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Prevalence of elder abuse and its correlated factors in Iranian community-dowelling older adults: a cross-sectional study

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Abstract

Background The global elderly population is rapidly increasing, with projections estimating that the number of older adults will reach 2.1 billion. Elder abuse, a significant public health issue, leads to serious psychological, physical, and social consequences. Therefore, this study aims to assess the prevalence of elder abuse in Qazvin, Iran, while exploring correlated factors that may act as potential risks or protective factors, especially within the context of post-pandemic COVID-19 conditions.

Methods This cross-sectional study, conducted from May to October 2024, included 540 older adults aged 60 and above residing in Qazvin city, Iran. Participants were selected using a multi-stage cluster sampling method. Data were collected through face-to-face interviews using a demographic checklist, the General Health Questionnaire, the Advanced Activities of Daily Living Scale, the Mini-Cog Screening Tool, the Multidimensional Scale of Perceived Social Support, and the Short Version of the Domestic Elder Abuse Assessment Questionnaire. Data analysis was performed using one-sided and two- sided chi-square tests, as well as a logistic regression model.

Results A total of 540 older adults participated in the study, with a mean age of 72.08 ± 8.08 years. The majority of the participants were married ($n = 390$, 72.2%) and had an average economic status ($n = 348$,64.4%). Among the participants, 71.1% ($n = 384$) reported experiencing at least one form of elder abuse within the past year, with psychological abuse ($n = 274$, 50.7%) and care neglect ($n = 269$,49.8%) being the most prevalent forms. The results indicated that elder abuse was significantly associated with good and excellent economic status (OR = 0.335, 95% CI: 0.150–0.749), being homemaker (OR = 2.789, 95% CI: 1.252–6.215), and having better mental health (OR = 0.931,95% CI: 0.885–0.980).

Conclusions This study found a high prevalence of elder abuse in Qazvin city, with economic status, employment status, and mental health identified as key predictors. Based on these findings, further in-depth investigations are needed to explore the underlying causes of elder abuse. Additionally, efforts to clarify statistics and raise community awareness about the dimensions and reporting mechanisms of elder abuse are essential. The development of integrated support services to promote the physical and mental health of older adults and reduce their dependency is strongly recommended.

Keywords Elder abuse, Elderly, Risk factors, Iran

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Background

The global elderly population is experiencing significant growth, primarily due to lower fertility rates, higher life expectancy, and improved healthcare systems [1]. By 2050, it is projected that the number of older adults will reach 2.1 billion, with 80% residing in developing countries [2]. This unprecedented rise in the aging population presents various social, economic, and healthcare challenges that require urgent attention. Iran is also experiencing a similar trend, with individuals aged 60 and older comprising more than 10% of the total population in 2022 [3]. This proportion is expected to grow substantially, exceeding 31% by 2050 [4]. The increasing number of elderly individuals will lead to a greater demand for healthcare services, long-term care, and pension systems. Additionally, it will be essential to develop age-friendly infrastructure and social support programs to ensure their well-being.

The growing elderly population has raised significant concerns, with elder abuse emerging as a particularly alarming issue due to its potential for serious health consequences. Elder abuse is a multifaceted phenomenon influenced by psychological, social, biological, and cultural factors [5, 6]. Recognized as a public health problem, elder abuse has a profound impact on the mental and social well-being of individuals within the community [7]. The Centers for Disease Control and Prevention defines elder abuse as a single or repeated intentional act or a failure to act, within a trust-based relationship that causes or risks harm to an older adult [8]. This abuse takes various forms, including emotional or psychological abuse, physical abuse, financial abuse, sexual abuse, as well as neglect, deprivation of authority, rejection, and both financial and emotional neglect [9, 10].

