	294	3.5 (0.23, 6.78)
Multiple morbidity	18.9	12,323	5.6 (4.50, 6.61)
Insomnia problem			
No	87.1	57,305	4.3 (3.97, 4.69)
Yes	12.9	7,588	8.5 (7.39, 9.52)
Physical or mental impairment			
No	92.3	60,507	4.4 (4.09, 4.74)
Yes	7.7	4,394	10.2 (8.10, 12.31)
Perceived health			
Good	37.7	27,130	3.7 (3.22, 4.26)
Fair	43.9	26,800	4.5 (4.04, 4.99)
Poor	18.5	10,943	8.0 (6.94, 8.98)

Prevalence of abuse among middle-aged and older adults by sociodemographic characteristics

Table 3 presents the prevalence of abuse among middle-aged adults and the elderly (45 years and above) in India by their background characteristics. The prevalence of abuse was slightly higher among individuals aged 60 years and above (5.2%) relative to those aged 45–59 years (4.5%). A small sex difference was observed, with a higher prevalence

among females (4.6%) than among males (5.1%). Abuse was more prevalent in rural areas (5.3%) than in urban settings (3.9%). Marital status was associated with experiences of abuse. Around 4.6% middle-aged and older adults who were currently married reported abuse, while 5.7% of those who were not currently married experienced abuse. Education showed a clear inverse relationship with elder abuse. The prevalence was highest among those with no schooling (5.5%), followed by individuals with primary (4.9%) and secondary education (3.9%), and was lowest among those with higher secondary education and above (3%). Middle-aged and older adults who lived alone reported a much higher prevalence of abuse (8.3%) compared to those living with others (4.7%). Lifestyle factors also influenced the prevalence of elder abuse. The highest prevalence of abuse was reported among individuals who had quit smoking (9.1%), followed by current smokers (5.5%), and was lowest among those who never smoked (4.6%). Similarly, individuals who consumed alcohol at the time of the survey had a higher prevalence of abuse (6.3%) compared to those who did not consume alcohol (4.7%). The prevalence of abuse did not vary considerably by physical activity levels, with similar percentages reported among those with low physical activity (4.8%) and those without (5%).

Table 3
Percentage (weighted and 95% CI) of abuse among middle-aged and older adults
according to background characteristics in India, 2018–2019

Background Characteristics	% of respondents	N	Experienced abuse
Age			
45–59	50.2	34,034	4.5 (3.98, 5.04)
≥ 60	49.8	30,867	5.2 (4.78, 5.65)
Sex			
Male	45.6	30148.0	4.6 (4.13, 5.15)
Female	54.4	34753.0	5.1 (4.58, 5.51)
Place of residence			
Urban	31.0	22,699	3.9 (3.04, 4.69)
Rural	69.0	42,202	5.3 (4.98, 5.64)
Currently married			
Yes	74.1	48,884	4.6 (4.16, 4.95)
No	25.9	16,015	5.7 (5.04, 6.43)
Education			
No Schooling	50.7	30,463	5.5 (5.01, 6.04)
Primary	23.1	15,977	4.9 (4.07, 5.67)
Secondary	16.2	12,014	3.9 (3.36, 4.50)
Higher secondary and above	10.0	6,446	3.0 (2.32, 3.69)
Currently working			
Yes	46.6	29,898	5.1 (4.60, 5.49)
No	53.4	34,947	4.7 (4.19, 5.21)
Wealth quintile			
Poor	42.3	25,863	5.1 (4.54, 5.59)
Middle	20.4	13,040	5.3 (4.41, 6.09)
Rich	37.3	25,998	4.4 (3.90, 4.95)
Living alone			
No	96.3	62,629	4.7 (4.38, 5.08)
Yes	3.7	2,272	8.3 (6.67, 9.99)
Smoking status			
Never smoked	83.0	53,087	4.6 (4.21, 4.94)
Quit	3.8	2,924	9.1 (5.63, 12.47)

Background Characteristics	% of respondents	N	Experienced abuse
Age			
Currently smoking	13.3	8,843	5.5 (4.79, 6.12)
Currently consume alcohol			
No	91.1	57,906	4.7 (4.38, 5.05)
Yes	8.9	6,950	6.3 (4.60, 8.07)
Low physical activity			
No	35.6	22,390	5.0 (4.43, 5.48)
Yes	64.4	42,471	4.8 (4.36, 5.26)

