Prevalence and correlates of elder abuse: A cross-sectional, community-based study from rural Puducherry

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ABSTRACT

Background. Elder abuse is a neglected problem and needs to be addressed to improve the quality of life (QoL) of the elderly. We aimed to study the correlates of elder abuse in rural Puducherry.

Methods. We conducted a cross-sectional, community-based study among all the elderly people (60 years and above), from one of the four villages of a rural primary health centre in Puducherry. Participants were contacted at their homes. After obtaining consent, data were collected using (i) a structured, pre-tested questionnaire on sociodemographic details; (ii) elder abuse using the Hwalek–Sengstock Elder Abuse Screening Test; and (iii) QoL using WHO QoL-BREF. Multivariable logistic regression was used to identify predictors of elder abuse.

Results. Of the 243 elderly individuals studied, 63% were women. The prevalence of elder abuse was 50.2%. On multivariable analysis, elderly with higher education status were found to have lower odds for suffering from abuse (primary education odds ratio [OR] 0.39 [0.18–0.84]; middle school OR 0.35 [0.14–0.86]; high school OR 0.08 [0.01–0.4]) compared to those with no formal education and those above 80 years of age were found to have higher odds for abuse (OR 3.02 [1.1–7.9]) compared to those <80 years, after adjusting for confounders such as sex, socioeconomic status, marital status and living arrangement.

Conclusion. Half the elderly in our sample suffered from abuse. The higher age group and absence of formal education emerged as independent predictors of elder abuse.

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INTRODUCTION

The world population is ageing. The United Nations report on population ageing estimates that between 2000 and 2050, the proportion of the world's population over 60 years will increase from 9.9% to 21.5%.[1] India has also been experiencing slow but steady demographic transition since the second half of the twentieth century.[2] The number of the Indian elderly (60 years and above) is expected to triple over the next four decades from 92 to 316 million, constituting around 20% of the population by the middle of the century.[3] The 2001 census showed that there were 72 million elderly in India (7%), and in 2011 this number increased to 76 million (7.5%).[4] Though it appears to be a meagre 0.5% increase, when the same is translated to absolute numbers, it would mean a large increase in the elderly population.

Population ageing will challenge society by increasing the demand for social security systems and healthcare at all levels, especially primary healthcare. The health and quality of life (QoL) of the elderly are affected by many social factors. Elder abuse is one such important factor that is often neglected. WHO defines elder abuse as 'a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust that causes harm or distress to an older person.'[5] Elder abuse can take various forms such as physical, psychological or emotional, sexual and financial abuse. It can also be the result of intentional or unintentional neglect. Among the few studies conducted in India about elder abuse, the one done in Kerala by Sebastian and Sekher used a modified form of Hwalek–Sengstock Elder Abuse Screening Test (H-S EAST) and the prevalence was found to be 60%.[6]

Mala Kapur Shankardass in her review on elder abuse and neglect in India noted that abuse of the elderly had been overlooked for many years and had become a subject of serious academic enquiry only in the recent past. She pointed out that lack of accurate statistics, lack of conceptual and definitional clarity, limited studies and under-reporting were a few of the reasons why many researchers did not pursue this area of enquiry. She also reported that the issue of elder abuse is complicated by social taboo and consistent denial by family members that abuse had taken place in their households.[7]

Most of the elderly in India live in rural areas, and socio-demographic and cultural milieu has begun to change in the countryside too. The elderly living in rural areas are more vulnerable, and hence, we decided to study abuse among the elderly and its correlates in our rural field practice area.[8] We also investigated the association of elder abuse and QoL of the elderly.

METHODS

Study setting

A community-based, cross-sectional study was done in

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Thondamanatham, the largest of the four villages under the care of a rural health centre in Puducherry. The health centre is supervised by a Chief Medical Officer and a health team. One public health nurse along with one staff nurse/auxiliary nurse midwife is in-charge of each village. In addition to providing comprehensive care to the people in their respective villages, they also enumerate all the villagers annually, and the details are entered in an enumeration register. The total population covered by these villages was 9101 in 2012.

Sample size and sampling

The prevalence of elder abuse from a previous study done in rural parts of Kerala was found to be 60%.[6] Using this prevalence, and a relative precision of 10%, the sample size was calculated as 281. Since the elderly population in the four villages was homogeneous and the total number of elderly, i.e. those above 60 years of age in Thondamanatham village was 288, all of them were included in the study. Those who had difficulty in hearing or were unable to respond due to conditions such as stroke were excluded from analysis.

Brief procedure

Even though the list of elderly and their addresses was available in the enumeration register, each house in every street of Thondamanatham was visited and the presence of elderly in the house was enquired into and confirmed through the voters' ID card. In this way, all elderly were covered in the study. The houses that were either locked or where the elderly individual was not present at the time of the visit were noted down in a register and were revisited at least three times. If at the end of three visits the elderly individual was not found, then that person was excluded from the study.

