

Socioeconomic Inequality of Elder Abuse in Qazvin, Iran

Abstract

Introduction: Socioeconomic status (SES) is often associated with elder abuse. This study aimed to determine SES inequality of elder abuse in Qazvin, Iran. **Methods:** In this cross-sectional study, 683 (60–95 years) elders were included in the analysis in 2015. Hwalek-Sengstock Elder Abuse Screening Test was used to collect data on elder abuse. SES was measured through an asset-based method and principal component analysis. The concentration index and curve were used to measure SES inequality. **Results:** The concentration index for socioeconomic inequality of elder abuse was -0.0290 (95% confidence interval [CI]: $-0.0498, -0.0081$). This index based on residence showed elder abuse is more concentrated among rural elders with lower SES ($C = -0.0739$, 95% CI: $[-0.112, -0.0356]$). **Conclusion:** There is a slightly socioeconomic inequality of elder abuse among elders. Lower SES might be considered as a risk factor for elder abuse. Policymakers should plan for improvement in services to consider the role of SES in elder abuse.

Keywords: Concentration index, elder abuse, inequality, Iran, socioeconomic

Introduction

Since ≥ 30 years ago, elder abuse was recognized as a social and public health problem globally.^[1-3] It is expected that due to increasing elders' population, the prevalence rate of elder abuse will be increased.^[4] Because of changing socioeconomic status (SES), the families structure and increasing attention to human rights, elder abuse has been considered more than ago. Structural inequality in different countries that lead to high unemployment, economic problems of a particular stratum of society, and weak health services had an important role in the vulnerability of elders.^[3,5] Multiple nature of elder abuse and vague definitions of this social phenomenon is much obstacles to identify elder abuse.^[2,6] Despite increasing elders' population and elder abuse, this phenomenon could be reported underestimate.^[1,7] Van Den Bruele *et al.* mentioned currently in the United States and Canada that due to social support for the elders and their participation in the social networks, the risk of elder abuse expected to be low but this is the opposite in Nigeria and Asia.^[1] Now in Iran, the prevalence rate of elder abuse was reported 56.4% (95% confidence interval [CI]: 35.1%–75.5%).^[8] Because the personal

and familial circumstances of elders were recognized as the main factors and due to the effect of elder abuse on quality of life of elders and their families, it is important to recognize the role of risk factors for preventing the incidence of elder abuse.^[1,7,9]

According to different studies, elder abuse was associated with the following factors: living with close relatives, dissatisfaction of the household income, less equipped households, lacking property of house, SES, financial independence, and suffering from chronic disease.^[10-15] Therefore, the importance of SES for elder abuse has been justified. Indeed, many studies reported the association between SES and elder abuse, and the association may be differed by depending on different types of elder abuse.^[15-18] However, inequality of SES was rarely considered as health problem. Thus, this study aimed to investigate the inequality of social indicators of elder abuse using the concentration index. Based on the results of this study, we may help health policymakers to reduce inequalities in elder abuse by identifying the predictors of socioeconomic inequalities in this social problem among Iranian elders.

Methods

This cross-sectional study was conducted in Qazvin city that located in the northwestern

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Zahra
Hosseinkhani¹,
Farzad
Khodamoradi²,
Sara Sheikh³

¹Department of Health Services Management, School of Health, Qazvin University of Medical Sciences, ²Department of Community Medicine, School of Medicine, Dezful University of Medical Sciences, Dezful, ³Deputy of Health, Qazvin University of Medical Science, Qazvin, Iran

Address for correspondence:
Dr. Zahra Hosseinkhani,
Qazvin University of Medical
Science, Bahonar Blv,
Postal Code: 34197-59811,
Qazvin, Iran.
E-mail: zhosseinkhani122@gmail.com

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region of the Islamic Republic of Iran. A total of 683 elders in health centers of Qazvin were selected through multistage, stratified random sampling. After coordinating with the Department of Health of Qazvin in the University of Medical Sciences, a list of health centers of Qazvin was prepared. The number of health centers was determined. Afterward, based on the number of elders per health center, the samples were selected randomly proportional to the size in selected health centers. The inclusion criteria were (1) age >60 years and (2) the ability to go to the health centers and respond to questions. The exclusion criterion was living in a nursing house. The questionnaire was completed by researchers using face-to-face interview method. The average time needed to complete the questionnaires was 20 min. Data were collected through a valid and reliable questionnaire in the health centers from September to December 2015.

Instruments

The questionnaire consisted of three parts: demographic, elder abuse, and SES. In the first part of the questionnaire for demographic information, in addition to individual features such as age, gender, marital status, number of children, other variables consist of occupation and residence were assessed.