Geographical variation in the prevalence of abuse by disease conditions

Table 4 presents the state-wise prevalence of abuse (weighted percentage with 95% confidence intervals) among middle-aged and older adults, stratified by chronic diseases condition in India during 2017–2018. Overall, the results show that middle-aged and older adults who were diagnosed with chronic diseases reported a higher prevalence of abuse compared to those without a disease condition, although the pattern varies across states. Substantial inter-state variation in abuse prevalence was evident. Among individuals with diagnosed chronic diseases, the highest prevalence was observed in Bihar (12.2%), followed by Karnataka (10.3%), West Bengal (8.3%), and Madhya Pradesh (7.6%). In contrast, many states, such as Arunachal Pradesh (0.3%), Meghalaya (0.67%), Goa (0.8%), and Himachal Pradesh (1.1%), reported relatively lower levels of abuse among those with chronic diseases. A similar pattern was observed among those without diagnosed diseases, where Karnataka (10.3%) and Bihar (8.4%) reported the highest prevalence. The differences between groups (those with disease vs those without) were significantly higher in states/UTs such as Chandigarh (4.5%), followed by Madhya Pradesh (4.4%), Bihar (3.8%), and West Bengal (3.3%). However, the differences between groups were minimal or reversed. For instance, in Arunachal Pradesh and the Andaman and Nicobar Islands, abuse prevalence was slightly higher among those without a disease condition as compared to those diagnosed with chronic diseases.

Table 4
Percentage of abuse (weighted % and 95% CI) among middle-aged and older adults
according to disease condition in India, 2017–2018

State	Not diagnosed	Diagnosed with chronic diseases
Andaman and Nicobar	2.3 (0.56, 4.01)	1.4 (0.14, 2.57)
Andhra Pradesh	2.4 (1.27, 3.57)	2.1 (0.92, 3.36)
Arunachal Pradesh	2.4 (0.96, 3.78)	0.3 (0.00, 0.80)
Assam	2.2 (1.22, 3.20)	2.8 (1.41, 4.15)
Bihar	8.4 (5.80, 11.01)	12.2 (9.91, 14.41)
Chandigarh	1.9 (0.56, 3.28)	6.4 (3.89, 8.93)
Chhattisgarh	5.5 (3.73, 7.27)	6.2 (3.57, 8.77)
Dadra and Nagar Haveli	4.9 (1.93, 7.78)	2.5 (0.90, 4.12)
Daman and Diu	3.8 (1.32, 6.28)	4.8 (2.18, 7.42)
Delhi	1.2 (0.43, 1.87)	2.4 (0.52, 4.32)
Goa	2.6 (0.44, 4.65)	0.8 (0.13, 1.47)
Gujarat	5.1 (3.60, 6.52)	4.9 (3.14, 6.56)
Haryana	2.0 (0.98, 2.95)	3.1 (2.14, 4.15)
Himachal Pradesh	2.4 (1.09, 3.77)	1.0 (0.29, 1.74)
Jammu and Kashmir	1.6 (0.29, 2.95)	2.2 (0.83, 3.48)
Jharkhand	5.4 (3.74, 7.01)	3.3 (2.08, 4.49)
Karnataka	10.3 (7.51, 13.13)	10.3 (5.29, 15.36)
Kerala	3.3 (1.62, 5.01)	4.2 (2.75, 5.58)
Lakshadweep	0.7 (0.00, 1.47)	N. F
Madhya Pradesh	3.2 (1.82, 4.57)	7.6 (4.63, 10.50)
Maharashtra	2.5 (1.63, 3.38)	4.4 (2.79, 6.09)
Manipur	1.9 (0.60, 3.22)	2.8 (0.98, 4.52)
Meghalaya	1.2 (0.17, 2.24)	0.7 (0.00, 1.95)
Mizoram	0.2 (0.00, 0.55)	N. F
Nagaland	0.2 (0.00, 0.37)	2.0 (0.00, 5.13)
Odisha	2.1 (1.24, 3.02)	3.5 (1.99, 4.92)
Puducherry	0.2 (0.00, 0.65)	2.0 (0.89, 3.01)
Punjab	1.9 (0.00, 3.80)	2.3 (1.27, 3.28)
Rajasthan	2.0 (1.16, 2.91)	3.4 (1.83, 4.98)
Note: N.F: Not Found		