Ethical considerations

The study was part of a postgraduate thesis and was approved by the Institute Ethics Committee. After the elderly individual was identified, informed consent was obtained and adequate time was spent to build rapport with the study participants. The details were collected by a one-to-one interview conducted by the first author, in a place that offered privacy and efforts were made to ensure that no family members were present at the time of the interview.

Tools used

Data were collected using a structured, pre-tested questionnaire on sociodemographic details, elder abuse using H-S EAST and QoL using WHO QoL-BREF.[9,10] The H-S EAST is used to screen for elderly people who are at high risk for abuse and violence in domestic settings. It has 15 items; each is answered as either yes or no. Though this instrument is not validated in India, it has been used in a study done in Kerala. Scoring of the H-S EAST was summative and was based on responses to each item, four of which were scored in reverse (items 1, 6, 12 and 14). While possible scores ranged from 0 to 15; a score of ≥3 was taken as the threshold to indicate that a person was at risk of abuse.[11]

The WHO QoL-BREF is an abbreviated version of the WHO QoL 100, and it is used to assess the QoL both in the community and in the clinical settings. The instrument has 26 items. The QoL is measured in four domains: 'physical health', 'psychological health', 'social relationships' and 'environment' domains. Each item is scored on a 5-point Likert scale from 1 to 5. After the raw scores had been calculated, the mean scores for each domain were multiplied by 4. These scores range from 4 to 20. Then, the final transformation that converts the domain scores on a 0–100 scale was done.[10]

Variables

Outcome variable. The outcome variable is the presence or absence of elder abuse as determined from H-S EAST.

Exposure variables and operational definitions

1. Age: Elderly individuals were grouped into young old, old-old and oldest old as follows:
   - Young old: 60–69 years
   - Old–old: 70–79 years
   - Oldest old: ≥80 years
2. Sex
3. Education status was categorized as follows:
   - No formal education: 0 years of schooling
   - Primary: classes 1–5
   - Upper primary: classes 6–8.
   - Secondary and above: classes 9 and 10 and higher education.
4. Occupation status was categorized as working and not working.
5. Socioeconomic status was assessed using Modified Prasad's Classification (2011)[12]
   - Class I: Per-capita per month income of ₹4400 and above (equivalent to US$ 65.8)
   - Class II: Per-capita per month income between ₹2200 and ₹4399 (US$ 32.9 to 65.7)
   - Class III: Per-capita per month income between ₹1320 and ₹2199 (US$ 19.7 to US$ 32.8)
   - Class IV: Per-capita per month income between ₹660 and ₹1319 (US$ 9.9 to US$ 19.6)
   - Class V: Per-capita per month income <₹660 (<US$ 9.9).
6. Marital status was categorized as married and widowed.

Data analysis

Data were collected and entered in Microsoft Excel 2010 and were analysed using IBM SPSS version 21 and OpenEpi software.[13,14] Prevalence was reported as a percentage, and continuous variables were reported as mean (SD). The association between abuse and other categorical variables was tested using chi-square test. Multivariable analysis for independent predictors of abuse was done using logistic regression. The association between abuse and QoL scores was tested using Student's *t* test. All statistical tests were considered significant at $p<0.05$.

RESULTS

Of the 288 elderly individuals in Thondamanatham village, 243 (84.4%) were included in the study (Table I). Of the remaining, 25 (8.7%) could not be found despite three house visits, 19 (6.6%) had hearing impairment, and 1 (0.3%) was mentally challenged. Among the elderly who had hearing impairment, 6 (31.6%) were 60–69 years of age, 4 (21%) were 70–79 years, and the remaining 9 (47.4%) were >80 years of age. Nearly two-thirds (73.6%) of those with hearing impairment were women and almost all (89.5%) had no formal education, and none of them were working.

The prevalence of abuse among the elderly was 50.2%. Of the elderly who suffered from abuse, 51% suffered from physical abuse, 24.6% from neglect and 10.7% from financial abuse.

Univariate analysis showed that elder abuse was more common among the those 80 years and older (75%), women (55.6%), those with lower education (60.8%) and socioeconomic status (60%), widowed elderly (59%) and those who lived alone (60%; Table II).