The second part consists of a validated Iranian version Hwalek-Sengstock Elder Abuse Screening Test, one of the most well-known questionnaires for assessing elder abuse.^[19] This questionnaire had acceptable validity and reliability in an Iranian population. Test-retest reliability (intraclass correlation coefficient) and internal consistency (Cronbach's α coefficient) of this questionnaire was 0.71 and 0.74, respectively.^[20] It collects information on the identification of potentially dangerous conditions, obviously executed violence, and at the risk of elder abuse. The questionnaires' response options were designed as "yes" and "no." It would be considered elder abuse if the responses included three or more questions on "yes." In the final part of the questionnaire, we asked elders about their possessed specified assets including; refrigerator, freezer, washing machine, dishwasher, vacuum cleaner, LCD-LED TV, computer or laptop, phone line, smartphone, microwave, private home, the number of rooms in their house, and having a separate room.

Statistical analysis

In the present study, from three approaches that were used to measure SES and consists of assets, expenditure, and income. We used the possession of household assets as a proxy for income and expenditure that were suggested by economists.^[21,22] We used principal component analysis (PCA) to determine household economic status based on their possession of the abovementioned assets.^[21,23,24] The variable derived from PCA categorized. It classifies the community into five quintiles, each 20% of the population

shows the poorest to richest groups in the community, have ranged between the 1st and the 5th groups, respectively.^[25] Inequality in elder abuse was explored through the use of concentration index. The concentration index was calculated to quantify the degree of socioeconomic inequality in the elder abuse variable.^[24] The range of the concentration index is between -1 and +1. In cases, where there is socioeconomic equality, the concentration index would be zero. The positive and negative signs indicated that inequality is concentrated in either the rich or the poor, respectively.^[25] Elder abuse was considered as the dependent variable. Statistical analysis was done using Stata, version 14 (StataCorp., LP).

Ethical considerations

The verbal consent was obtained from the elders after explaining the purpose of the study. Those who did not provide consent to participate was excluded from the study. Data were collected anonymously, and the elders were assured that the data would remain confidential. The study was approved by the Ethics Committee of Qazvin University of Medical Sciences (IR. QUMS. REC.1394.171).

Results

After excluding imperfect questionnaires which had ≥ 5 unanswered questions, 683 elders were included in the study. The mean and standard deviation (SD) of the age of participants were 68.5 (SD = 7.6) years (range, 60–95 years). Three hundred and seventy-four (54.8%) elders were women; most of them were residents of the city (73.2%) and illiterate (62.1%). The socioeconomic characteristics of the participants are shown in Table 1. The prevalence of elder abuse was 38.5% (95% CI: 3.34%–42.3%).

Univariate and multiple logistic regression analysis was conducted between SES and elder abuse. Table 2 shows crude and adjusted odds ratios for SES which had association with elder abuse. In crude analysis, quintiles 1 (lowest SES) and 2 and 4 compared to 5 (highest SES) were significant ($P < 0.05$) and because the odds ratios were >1 , it showed that the elder abuse in these quintiles compared to 5 had a higher chance of abuse. In the adjusted analysis which variables of gender, residence, education, income, and job considered as confounders, only quintile 4 compared to 5 was significantly associated with the elder abuse ($P = 0.008$) as well as these elders were twice likely to have an elder abuse than quintile 5.

The concentration index of inequality separately by residents and sex is shown in Table 3. The concentration index for rural elders was -0.0739 that shows elder abuse is more concentrated among rural elders with lower SES (95% CI: -0.112, -0.0356). In general, the concentration index for elder abuse in elders was -0.0290 (95% CI: -0.0498, -0.0081) that shows the elder abuse is more concentrated among participants with lower SES.

The concentration curves for elder abuse in elders lied above the line equality, suggesting that elder abuse was more prevalent among the poor elders [Figure 1]. The concentration index based on sex did not show a significant association.

Discussion

The considerable issue in this study was inequality of elder abuse. This was the first research to study economic inequalities in elder abuse in Iran. The results from this study showed that there was a significant association between elder abuse and SES after adjustment for the effect of other variables. Furthermore, the concentration curve showed that the victims of elder abuse most were

distributed among the elders of poorer socioeconomic classes, for example, rural elders. However, economic inequality was slightly present for elder abuse. This finding is consistent with results were obtained from other studies that shows the association between elder abuse and SES, and also, point out that elders with low income and primary education were vulnerable to elder abuse.^[13,14,26-28] Currently, because of increasing globally elders population, elder abuse is increasing.^[4] In this present study, 38.5% of elders are suffering from this violence, in other studies, elder abuse prevalence in Iran has been different range from 17.1% to 87.8%.^[8,14,29-34] The awareness of distribution of elder abuse and it is determinants is important in society because help communities and families for interventional program implementation to resolve this issue.^[35]