State	Not diagnosed	Diagnosed with chronic diseases
Sikkim	0.9 (0.00, 1.98)	1.3 (0.00, 3.08)
Tamil Nadu	2.3 (1.24, 3.26)	2.1 (1.17, 2.95)
Telangana	1.9 (0.10, 3.76)	1.5 (0.53, 2.56)
Tripura	1.1 (0.23, 1.99)	3.6 (1.08, 6.05)
Uttar Pradesh	5.1 (3.95, 6.30)	6.3 (4.82, 7.80)
Uttarakhand	1.5 (0.42, 2.64)	4.3 (2.59, 6.00)
West Bengal	5.0 (3.17, 6.80)	8.3 (5.78, 10.84)
Note: N.F: Not Found		

Determinants of abuse among middle-aged and older adults

Table 5 provides the results of the stepwise logistic regression analysis examining factors associated with abuse among middle-aged and older adults. Three models were run, with Model III representing the fully adjusted model. In the fully adjusted model, several chronic health conditions were significantly associated with abuse. Middle-aged and older adults with lung disease had 35% higher odds of experiencing abuse (OR: 1.35; CI: 1.07, 1.71). Those with stroke had nearly twice the odds of reporting abuse (OR: 1.86; 95% CI: 1.14, 3.04), and those with arthritis had 42% higher odds (OR: 1.42; CI: 1.23, 1.63). Neurological conditions were also strongly associated with abuse among individuals aged 45 years and above (OR: 1.85; CI: 1.30, 2.62). Insomnia was a strong predictor. There was a higher likelihood of abuse among middle-aged and older adults who experienced insomnia problems (OR: 1.89; CI: 1.70, 2.09) relative to those without insomnia. Similarly, the presence of physical or mental impairments was strongly associated with a higher likelihood of abuse among middle-aged older adults (OR: 1.91; CI: 1.69, 2.15). Relative to those with good self-rated health, individuals who rated their health as fair were 28% more likely to experience abuse (OR: 1.28; CI: 1.16, 1.41), and those who considered their health as poor had nearly double the odds (OR: 1.93; CI: 1.72, 2.17). The odds ratio of abuse was expected to increase by a factor of 1.49 among middle-aged and older adults who had quit smoking (CI: 1.25, 1.78) relative to those who had never smoked. Current smokers also had higher odds of abuse (OR: 1.20; CI: 1.06, 1.36). Alcohol consumption was associated with increased risk of abuse (OR: 1.20; CI: 1.05, 1.37). Middle-aged and older adults with low levels of physical activity had a slightly reduced likelihood of abuse relative to those with higher activity levels (OR: 0.90; CI: 0.82, 0.99). Several sociodemographic characteristics were associated with abuse among middle-aged and older adults. Compared to the younger age group (45–59 years), older adults aged 60 years and above were more likely to experience abuse (OR: 1.10; CI: 1.01, 1.21). Females had significantly higher odds of abuse compared to males (OR: 1.32; CI: 1.19, 1.46). Rural residence was associated with a higher likelihood of abuse compared to urban areas (OR: 1.52; CI: 1.38, 1.68). Those who were not currently married were slightly more likely to experience abuse than currently married individuals (OR: 1.11; CI: 1.00, 1.23). Living arrangements had a strong effect. Middle-aged and older adults living alone were 60% more likely to experience abuse compared to those living with others (OR: 1.60; CI: 1.34, 1.93). Economic status was also a significant predictor. Individuals in the richest wealth quintile had lower odds of abuse (OR: 0.88; CI: 0.81, 0.96) than those in the poorest quintile. Working status influenced the likelihood of abuse. Those who were not working had a lower risk of abuse (OR: 0.74; CI: 0.67, 0.82) relative to those who were employed. Those with higher secondary education and above had slightly lower odds of abuse compared to those with no schooling (OR: 0.84; CI: 0.70, 1.01).