In 2024, the World Health Organization reported that 15.7% of individuals aged 60 and older experienced abuse in social settings. Psychological abuse was the most common (11.6%), followed by financial abuse (6.8%), neglect (4.2%), physical abuse (2.6%), and sexual abuse (0.9%) [9]. However, only 1 in 24 abuse cases is estimated to be reported globally [7], often due to the victims'lack of awareness of legal recourse and fear of repercussions or the societal stigma surrounding with the issue [11]. The prevalence rate of elder abuse increased during the COVID-19 pandemic, largely due to isolation and social distancing measures [12]. A meta-analysis by Yon et al. in 2017 found that approximately 20.2% of older adults in Asia experienced abuse [13]. In Iran, a meta-analysis by Delpasand et al. reported a 55% abuse rate, with emotional neglect being the most common form (39%) and social rejection the least prevalent [5]. A recent study by Hosseinkhani et al. [14] involving683 community-dwelling older adults, with a mean age of 68.5 ± 7.6 years, revealed an elder abuse prevalence rate of 38.5% in Qazvin city.

Elder abuse in Iran exceeds both global and regional averages, a phenomenon deeply rooted in the country's unique social and economic context. Traditional family structures, in which older adults typically reside with their children or extended families, may act as both protective and risk factors. While familial caregiving is culturally valued, economic challenges dependency in caregivers can exacerbate the risk of neglect or mistreatment. Additionally, social stigma, inadequate social support systems and low public awareness exacerbate the issue. These cultural, social, and economic factors contribute to the higher prevalence of elder abuse in Iran, underscoring the need for context-specific strategies aimed at prevention and intervention [15–18].

Researchers consider elder abuse as an important indicator of both an individual's longevity and the overall health of a society, alongside other key metrics such as life expectancy [5]. This indicator can significantly impact the well-being and quality of life of older adults [1]. The occurrence of elder abuse has serious consequences. These include physical injuries, emotional and psychological distress, depression, stress, mental health issues, cognitive decline, nursing home placement, financial exploitation, and the erosion of family solidarity and trust [19]. These effects not only harm individuals and their families but also place a burden on healthcare systems, the economy, and the social fabric of society [20].

Elder abuse is a complex problem influenced by a dynamic interplay of individual, social, and contextual factors [21]. To investigate the prevalence and correlates of elder abuse among community-dwelling older adults in Iran, this study focused on several key predictors including social support, mental health, activities of daily living, and cognitive function. These variables were selected based on their established theoretical and empirical relevance in prior research, as well as their alignment with the socio-cultural context of Iran. Social support has been consistently identified as a critical protective factor against elder abuse in various global studies [22, 23]. In the Iranian context, where family ties play a central role in caregiving and emotional support [24], the absence of adequate social support may exacerbate vulnerability to abuse [25]. Mental health issues have been consistently linked to a heightened vulnerability to elder abuse in numerous studies [7, 26–29]. Poor mental health impair communication and help-seeking behaviors [30], increasing susceptibility to abuse. Functional ability reflects an individual's capacity to perform basic self-care tasks independently [31]. Limited functional ability often leads to dependency on caregivers, which can increase the risk of abuse due to power imbalances and caregiver stress

[32]. Several studies have highlighted the role of dependency as a significant risk factor for elder abuse [11]. Cognitive impairment further increases vulnerability, as older adults with diminished cognitive abilities may have difficulty recognizing abusive behaviors or clearly expressing their needs [33]. The inclusion of cognitive function as a predictor is consistent with prior research highlighting its significant role in shaping the dynamics of elder abuse [34].

Given that understanding the underlying causes, mechanisms, risks, and protective factors in different communities is critical for developing effective prevention strategies [11], this study was aimed to determine the prevalence of elder abuse in Qazvin city, Iran, and explore correlated factors that may act as both risk and protective factors, particularly in the post-pandemic context. Drawing on existing literature and the socio-cultural context of Iran, the primary hypothesis of this study is that elder abuse is more prevalent among older adults who exhibit poor physical health, functional dependence, low levels of social support, and experience economic hardship.

Based on existing literature and Iran's socio-cultural context, this study hypothesizes that elder abuse is more prevalent among older adults with poor physical health, functional dependence, limited social support, and economic hardship. These factors are expected to significantly contribute to the risk of mistreatment, highlighting the need for targeted interventions addressing these vulnerabilities.

