Socioeconomic Inequality of Elder Abuse in Qazvin, Iran

Abstract

Introduction: Socioeconomic status (SES) is often associated with elder abuse. This study aimed to determine socioeconomic 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...
Inequality in elder abuse in Iran

Inequality in elder abuse in Iran 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. 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. 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]

Currently, because of increasing globally elders population, elder abuse is increasing. 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%. 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. [19] 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)          |          |
| 1st quintile (lowest)                             | 136 (20.3) |
| 2nd quintile                                     | 142 (21.2) |
| 3rd quintile                                     | 125 (18.7) |
| 4th quintile                                     | 132 (19.7) |
| 5th 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)   |

---

**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   |
| 1st quintile (lowest) versus 5th quintile (highest) | 2.70       | 1.60-4.56 | 0.996 | <0.001 | 1.85       | 0.97-3.35 | 0.617 | 0.061 |
| 2nd quintile versus 5th quintile (highest)         | 2.20       | 1.30-3.69 | 0.789 | 0.003  | 1.75       | 0.93-3.27 | 0.562 | 0.078  |
| 3rd quintile versus 5th quintile (highest)         | 1.69       | 0.98-2.91 | 0.526 | 0.057  | 1.10       | 0.59-2.05 | 0.097 | 0.759  |
| 4th quintile versus 5th 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.

Acknowledgment

The authors would like to gratefully offer their thanks to the participants and the Department of Health of Qazvin University of Medical Sciences for their assistance in this study. The study was funded by Qazvin University of Medical Sciences.

Financial support and sponsorship

This study was supported by Qazvin University of Medical Sciences, Qazvin, Iran.

Conflicts of interest

There are no conflicts of interest.

References

1. Van Den Brule AB, Dimachk M, Crandall M. Elder abuse. Clin Geriatr Med 2019;35:103-13.
2. Dong XQ. Elder abuse: Systematic review and implications for practice. J Am Geriatr Soc 2015;63:1214-38.
3. Daichman LS, Aguas S, Spencer C. Elder abuse. In: Quah SR, editor. International Encyclopedia of Public Health. 2nd ed. Oxford: Academic Press; 2017. p. 443-7.
4. World Health Organization. Available from: https://www.who.int/ageing/projects/elder_abuse/en/. [Last accessed on 2019 Jan 16].
5. Daichman LS, Aguas S, Spencer C. Elder abuse. In: Heggenhougen K, Quah, S, eds. International Encyclopedia of Public Health. Vol 2. San Diego: Academic Press; 2008:310-5.
6. Dong X. Advancing the field of elder abuse: Future directions and policy implications. J Am Geriatr Soc 2012;60:2151-6.
7. Oveis S, Karimi R, Mahram M. Note from Iran: Self-reported elder abuse in Qazvin, 2012. J Elder Abuse Negl 2014;26:337-40.
8. Molaei M, Etemad K, Taheri Tanjani P. Prevalence of elder abuse in Iran: A systematic review and meta analysis. Iran J Ageing 2017;12:242-53.
9. Khosravi N, Rezaei M, Matlabi H. Abuse in later life: Viewpoints of illiterate rural older people. Int J Cult Ment Health 2018;1-12.
10. Markovik M, Sethi D, Serafimovska E. Relationships and community risk factors for elder abuse and neglect: Findings from the First National Prevalence Study on elder maltreatment. Macedonian J Med Sci 2014;7:369-74.
11. Peshevksa DJ, Serafimovska E, Sethi D. Mental health, physical health and other individual risk factors for elder maltreatment: Findings from the national study. Macedonian J Med Sci 2014;7:362-8.
12. Saikia AM, Mahanta N, Mahanta A, Deka AJ, Kakati A. Prevalence and risk factors of abuse among community dwelling elderly of Guwahati city, Assam. Indian J Community Med 2015;40:279-81.
13. Fraga S, Lindert J, Barros H, Torres-González F, Ioannidi-Kapolou E, Melchiorre MG, et al. Elder abuse and socioeconomic inequalities: A multilevel study in 7 European countries. Prev Med 2014;61:42-7.
14. Moghaddam Hosseini V, Keyghobadi F, Rakshani MH. Prevalence of elder abuse against women and associated factors. J Mazandaran Univ Med Sci 2014;24:125-32.
15. Roulet Schwab D, Wangmo T. Perceptions of elder abuse from community-dwelling older persons and professionals working in Western Switzerland. J Interspers Violence 2017;88626517732345.
16. Keskinoglu P, Pyrakcyfe M, Bilgic N, Giray H, Karakus N, Ucku R, et al. Elder abuse and neglect in two different socioeconomic districts in Izmir, Turkey. Int Psychogeriatr 2007;19:719-31.
17. Sharifi F, Hossain SZ, Fakhrzeadeh H, Salimi Z. Elder abuse: Risk factors of abuse in elderly community-dwelling Iranians. Educ Gerontol 2014;40:543-54.
18. Dakin E, Pearlmutter S. Older women's perceptions of elder maltreatment and ethical dilemmas in adult protective services: A cross-cultural, exploratory study. J Elder Abuse Negl 2009;21:15-57.
19. Hzalek MA, Scott RO, Sengstock MC, Stahl C. Validation of the Hwalek-Sengstock elder abuse screening test. J Applied Gerontol 1991;10:406-18.
20. Hosseinkhani Z, Moradi Z, Khodamoradi F. Elder abuse: Screening in Iranian families. Med J Islam Repub Iran 2017;31:126.
21. Vyas S, Kumarayake L. Constructing socio-economic status indices: How to use principal components analysis. Health Policy Plan 2006;21:459-68.
22. Omam-Samani R, Amini Ranari M, Sapidarkish M, Khedmati Morasae E, Maroufizadeh S, Almasi-Hashiani A, et al. Socioeconomic inequality of unintended pregnancy in the Iranian population: A decomposition approach. BMC Public Health 2018;18:607.
23. Rutstein S, Johnson K, Suliman E, Wagstaff A, Amouzou A.
Socio-Economic Differences in Health, Nutrition, and Population within Developing Countries. Washington, DC: World Bank; 2007. p. 287.