Table 5
Determinants of abuse among middle-aged and older adults in India: Results of step-wise logistic regression analysis, 2017-18

Background Characteristics	OR (95% CI)		
	Model 1	Model II	Model III
Chronic morbidity (Reff: No Morbidity)			
Hypertension	0.87(0.76, 0.99) **		
Diabetes	0.64(0.48, 0.84) ***	0.67(0.51, 0.88) **	0.76(0.58, 1.01) *
Cancer	0.34(0.11, 1.07) *	0.37(0.12, 1.15) *	0.38(0.12, 1.19) *
Lung Disease	1.33(1.05, 1.68) **	1.37(1.08, 1.72) **	1.36(1.08, 1.71) **
Heart Disease			
Stroke	1.66(1.01, 2.72) **	1.76(1.08, 2.88) **	1.85(1.13, 3.03) **
Arthritis	1.41(1.22, 1.63) ***	1.48(1.29, 1.70) ***	1.42(1.23, 1.63) ***
Neurological	1.73(1.22, 2.45) **	1.76(1.24, 2.49) ***	1.84(1.30, 2.61) ***
High Cholesterol			
Multi Morbidity	0.89(0.80, 0.99) **		
Insomnia problem (Reff: No)			
Yes	1.91(1.73, 2.12) ***	1.90(1.72, 2.11) ***	1.88(1.70, 2.08) ***
Physical or mental impairment (Reff: No)			
Yes	1.94(1.72, 2.19) ***	1.94(1.72, 2.19) ***	1.91(1.69, 2.15) ***
Perceived health (Reff: Good)			
Fair	1.32(1.20, 1.46) ***	1.33(1.20, 1.46) ***	1.28(1.16, 1.41) ***
Poor	2.00(1.78, 2.24) ***	2.02(1.80, 2.26) ***	1.94(1.73, 2.18) ***
Smoking status (Reff: Never Smoked)			
Quit		1.30(1.10, 1.55) **	1.49(1.25, 1.78) ***
Currently smoking		1.13(1.01, 1.28) **	1.20(1.06, 1.36) ***
Currently consume alcohol (Reff: No)			
Yes		1.16(1.02, 1.32) **	1.20(1.05, 1.37) **
Low physical activity (Reff: No)			
Yes		0.81(0.74, 0.88) ***	0.90(0.82, 0.99) **
Age (Reff: 45–59)			
≥ 60			1.10(1.01, 1.21) **
Sex (Reff: Male)			
Note: ***<0.01, **<0.05			

Background Characteristics	OR (95% CI)		
	Model 1	Model II	Model III
Chronic morbidity (Reff: No Morbidity)			
Female			1.31(1.18, 1.46) ***
Place of residence (Reff: Urban)			
Rural			1.52(1.38, 1.68) ***
Currently married (Reff: Yes)			
No			1.11(1.00, 1.23) **
Education (Reff: No Schooling)			
Primary			
Secondary			0.85(0.70, 1.02) *
Higher secondary and above			
Currently working (Reff: Yes)			
No			0.74(0.67, 0.82) ***
Wealth quintile (Reff: Poor)			
Middle			
Rich			0.88(0.81, 0.96) ***
Living alone (Reff: No)			
Yes			1.61(1.34, 1.93) ***
Note: ***<0.01, **<0.05			

Discussion

This study sheds light on the critical issue of abuse and the chronic health challenges faced by middle-aged and older adults in India. To the best of the author's knowledge, this is one of the first studies to explore how specific chronic conditions are related to the experience of abuse in later life. The findings provide important evidence on the health and social vulnerabilities faced by ageing populations and highlight the need to understand abuse among middle-aged and older adults not only as a social problem, but also as one closely linked to chronic illness, dependency and social disadvantage. The findings show that abuse remains a significant concern among middle-aged and older adults. Nearly one in twenty individuals aged 45 years and above reported experiencing abuse, and the prevalence was higher among those with chronic conditions, particularly those with multiple chronic diseases. The association was pronounced among individuals with neurological disorders, stroke, and heart disease. These conditions often involve long-term care needs, physical or cognitive limitations, and increased dependence on family members or caregivers, which may heighten vulnerability to neglect, mistreatment, or conflict within the household. Although evidence on the relationship between specific chronic conditions and abuse remains limited, previous studies have also shown that older adults with chronic diseases are at greater risk of abuse (Sathya, Nagarajan, et al., 2022; Kshatri et al., 2021; Sathya, Nagarajan, et al., 2022; Sathya, Selvamani, et al., 2022; Shrestha et al., 2026). A study among stroke survivors similarly reported a higher likelihood of abuse among those with lower income and smoking behaviours (Zhang et al., 2023).