Methods

Setting and participants

This descriptive-analytical cross-sectional study was conducted from May to October 2024 in Qazvin city, Iran. The study population consisted of older adults aged 60 and above, selected through a multi-stage cluster sampling method from Comprehensive Health Centers. For this purpose, Qazvin city was geographically divided into three regions: north, center, and south. The sample size for each stratum was determined proportionally based on the distribution of older adults in the respective regions according to available medical records. Based on the data from the Comprehensive Health Center in 2024, Qazvin city had an estimated population of 57,740 older adults. This population was distributed across three geographic regions as follows: 9,198 older adults resided in the south, 32,681 in the center, and 15,861 in the north. Accordingly, 86 participants were randomly selected using a random number table; similarly, 306 participants were selected from the center, and 148 from the north.

The inclusion criteria were being 60 years or older, residing in Qazvin city, willingness to participate, full consciousness during the study, ability to communicate and respond to questions, and not using psychotropic drugs. Individuals with moderate-to-severe cognitive impairment, as identified by the Mini-Cog screening tool (scores below 3 indicating impairment), or those with physical or mental conditions that significantly hindered their ability to communicate and respond the questions were excluded from the study. The first author was responsible for assessing and determining the eligibility of older adults for participation in this study.

The initial sample size was calculated to be 360 participants, based on a previous study estimating elder abuse rates [35], with a 95% confidence level, a margin of error (d) of 0.05, a population proportion (P) of 0.385, and a Z-value of 1.96. Accounting for the cluster sampling effect, the sample size was adjusted by a factor of 1.5, resulting in a final sample size of 540 participants.

$$N = {Z^2.P.(1-P)}/{d^2}$$

Data collection

Data for this study were collected through face-to-face interviews conducted between 6 May and 30 October 2024, at comprehensive health centers in Qazvin city. Initially, consent was obtained via telephone, during which potential participants were invited to attend the health centers for interviews. Upon arrival, the study's objectives were explained, and written informed consent was obtained. Subsequently, private face-to-face interviews were carried out by the first author, a geriatric nurse specialist. Since a number of older participants were illiterate, in order to standardize the data collection method, the questionnaires were administered through interviews conducted by the first author. Of the 620 individuals invited to participate, 540 agreed to take part in the study, resulting in a participation rate of 87.1%.

Measure

The data was collected using a demographic checklist, the General Health Questionnaire, the Advanced Activities of Daily Living Scale, the Mini-Cog Screening Tool, the Multidimensional Scale of Perceived Social Support, and the Short Version of the Domestic Elder Abuse Assessment Questionnaire.

Demographic checklist

It included details on participants' age, sex, marital status, education, number of children, economic status, housing type, employment status, health insurance coverage, comorbidities, and polypharmacy.

The 12-item General Health Questionnaire (GHQ-12)

Developed by Goldberg and Williams in 1988 [36], this questionnaire assesses mental health through 12 items divided into two subscales: positive mental health (items 2, 3, 4, 6, 10, and 12) and negative mental health (items 1, 5, 7, 8, 9, and 11). Responses are rated on a 4-point Likert scale, ranging from "Not at all" (score 0) to "More than usual" (score 3). Total scores range from 0 to 36, with higher scores indicating better mental health. The psychometric properties of this questionnaire were initially validated in Iran by Montazeri et al. in 2003 [37], and later specifically evaluated for the Iranian older adults by Namjoo et al. in 2017, reporting a Cronbach's alpha of 0.82 [38].

The Advanced Activities of Daily Living (AADL) scale

Developed by Reuben et al. in 1990 [39], this scale assesses functional impairment in older adults through 13 items divided into three domains: social activities (items 1–4), leisure activities (items 5–8), and productive activities (items 9–13). This scale is particularly effective at identifying functional impairment, even at mild levels [40]. Responses are rated on a 3-point Likert scale, ranging from "Never done" (score 1) to "Still do" (score 3). Total scores range from 13 to 39, with higher scores indicating better functional capacity. In their study, Dias et al. reported the Cronbach's alpha values of 0.75 for leisure activities, 0.73 for social activities,0.75 for productive activities, and 0.80 for the overall scale, along with evidence supporting its construct validity [41]. The psychometric properties of this scale were validated for the Iranian older adults by Ghahremani et al. in 2024, reporting a Cronbach's alpha of 0.76 for the total scale, and greater than 0.64 for each extracted domain [42].