All the factors found to be significantly associated with elder

TABLE I. Sociodemographic characteristics of the study population

Sociodemographic characteristic	60–69 years, *n* (%)	70–79 years, *n* (%)	≥80 years, *n* (%)	Total, *n* (%)
Sex				
Men	57 (41)	23 (30.3)	10 (35.7)	90 (37)
Women	82 (59)	53 (69.7)	18 (64.3)	153 (63)
Education status				
No formal education	79 (56.8)	54 (71.0)	15 (53.6)	148 (60.9)
Primary (class 1–5)	24 (17.3)	12 (15.8)	10 (35.7)	46 (18.9)
Upper primary (class 6–8)	24 (17.3)	5 (6.6)	3 (10.7)	32 (13.2)
Secondary and above (greater than or equal to class 9)	12 (8.6)	5 (6.6)	0	17 (7)
Occupational status				
Not working	96 (69.1)	61 (80.3)	24 (85.7)	181 (74.5)
Working	43 (30.9)	15 (19.7)	4 (4.3)	62 (25.5)
Socioeconomic status				
Class I	11 (7.9)	4 (5.3)	1 (3.6)	16 (6.6)
Class II	15 (10.8)	5 (6.6)	0	20 (8.2)
Class III	33 (23.7)	13 (17.1)	4 (14.3)	50 (20.6)
Class IV	63 (45.3)	38 (50)	16 (57.1)	117 (48.1)
Class V	17 (12.2)	16 (21)	7 (25)	40 (16.5)
Marital status				
Married	87 (62.2)	30 (39.5)	9 (32.1)	126 (51.9)
Widow/widower	52 (37.4)	46 (60.5)	19 (67.9)	117 (48.1)
Living arrangement				
Alone	7 (5)	13 (17.1)	5 (17.9)	25 (10.3)
Spouse	21 (15.1)	8 (10.5)	4 (14.3)	33 (13.6)
Spouse and children	53 (38.1)	15 (19.7)	2 (7.1)	70 (28.8)
Son	44 (31.7)	29 (38.2)	11 (39.3)	84 (34.6)
Daughter	7 (5)	8 (10.5)	6 (21.4)	21 (8.6)
Others	7 (5)	3 (3.9)	0	10 (4.1)
Total	139 (57.2)	76 (31.3)	28 (11.5)	243 (100)

abuse on univariate analysis ($p<0.05$) were included as variables in the logistic regression model. The resulting model was found to be significant and explained 21.3% (Nagelkerke R^2) of variance in elder abuse and correctly classified 65% of cases. The model showed that elderly with higher education status had lower odds for suffering from elder abuse (Table III), while the illiterate and elderly above 80 years had higher odds for abuse (Table III) compared to elderly <80 years, after adjusting for confounders such as sex, socioeconomic status, marital status and living arrangement.

The QoL of the elderly in all four domains studied was significantly lower ($p<0.001$) among those who were abused compared to those who were not (Table IV).

DISCUSSION

The prevalence of elder abuse in our study was 50.2%. The multivariable logistic regression model showed that elderly with higher education status had lower odds for suffering from abuse compared to those with no formal education. Similarly those 80 years and older had higher odds for abuse compared to those <80 years of age.

A study done in Kerala by Sebastian *et al*. using H-S EAST showed that 60% of the elderly were abused.[6] Another study in Karnataka which assessed elder abuse using a pretested questionnaire found the prevalence of abuse to be 40.9%.[15] The prevalence of elder abuse in a rural community of the People's Republic of China was found to be 36.2%.[16] Among the wide range of studies available globally, we chose the study from China to compare with our findings due to similarities in the social structure of India and China.

The prevalence of abuse was found to be significantly higher among the 80 years and older group (75%) compared to the 70–79 years age group (48.5%) and the 60–69 years age group (46%). Similar results were found in the study from Kerala where nearly 75% of those 80 years of age and older had experienced abuse compared to only 58% and 59.4% among the 60–69 years and 70–79 years age groups, respectively.[6] Wu *et al*. also found that the prevalence of abuse in rural China among those 80 years and older (41.4%) to be significantly higher than the 60–69 years (34.8%) and 70–79 years (37.5%) age groups.[16] The elderly in the 80 years and above group have a higher prevalence of physical and mental health problems; their capacity to work and provide for themselves is also relatively less. All these factors possibly increase their vulnerability, and this may have led to an increase in the prevalence of abuse noted among them.

Women had a significantly higher prevalence of abuse (55.6%) compared with men (47.1%). A study done in Kerala also showed a higher prevalence of abuse among women (70.3%) than men (48.3%).[6] More than half the women (58.6%) were abused compared with only one-fifth of men (22.58%) in a study done by Gaikwad *et al*. in rural areas of Karnataka.[15]

In our study, an association between sex and elder abuse was observed in univariate analysis; however, when adjusted for potential confounders such as educational status, socioeconomic status and marital status, the association was not statistically significant.

Elderly with a lower educational status had a higher prevalence of abuse; the highest prevalence was seen among those who had no formal education (60.8%) and the least prevalence was seen among those who had secondary education and above (11.8%).