These findings suggest that chronic morbidity may operate through multiple pathways, including increased care dependency, caregiver fatigue, palliative care needs, and higher treatment-related financial burden (Immanuel et al., 2024; Alias et al., 2023; Sathya, Selvamani, et al., 2022)

Further, it was observed that insomnia and poor self-rated health were significantly associated with a higher likelihood of abuse. These findings are consistent with earlier research showing that abused older adults, especially those exposed to psychological abuse or neglect, were more likely to report poor sleep and compromised overall health (Yunus et al., 2017, 2018). Furthermore, self-reported poor health was more susceptible to abuse. These findings align with past studies that take into account the detrimental effects of elder abuse (Gurjar & Kumari, 2025; Maurya et al., 2020). Meanwhile, lifestyle factors such as alcohol consumption and smoking have been associated with a higher risk of abuse. Such behaviours may contribute to household tension, financial strain, or interpersonal conflict, which can potentially increase the risk of mistreatment (Hernandez Chilatra et al., 2025).

Several sociodemographic patterns observed in this study are also consistent with existing literature. Middle-aged and older adults were more likely to experience abuse compared to the elderly (60 years and above). This finding is consistent with the study by Gurjar and Mehta (2025), which suggests that the rising ageing population is likely to be associated with an increase in reported cases of elder abuse (Gurjar & Mehta, 2025). It is because ageing is often accompanied by a decline in physical and cognitive functioning. With advancing age, factors such as reduced income, decreased mobility, and increased dependence on family members for care and financial support all increase the vulnerability to abuse (Bansod & Mandi, 2025). Women were more likely than men to report abuse, a finding that aligns with a previous study from India (Bansod et al., 2021; Gurjar & Kumari, 2025; Sathya, Selvamani, et al., 2022; S. Srivastava & Muhammad, 2020). This may partly reflect the cumulative disadvantages experienced by older women in India, including widowhood, lower educational attainment, and poorer social and health support compared to older men (Jain et al., 2022; Shrestha et al., 2026). These structural disadvantages mean that women have fewer resources to cope with abusive situations. Evidence from India has also shown that older women exposed to violence have significantly higher odds of poor psychological health, lower subjective well-being, and reduced cognitive ability than men (S. Srivastava & Muhammad, 2020). These findings highlight the need for gender-sensitive protection and social support programs for middle-aged and older adults.

The analysis further indicates that abuse was more prevalent among middle-aged and older adults living in rural areas, those not in marital union, and those living alone. Rural disadvantage in the context of abuse among older adults has been noted in previous studies (Bansod et al., 2021; Maurya et al., 2020; Sathya, Selvamani, et al., 2022). This may be related to lower awareness of legal rights, lower educational attainment, and more limited access to healthcare and social services in rural areas (Gurjar & Mehta, 2025). Some studies have also shown that psychological and financial abuse are particularly high in rural settings (Kumar et al., 2024). Middle-aged and older adults who were not in a marital union were more likely to experience abuse than their counterparts. Similar findings have been reported in previous studies (Gurjar & Mehta, 2025; Maurya et al., 2020). This may reflect greater social isolation, loneliness, and reliance on others for emotional, financial or physical support, which may heighten their vulnerability to abuse (P. Srivastava & Srivastava, 2023). Education and household wealth emerged as important protective factors. Older adults with higher levels of education were less likely to experience abuse, which is consistent with earlier evidence (Maurya et al., 2020; Sathya, Nagarajan, et al., 2022). However, in India, the average educational attainment among older adults remains relatively low as compared to other age groups (Skirbekk & James, 2014). Education may enhance awareness of rights, improve communication and negotiation within the household and strengthen economic and social autonomy (Sathya, Selvamani, et al., 2022; Skirbekk & James, 2014). Furthermore, wealth quintile emerged as a significant predictor of abuse, with middle-aged and older adults in the richest wealth quintile being less likely to report experiencing abuse compared to those in the poorest wealth quintile category. The finding is consistent with existing literature (Maurya et al., 2020; Sathya, Nagarajan, et al., 2022; Sinha et al., 2021). Economic resources may reduce household stress, improve

access to care and services, and lower dependence on potentially unsupportive family members. These findings are particularly relevant in the Indian context, where a substantial proportion of older adults remain economically vulnerable and concentrated in the lower wealth quintiles (International Institute for Population Sciences and United Nations Population Fund, 2023).