The mini-cog screening tool

Developed by Borson et al. in 2000, this tool evaluates cognitive function through 3 sections: a three-word memory recall task, a clock-drawing test, and a visual function test. At the beginning of the test, participants are asked to remember three unrelated words, such as "umbrella," "sun," and "chair." Next, they are instructed to draw a clock, ensuring the numbers are correctly positioned and setting the time to 11:10. Finally, participants are prompted to recall the three words provided earlier. Scoring includes2 points for correctly drawing the clock and 1 point for each word accurately recalled. Total scores range from 0 to 5, with scores below 3 indicating cognitive impairment. The primary advantage of this test lies in its brevity and simplicity, as it requires only basic materials like a pencil or pen and paper [43]. According to Borson et al., the test demonstrates a sensitivity range of 76% to 99% and a specificity range of 89% to 96% [44]. Validation for use among the Iranian older adults was conducted by Rezaei et al. in 2018, yielding a Cronbach's alpha of 0.83, with sensitivity and specificity rates of 88% and 63%, respectively [45].

Multidimensional Scale of Perceived Social Support (MSPSS)

Developed by Zimet et al. in 1988 [46], this 12-item scale measures perceived social support across three subscales: family (items 3, 4, 8, and 11), friends (items 6, 7, 9, and 12), and significant others (items 1,5, and10). Responses are rated on a 5-point Likert scale, ranging from "Completely disagree" (score 1) to "Completely agree" (score 5). Total scores range from 12 to 60, with higher scores indicating greater perceived support. The psychometric properties of this scale were validated by Salimi et al. in 2009. The study reported a Cronbach's alpha ranging from 0.82 to 0.86, with its validity confirmed through factor analysis [47].

The short version of the domestic elder abuse assessment questionnaire

Developed by Zobdeh et al. in 2023, this 27-item tool evaluates elder abuse across five dimensions: care neglect (11 items: 9–19), financial neglect (4 items: 20–23), physical abuse (4 items: 1–3, and5), psychological abuse (4 items: 6–8, and 4), and ostracism (4 items: 24–27). Responses are rated on a 3-point Likert scale: yes (score 2), no (score 1), and not applicable (score 0). The "not applicable" option signifies that the item does not align with or is irrelevant to the living conditions of the older adult. Total scores range from0 to 100, with higher levels of abuse. The psychometric properties of this questionnaire were validated by Zobdeh et al. in 2023, reporting a Cronbach's alpha of 0.93 [48].

Data analysis

Data were analyzed using SPSS version 22 (Armonk, NY: IBM Corp). One-sided and two- sided chi-square tests were performed to assess relationships between qualitative and quantitative variables and the occurrence of elder abuse and its dimensions. A logistic regression model was used to identify predictors of elder abuse among participants. A significance level of 0.05 was applied to all statistical analyses.

Results

A total of 540 older adults participated in the study, comprising 271 males (50.2%) and 269 females (49.8%). The mean age was 72.08 ± 8.08 years. The majority were aged 70–79 years (40.6%), and married (72.2%). Nearly half (42.8%) reported having 4 to 6 children. Regarding education, 35.4% had completed primary

education, and only 10.9% had attained a bachelor's degree or higher. Most participants were employed or retired (55.7%), with 64.4% reporting average economic status. While16.7% had no comorbidities, 78.9% reported using at least one medication within the last 90 days. Additionally, 78.5% had health insurance coverage. The relationships between demographic characteristics and elder abuse are detailed in Table 1.

The majority of participants (88.7%) did not report any mental disorders. Those participants who did not experience any form of abuse (28.9%) scored higher in mental health (mean score: 22.92 ± 4.29), physical health (AADL mean score: 31.08 ± 4.03), and perceived social support (mean score: 42.94 ± 7.88). These relationships are summarized in Table 2**.**

Among participants, 71.1% (n = 384) reported experiencing at least one form of elder abuse within the past year. The most prevalent forms were psychological abuse (50.7%) and care neglect (49.8%), while physical abuse (11.9%) and rejection (10.2%) had the lowest prevalence. Table 3 provides a detailed breakdown of abuse prevalence.

The results of both one-sided and two-sided chi-square tests revealed significant relationships between elder abuse and demographic variables, including sex, economic status, employment status, comorbidities, history of mental disorders, polypharmacy, general health (mental disorder subscale), advanced activities of daily living, leisure activities, and perceived social support from family.