24. Van de Poel E, Hosseinpoor AR, Speybroeck N, Van Oorti T, Vega J. Socioeconomic inequality in malnutrition in developing countries. Bull World Health Organ 2008;86:282-91.

25. Van Doorslaer E, Wagstaff A, Lindelow M. Analyzing Health Equity using Household Survey Data: A Guide to Techniques and their Implementation. Washington, D.C.: The World Bank; 2007.

26. Tareque MI, Islam TM, Koshio A, Kawahara K. Economic well-being and elder abuse in Rajshahi district of Bangladesh. Res Aging 2015;37:200-24.

27. Teerawichitchainan B, Knodel J. Economic status and old-age health in poverty-stricken myanmar. J Aging Health 2015;27:1462-84.

28. Jang SN, Cho SI, Kawachi I. Is socioeconomic disparity in disability improving among Korean elders? Soc Sci Med 2010;71:282-7.

29. Asadi A, Tabatabaei Sh, Yazdankhah M, Jeihooni AK, Rakhshani T, Kashfi SH. Elder abuse in Shiraz, Iran. Iran J Psychiatry Behav Sci 2017;11(2):e9598. doi: 10.5812/ijpbs.9598.

30. Cooper C, Selwood A, Livingston G. The prevalence of elder abuse and neglect: A systematic review. Age Ageing 2008;37:151-60.

31. DeLiema M, Gassoumis ZD, Homeier DC, Wilber KH. Determining prevalence and correlates of elder abuse using promotores: Low-income immigrant latinos report high rates of abuse and neglect. J Am Geriatr Soc 2012;60:1333-9.

32. Reje N, Foroughan M, Montazeri A. Elderly abuse rates within family among members of senior social clubs in Tehran. Iran J Ageing 2012;6:37-50.

33. Peck MD. Epidemiology of burns throughout the world. Part II: Intentional burns in adults. Burns 2012;38:630-7.

34. Morowatisharifabad MA, Rezaeipandari H, Dehghani A, Zeinali A. Domestic elder abuse in Yazd, Iran: A cross-sectional study. Health Promot Perspect 2016;6:104-10.

35. Dong X, Simon MA, Gorbien M, Percak J, Golden R. Loneliness in older Chinese adults: A risk factor for elder mistreatment. J Am Geriatr Soc 2007;55:1831-5.