An interesting finding of this study is that currently working older adults had higher odds of abuse compared with those not working. This pattern has also been observed in earlier Indian research (Maurya et al., 2020), although the relationship between work and abuse appears to be complex. A possible explanation could be that paid work in later life in India is often concentrated in the informal sector, particularly among older women, where work tends to be insecure, poorly paid, and physically demanding. Many older adults engaged in such work may also be living with chronic morbidities, which could possibly contribute to a higher prevalence of abuse (Chowdhury et al., 2023). At the same time, another Indian study has shown that both economically dependent and economically independent older adults may be vulnerable to violence, suggesting that household power dynamics, economic control, and intergenerational tension may all play a role (Sinha et al., 2021). Our analysis further indicates that individuals who lived alone had more chances of abuse than their counterparts, is in line with previous research (Maurya et al., 2020; Sinha et al., 2021).

The state-level variation observed in this study is also noteworthy. The prevalence of abuse among older adults with chronic conditions was particularly high in states such as Bihar, Karnataka, West Bengal, and Madhya Pradesh. Similar regional patterns have been reported in earlier Indian studies (Gurjar & Kumari, 2025; Maurya et al., 2020; Sathya, Selvamani, et al., 2022). Such variation likely reflects differences in socioeconomic conditions, migration and family structure, social support networks, awareness and reporting of abuse, and the availability of health and welfare services (Gurjar & Kumari, 2025). These findings suggest that elder abuse was not uniformly distributed across India and that state-specific strategies may be necessary to identify and support vulnerable older adults. This study has some limitations that should be considered while interpreting the findings. The analysis is based on cross-sectional data, so causal inference cannot be made. Abuse was measured through self-report, which may be subject to underreporting due to stigma, fear, or reluctance to disclose sensitive experiences. As a result, the prevalence of abuse may be underestimated. Although state-level patterns were examined, district-level variation could not be explored because such information was not available in the public dataset. Furthermore, LASI Wave 1 data for Sikkim were unavailable; therefore, the analysis provides national and state-level estimates excluding Sikkim.

Recommendations and future direction

The findings of the study have important implications for policy and practice. Despite increasing ageing in India, there is still no comprehensive legislation specifically addressing elder abuse or its mandatory reporting, reflecting limited institutional attention to the issue (Shankardass, 2013). Some promising efforts are emerging at the state level. For instance, Kerala has introduced an Elderly Budget as a distinct component of its annual state budget, with emphasis on the welfare, protection, and rights of older people, including those affected by abuse and neglect (Government of Kerala, 2026). Such an initiative provides a useful model that other states may consider adopting. Targeted intervention is particularly needed for households in which middle-aged and older adults live with chronic diseases. These households may experience greater caregiving demands, emotional strain, and financial burden, all of which may increase the risk of abuse (Kohn & Verhoek-Oftedahl, 2011). Community-based awareness programmes, counselling services, caregiver support, and strong primary healthcare management may help identify and support vulnerable individuals and families. Integrating abuse screening into chronic disease care and geriatric services may also be beneficial. Future research should explore the pathways linking chronic disease and abuse using longitudinal data and should pay attention to caregiver dynamics, household relationships, and access to support services across different social and regional contexts.

Conclusion

The findings of this study show that chronic diseases were closely linked to the experience of abuse among middle-aged and older adults in India. In particular, conditions such as lung disease, stroke, arthritis, and neurological disorders, as well as multimorbidity, were associated with a higher likelihood of abuse. This study also demonstrates that abuse is shaped by a broader set of vulnerabilities, including poor health, behavioural risk factors, social isolation, economic disadvantage, and gender. These findings underline the need to view elder abuse within a wider framework of ageing, chronic illness, and social inequality. Reducing abuse in later life will require stronger integration of social and health responses. Older adults with chronic diseases, especially those who are dependent on others for care, who live alone, are economically disadvantaged, or are socially isolated, may require greater protection and support. Efforts to improve chronic disease management, strengthen family and community support, and enhance awareness of elder rights may help reduce vulnerability to abuse among the ageing population in India.

Declarations

Ethics Approval:

The Central Ethics Committee on Human Research (CECHR) of the Indian Council of Medical Research (ICMR) provided guidance and ethics approval for conducting the LASI survey. All methods were carried out in accordance with the relevant guidelines and regulations.