The bivariate logistic regression analysis identified economic status, employment status, and mental health as significant predictors of elder abuse. Specifically, individuals with good or excellent economic status (OR = 0.335, 95% CI: 0.150–0.749), and better mental health (OR = 0.931, 95% CI:0.885–0.980) were at a lower risk of experiencing elder abuse, while being a homemaker significantly increased the risk. In this analysis, elder abuse was treated as the dependent variable, and potential confounding factors were carefully controlled. Independent variables were selected based on their significance in one-sided and two-sided chi-square tests (p-value < 0.05). The results showed that poor economic status increased the likelihood of elder abuse by 1.43 times, whereas better mental health reduced the risk by 0.98 times. Notably, homemakers were 6.215 times more likely to experience elder abuse. Conversely, variables such as comorbidities, history of mental disorders, polypharmacy, and advanced activities of daily living were not found to be significant predictors of elder abuse. These findings are detailed in Table 4.

Discussion

The study results indicated a high prevalence of elder abuse in Qazvin city, with 71.1% of participants experiencing at least one form of abuse. Among the various forms, psychological abuse was the most prevalent at 50.7%, while rejection was the least common at 10.2%. Furthermore, the findings revealed that poor economic status, being a homemaker, and poor mental health were significant factors that exacerbated elder abuse.

Elder abuse

In this study, 71.1% of the elderly participants reported experiencing at least one form of abuse in the past year. This prevalence rate is on the higher end of global estimates, which range widely from 1.1% to 78% [49]. It also exceeds the reported prevalence of elder abuse in Asia, which varies from 0.22 per 1,000 to 62% [50]. Globally, prevalence rates vary significantly, with reported figures such as2.6% in the UK [51], 10% in China [52], 11.4% in India [53], 12.6% in South Korea [54], 14.8% in Australia [28], 46.73% in sub-Saharan Africa [55], and 55% in Iran [5]. Compared to these studies, the present study found a higher prevalence rate. In Iran, prevalence rates of elder abuse at the provincial level differ by region, with reports of 36% in Isfahan [56], 37.78% in Lorestan [57], 38.6% in Shahrood [58], 52.6% in Tabriz [59], and 75.4% in Ardabil [60]. Specifically, in Qazvin, earlier studies have reported rates ranging from 38.5% in 2015 to 80% in 2012 [35, 61]. The findings of this study fall within this range, but closer to the higher end. The higher prevalence of elder abuse (71.1%) observed in this study, compared to other studies, can be attributed to several contributing factors. First, demographic differences among populations may play a significant role. For instance, the older adults included in this study may have exhibited higher levels of dependency, physical health challenges, or social isolation, which have been associated with increased vulnerability to abuse. Second, methodological differences likely contributed to the higher reported prevalence. This study employed a comprehensive assessment of various forms of abuse and utilized more sensitive measurement tools, may have led to the identification of more cases of abuse compared to studies using narrower definitions or less specific instruments [62]. Cultural and social factors specific to Iran may also explain discrepancies with previous findings. While Iranian culture traditionally emphasizes respect for elders, this norm may contribute to underreporting or limited recognition of certain forms of abuse, such as emotional neglect or financial exploitation. Another critical factor is the ongoing impact of the COVID-19 pandemic, which has increased isolation,

Table 1 Participants' demographic characteristics and their relationship with elder abuse ($n = 540$)