TABLE II. Correlates of abuse in the elderly

Sociodemographic factor	*n*	Abuse present	χ^2	p value
Age group (years)				
60–69	139	64 (46)	5.12*	0.023
70–79	76	37 (48.7)		
≥80	28	21 (75)		
Sex				
Men	90	37 (41.1)	4.729	0.034
Women	153	85 (55.6)		
Education				
No formal education	148	90 (60.8)	21.31[$]	<0.001
Primary	46	19 (41.3)		
Upper primary	32	11 (34.4)		
Secondary and above	17	2 (11.8)		
Occupation				
Not working	181	88 (48.6)	0.715	0.462
Working	62	34 (54.8)		
Socioeconomic status				
Class I		5 (31.2)	7.48†	0.006
Class II		5 (25)		
Class III		25 (50)		
Class IV		63 (53.8)		
Class V		24 (60)		
Marital status				
Married	126	53 (42.1)	6.940	0.01
Widow/widower	117	69 (59)		
Living arrangement				
Alone	25	15 (60)	15.058	0.01
Spouse	33	14 (42.4)		
Spouse and children	70	27 (38.6)		
Son	84	42 (50)		
Daughter	21	17 (81)		
Others	10	7 (70)		

* Extended Mantel–Haenszel † χ^2 for linear trend

TABLE III. Multivariable analysis for independent predictors of abuse

Determinant	Odds ratio	95% CI for odds ratio		p value
		Upper	Lower	
Age group (years)				
60–79	Reference			
≥80	3.05	1.14	8.14	0.026
Education				
No formal education	Reference			
Primary	0.40	0.19	0.85	0.017
Upper primary	0.36	0.15	0.87	0.023
Secondary and above	0.09	0.02	0.50	0.006

Other factors included in the model (p<0.05 in univariable analysis) were sex, socioeconomic status, living arrangement and marital status

TABLE IV. Abuse and quality of life of the elderly

Domain	Abuse present	Abuse absent	p value
Physical health	41.7 (12.3)	50.9 (11.7)	<0.001
Psychological health	41.2 (12.4)	51.6 (13.2)	<0.001
Social relationship	45.5 (20.8)	57.6 (20.8)	<0.001
Environment	55.2 (15.1)	65.3 (13.4)	<0.001

Sebastian and Sekher also found that elder abuse was less prevalent among the literate elderly than the illiterate.[6] Those with a higher education status were found to have a higher socioeconomic status and were looked upon with respect by the family and community. These may be possible reasons for the lower prevalence of abuse among the educated elderly.

Elderly from a lower socioeconomic status had a higher prevalence of abuse—the highest prevalence was among elderly who belonged to Class V (60%) and the least among those in Class I (31.2%). In rural Kerala, it was found that elderly who were economically independent had a lower prevalence of abuse (43.4%) compared with those who were fully dependent on caregivers (60.6%).[6] The Karnataka study corroborated these findings and showed that those who were fully dependent economically had a higher prevalence of abuse (47.6%) than those who were not (26.8%).[15] Better socioeconomic status would mean a higher per capita income of the family. Because financial worries are lesser in such households, the elderly may not be perceived as an additional burden, and this may be the reason for the lower prevalence of abuse.

Prevalence of abuse was found to be higher among those who had lost their spouse (59%) compared to those who were married (42.1%). A study done in Kerala showed that the prevalence of abuse among the widowed elderly (72.7%) was much higher than those who were married (50%).[6] Similar results were seen among the elderly in China.[16] In our study, a higher proportion of women were widowed compared with men. Elderly widows are often lonely, at the mercy of their children, and hence may be more likely to suffer abuse than those who are married.

Few elderly individuals lived alone possibly because their children had migrated to a different village/town or had chosen to stay in a separate house in the same village. Such individuals had a higher prevalence of abuse (60%) compared to those who lived with their families (38.6%). They suffered abuse when they were occasionally visited by their children or relatives. The study done in Kerala showed that the prevalence of abuse among the elderly who live alone was higher than those who lived with their children or relatives in the same house.[6] Wu *et al.* found that the elderly who lived alone had a higher prevalence (51.6%) of maltreatment compared to the others (32.5%).[16]

We could not include elderly individuals with hearing impairment, stroke and other conditions that prevented them from responding to our questionnaire. This was a limitation of our study as these individuals may be more vulnerable to abuse. Though efforts were made to ensure that the interview happened in an environment that ensured privacy, in some cases, strict privacy could not be ensured and the administration of the questionnaire had to be interrupted due to the presence of a family member. This is another limitation of the study.

Conclusion

We found that nearly half the elderly suffered abuse. Elderly with higher education status, those below 80 years of age had lower odds for suffering abuse. Targeted screening and intervention among such elderly individuals may help decrease elder abuse.

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Conflicts of interest. None declared

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