Consent to Participate:

The survey agencies that conducted the field survey for data collection have obtained prior informed consent (signed and oral) for both interviews and biomarker tests from eligible respondents in accordance with Human Subjects Protection.

The authors did not receive support from any organization for the submitted work.

Author Contribution

Both authors [SK & RR] contributed to the study conception and design. Statistical analysis was performed by [SK]. The first draft of the manuscript was written by [RR]. Both authors read and approved the final manuscript.

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Data Availability

The study uses secondary data, which is available on reasonable request through <https://www.iipsindia.ac.in/content/lasi-wave-i>

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Figures

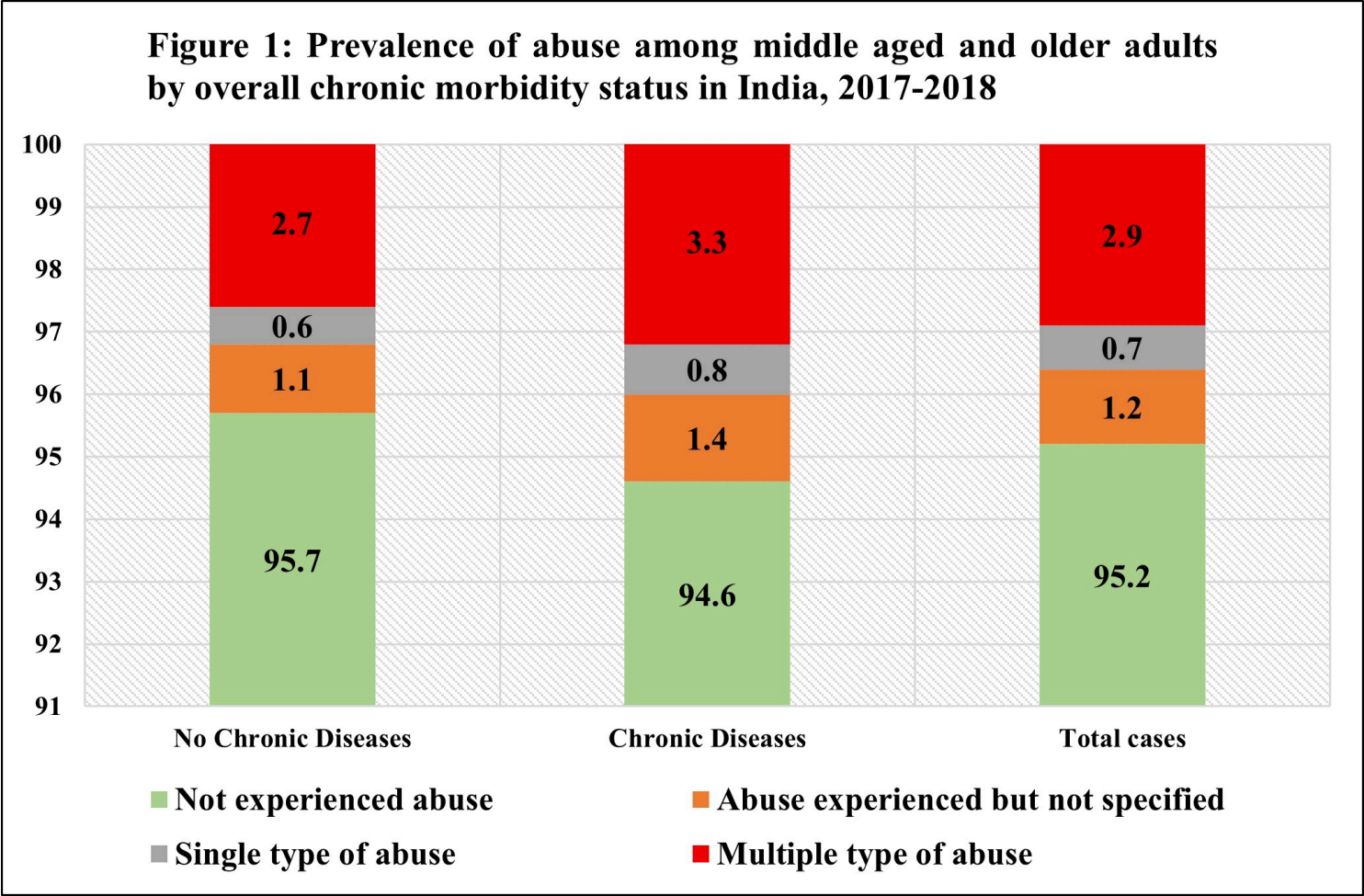


Figure 1

See image above for figure legend.