Variable	Categories	Freq. (%)	Abused	Non-abused	*P*-value
Age	60–69	218 (40.4)	162 (74.3)	56 (25.7)	0.388
	70–79	219 (40.6)	150 (68.5)	69 (31.5)	
	80–89	88 (16.3)	72 (69.9)	31 (30.1)	
	≥ 90	14 (2.8)			
Sex	Female	269 (49.8)	206 (76.6)	63 (23.4)	0.005
	Male	271 (50.2)	178 (65.7)	93 (34.3)	
Marital status	Married	390 (72.2)	275 (70.5)	115 (29.5)	0.438
	Divorced or widowed	142 (26.3)	105 (73.9)	37 (26.1)	
	Single	8 (1.5)			
Education	Illiterate	116 (21.5)	89 (76.7)	27 (23.3)	0.419
	Primary education	191 (35.4)	134 (70.2)	57 (29.8)	
	Secondary education	63 (11.7)	47 (74.6)	16 (25.4)	
	High school diploma/associate's degree	111 (20.6)	76 (68.5)	35 (31.5)	
	Bachelor's degree	47 (8.7)	38 (64.4)	21 (35.6)	
	Master's degree or higher	12 (2.2)			
Economic status	Poor	99 (18.3)	84 (84.8)	15 (15.2)	< 0.001
	Average	348 (64.4)	246 (70.7)	102 (29.3)	
	Good	80 (14.8)	54 (58.1)	39 (41.9)	
	Excellent	13 (2.4)			
Property ownership status	Owner	469 (86.9)	333 (71.0)	136 (29.0)	0.498
	Tenant	57 (10.6)	38 (66.7)	19 (33.3)	
	Other	14 (2.5)			
Housing type	Apartment	352 (65.2)	246 (69.9)	106 (30.1)	0.390
	Villa	188 (34.8)	138 (73.4)	50 (26.6)	
Employment status	Unemployed or dependent	52 (9.6)	40 (76.9)	12 (23.1)	0.001
	Pensioner	71 (13.1)	52 (73.2)	19 (26.8)	
	Homemaker	95 (17.6)	82 (86.3)	13 (13.7)	
	Employee or retired	301 (55.7)	194 (64.5)	107 (35.5)	
	Self-employed	21 (3.9)	16 (76.2)	5 (23.8)	
Health insurance coverage	No insurance	31 (5.7)	25 (80.6)	6 (19.4)	0.072
	Basic insurance	79 (14.6)	64 (81.0)	15 (19.0)	
	Basic and supplementary insurance	424 (78.5)	291 (68.6)	133 (31.4)	
	Other	6 (1.1)			
Comorbidities	None	90 (16.7)	58 (64.4)	32 (35.6)	0.036
	1–3	235 (43.5)	161 (68.5)	74 (31.5)	
	4–6	142 (26.3)	104 (73.2)	38 (26.8)	
	> 6	73 (13.5)	61 (83.6)	12 (16.4)	
History of mental disorders	None	479 (88.7)	332 (69.3)	147 (30.7)	0.010
	Depression	25 (4.6)	52 (85.2)	9 (14.8)	
	Anxiety	18 (3.3)			
	Trauma and stressor-related disorders	8 (1.5)			
	Sleep disorders	2 (0.4)			
	Multiple disorders	8 (1.5)			
Polypharmacy	None	114 (21.1)	80 (70.2)	34 (29.8)	0.035
	1–3	201 (37.2)	132 (65.7)	69 (34.3)	
	4–5	97 (18.0)	69 (71.1)	28 (28.9)	
	6–9	97 (18.0)	75 (77.3)	22 (22.7)	
	≥ 10	31 (5.7)	28 (90.3)	3 (9.7)	

Table 1 (continued)

Variable	Categories	Freq. (%)	Abused	Non-abused	*P*-value
Number of children	0–1	30 (5.6)	17 (56.7)	13 (43.3)	0.104
	2–3	206 (38.1)	142 (68.9)	64 (31.1)	
	4–6	231 (42.8)	167 (72.3)	64 (27.7)	
	≥ 7	73 (13.5)	58 (79.5)	15 (20.5)	

Table 2 The relationship between quantitative variables and factors related to elder abuse ($n = 540$)