In a qualitative study that was conducted with Dakin and Pearlmuter, among African, American, Latina, and Caucasian older women from varying socioeconomic backgrounds, elders believed that SES is an important issue in elder abuse and this problem should be resolved in families.^[18] Furthermore, the study of Teerawichitchainan and Knodel revealed that little improvement in elders' living standards can improve their health.^[27] This shows the important role of SES in the incidence of this social phenomenon. It is noteworthy, relative to other domestic violence, in researches were down worldwide, this issue had been less discussed, and literature gaps exist in this field. Hence, by recognizing risk factors of elder abuse can be prevented of it is incidences.^[6,11] As regards, most elders

Table 1: Socioeconomic characteristics of participants in the study of elder abuse in 2015, Qazvin, Iran (n=683)

Explanatory variables	n (%)
Gender	
Male	309 (45.2)
Female	374 (54.8)
Residence	
Urban	500 (73.2)
Rural	182 (26.6)
Socioeconomic status (Household wealth)	
1 st quintile (lowest)	136 (20.3)
2 nd quintile	142 (21.2)
3 rd quintile	125 (18.7)
4 th quintile	132 (19.7)
5 th quintile (highest)	134 (20)
Education	
Illiterate	424 (62.1)
Primary school	170 (24.9)
Guidance school	28 (4.1)
High school	23 (3.4)
College	38 (5.6)
Income (monthly or yearly)	
Yes	442 (64.7)
No	241 (35.3)
Job	
Retired	194 (29.2)
Housewife	288 (43.4)
Have a job	91 (13.7)
Pensioner	79 (11.9)
Other	31 (1.8)

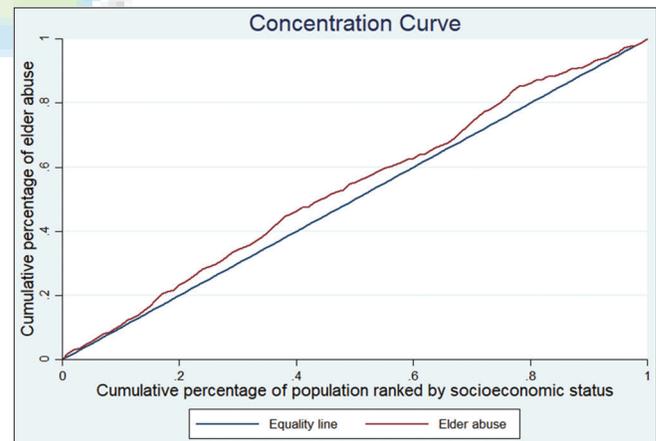


Figure 1: Concentration curve of elder abuse in 2015, Qazvin, Iran

Table 2: Multiple and univariate logistic regression analysis between socioeconomic status and elder abuse in Qazvin, Iran

Variables	Unadjusted				Adjusted			
	OR	95% CI	B	P	OR	95% CI	B	P
1 st quintile (lowest) versus 5 th quintile (highest)	2.70	1.60-4.56	0.996	<0.001	1.85	0.97-3.35	0.617	0.061
2 nd quintile versus 5 th quintile (highest)	2.20	1.30-3.69	0.789	0.003	1.75	0.93-3.27	0.562	0.078
3 rd quintile versus 5 th quintile (highest)	1.69	0.98-2.91	0.526	0.057	1.10	0.59-2.05	0.097	0.759
4 th quintile versus 5 th quintile (highest)	2.86	1.69-4.84	1.05	<0.001	2.18	1.22-3.86	0.780	0.008

OR: Odds ratio, CI: Confidence interval

Table 3: Concentration index of elder abuse in 2015, Qazvin, Iran

Variables	Concentration index	95% CI
Urban	-0.0091	-0.0264, 0.0246
Rural	-0.0739	-0.112, -0.0356
Male	0.0078	-0.0236, 0.0394
Female	0.0236	-0.0050, 0.0522
Total	-0.0290	-0.0498, -0.0081

CI: Confidence interval

have physical problems and disabilities. In the development of social protection of the elders, it should be considered to weak physical and mental status of elders (such as Alzheimer) that provide condition for abusing.^[1]

Limitation

It should be noted that the results of this study are restricted by the scope of our data. One of the limitations was a possibility of underreporting and overreporting bias by the victims of elder abuse due to fear or shame and pay attention to themselves. Some elders with severe disability or abuse may be deprived of cares in health centers that may cause selection bias and subsequently underestimation of the report of elder abuse. Finally, causal relationship cannot be determined due to the cross-sectional design in this study.

Conclusion

Elder abuse is unequally distributed among the elders and is more concentrated among poor elders. Furthermore, the residence was found to be influential factor in this inequality. For decreasing inequalities in elder abuse by recognizing pattern of its distribution can help to policymakers for planning effectively.

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Conflicts of interest

There are no conflicts of interest.

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