Figure 2:Prevalence of abuse among middle aged and older adults by range of chronic diseases in India, 2017–2018

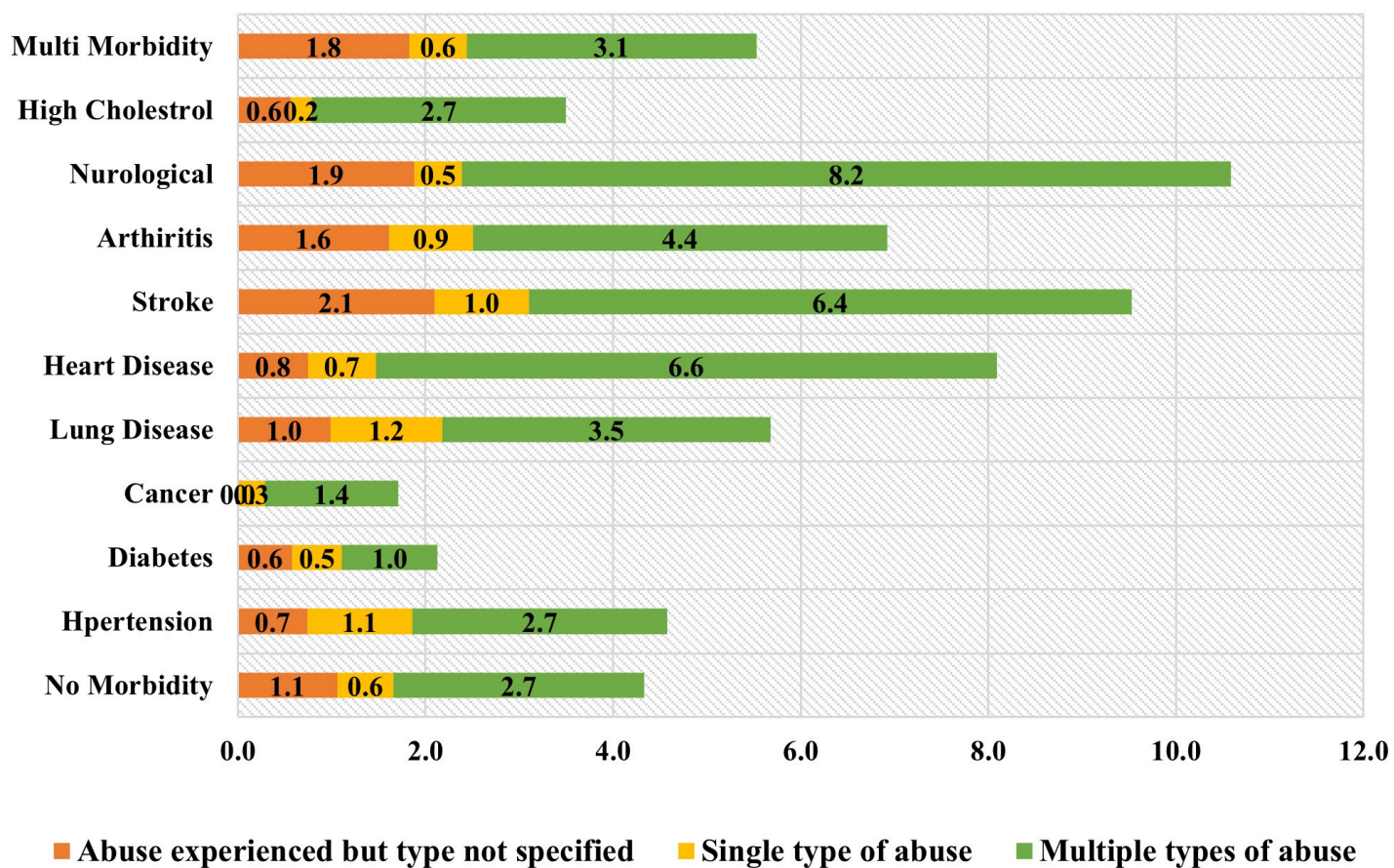


Figure 2

See image above for figure legend.