Variable	Dimensions	possible score range	Freq. (%)	M ± SD	Min	Max	*P*-value
General health	Positive mental health	0–18	156 (28.9)	1.22 ± 0.48	0	17	0.122
		0–18	384 (71.1)	1.15 ± 0.46			
	Negative mental health	0–18	156 (28.9)	0.40 ± 0.41	0	14	< 0.001
		0–18	384 (71.1)	0.66 ± 0.48			
	Total	0–36	156 (28.9)	22.92 ± 4.29	4	33	< 0.001
		0–36	384 (71.1)	20.94 ± 4.72			
Advanced activities of daily living	Social activities	4–12	156 (28.9)	11.08 ± 1.23	4	12	0.091
		4–12	384 (71.1)	10.87 ± 1.35			
	Leisure activities	4–12	156 (28.9)	9.46 ± 1.68	4	12	< 0.001
		4–12	384 (71.1)	8.83 ± 1.64			
	Productive activities	5–15	156 (28.9)	10.53 ± 2.39	5	15	0.063
		5–15	384 (71.1)	10.13 ± 2.21			
	Total	13–39	156 (28.9)	31.08 ± 4.03	16	39	0.001
		13–39	384 (71.1)	29.84 ± 4.01			
Perceived social support	Family	4–20	156 (28.9)	15.91 ± 2.51	4	26	0.028
		4–20	384 (71.1)	15.35 ± 3.07			
	Friends	4–20	156 (28.9)	11.66 ± 5.11	4	20	0.646
		4–20	384 (71.1)	11.44 ± 5.00			
	Significant others	4–20	156 (28.9)	15.36 ± 2.85	4	20	0.399
		4–20	384 (71.1)	15.11 ± 3.23			
	Total	12–60	156 (28.9)	42.94 ± 7.88	12	60	0.200
		12–60	384 (71.1)	41.90 ± 8.70			

Table 3 The frequency of different forms of elder abuse ($n = 540$)

Forms	Abused Freq. (%)	Non-abused Freq. (%)
Physical abuse	64 (11.9)	476 (88.1)
Psychological abuse	274 (50.7)	266 (49.3)
Care neglect	269 (49.8)	271 (50.2)
Financial neglect	101 (18.7)	439 (81.3)
Ostracism	55 (10.2)	485 (89.8)
Total	384 (71.1)	156 (28.9)

economic insecurity, and stress among older adults, all of which are linked to higher abuse rates [63]. These factors, combined with Iran's demographic shift toward an aging population, underscore the need for deeper investigation and urgent intervention to address this growing issue.

Psychological abuse & care neglect

In this study, psychological abuse (50.7%) and care neglect (49.8%) emerged as the most prevalent forms of elder abuse. These results align with findings from several international studies. For instance, Juhász et al.

Table 4 The bivariate logistic regression analysis model of factors related to elder abuse ($n = 540$)

Variables		*P*-value	OR	95% CI	
				Lower	Upper
Sex (male vs. female)		0.422	1.265	0.695	2.299
Economic status	Poor	0.022			
	Average	0.118	0.589	0.303	1.143
	Good and excellent	0.008	0.335	0.150	0.749
Comorbidities	0	0.751			
	1–2	0.297	1.484	0.707	3.115
	3–5	0.483	1.370	0.569	3.300
	> 5	0.472	1.592	0.506	5.010
A history of mental disorders (absence vs. presence)		0.076	2.070	0.926	4.629
Polypharmacy	0	0.224			
	1–3	0.068	0.511	0.249	1.051
	4–5	0.149	0.527	0.221	1.258
	6–9	0.442	0.688	0.265	1.784
	> 10	0.595	1.521	0.323	7.161
Employment status	Employee or retired	0.043			
	Pensioner	0.794	0.901	0.414	1.963
	Homemaker	0.012	2.789	1.252	6.215
	Unemployed or dependent	0.696	0.840	0.350	2.014
	Self-employed	0.585	1.363	0.449	4.135
Advanced activities of daily living		0.657	0.987	0.933	1.045
General mental health		0.006	0.931	0.885	0.980

identified care neglect as the most prevalent form of elder abuse worldwide, with psychological abuse being a close second [49]. Similarly, a meta-analysis study by Delpasand et al. in Iran confirmed that emotional neglect was the most prevalent form, with psychological abuse ranking second [5]. Studies conducted in different Iranian regions, such as those by Khalili et al. in Sari [64] and Nemati-Vakilabad et al. in Ardabil [60], further corroborate these findings, indicating a high prevalence of emotional neglect and psychological abuse. However, some studies have reported different results. For example, in India, Parida et al. found that emotional abuse (11.1%) and verbal abuse (6.9%) were the most frequently observed forms of elder abuse [65]. In Australia, Qu et al. identified emotional abuse (11.7%) and neglect (2.9%) as the most common [28]. In contrast, Sadrollahi et al. in Iran reported financial abuse (45.6%) as the most prevalent form, followed by psychological abuse (45%) [66]. These discrepancies may be due to differences in study methodologies, sample characteristics, and definitions of elder abuse across studies. For instance, while some studies used self-report surveys, others relied on caregiver or institutional reports, leading to variations in reported prevalence rates. Additionally, cultural differences in family dynamics, caregiving responsibilities, and financial dependence of older adults may influence the dominant forms of abuse observed in each setting.

The high prevalence of psychological abuse and care neglect observed in this study can be attributed to a combination of interrelated factors. Older adults frequently experience a loss of social roles, particularly those associated with meaningful employment, which can lead to social isolation and heightened feelings of loneliness. Additionally, reduced retirement income and inadequate financial management often increase dependency on family members, further contributing to psychological distress among older adults. Age-related health challenges and declining physical activity may also limit independence, intensifying caregiving demands and inadvertently raising the risk of neglect.

Rejection & physical abuse

In this study, the least common forms of elder abuse were physical abuse (11.9%) and rejection (10.2%). These findings align with similar studies conducted across various countries, where physical abuse consistently ranks as one of the least prevalent types of elder abuse [49, 67]. In Iran, rejection was identified as the least common form of abuse, with a prevalence rate of 15% [5]. Recent

cross-sectional studies at the provincial level have also demonstrated that both physical abuse and rejection exhibit the lowest prevalence rates [56, 57, 68].

However, a notable limitation of this study—and others—is the underrepresentation of individuals living in nursing homes. Many who experience rejection reside in nursing homes rather than within community-dwelling older adult populations, potentially leading to an underestimation of actual prevalence rates. Previous studies indicate that institutionalized older adults often face higher risks of abuse due to caregiver stress, staff shortages, and inadequate monitoring systems [69, 70]. Therefore, future studies should include nursing home populations to provide a more comprehensive assessment of elder abuse prevalence.

Physical abuse is less prevalent in part due to the influence of societal and cultural norms, which often emphasize respect and dignity for older adults. Many individuals perceive physical abuse as immoral and contrary to the respect and dignity owed to older adults. This perception, coupled with the fear of facing societal judgment or legal consequences, serves as a significant deterrent against such abusive behaviors. Studies suggest that societies with strong familial bonds and collective values tend to report lower rates of physical abuse among older adults [27, 29]. However, underreporting remains a critical concern, as factors such as fear of retaliation, reliance on caregivers for support, and limited awareness of legal rights and protections often discourage victims from disclosing instances of physical abuse [26]. Furthermore, the growing dependence on digital communication during the COVID-19 pandemic significantly reduced face-to-face interactions, unintentionally intensifying feelings of isolation and loneliness among older adults. This change in social dynamics may have played a role in the decline of reported cases of physical abuse, as reduced in-person contact likely limited opportunities for such abuse to occur or be detected. However, the heightened isolation brought about by this shift has also been linked to increased psychological distress among older adults. This emotional strain can make them more vulnerable to other forms of mistreatment, such as neglect and financial exploitation [71, 72].

Risk factors for elder abuse

Elder abuse is a significant public health issue that often goes undiagnosed, untreated, or undertreated. It is associated with numerous adverse outcomes in both developed and developing countries. This phenomenon is multifactorial and highly complex [69, 70]. The current study revealed significant correlations between elder abuse and factors such as mental health, economic status, and employment status—particularly among homemakers.

Numerous studies [7, 26–29] have demonstrated a strong relationship between poor mental health and elder abuse, supporting the cumulative inequality theory, which posits that abuse and illness exacerbate one another throughout a person's life course. Mental health significantly affects key aspects of an individual's life, including stress management, interpersonal relationships, and self-perception. Poor mental health often results in diminished self-esteem, self-blame, denial, and isolation, all of which increase vulnerability to abuse [11]. Furthermore, older adults with compromised mental health may struggle to protect themselves or report abuse. Their statements are often perceived as less credible due to impaired judgment and insight, further perpetuating their susceptibility to abuse.

Previous studies [7, 27, 71, 72] have highlighted an inverse relationship between elder abuse and economic status, indicating that lower income levels are associated with higher rates of abuse. Financial difficulties present significant challenges for older adults. For instance, an older adult who is typically social and enjoys companionship may be forced to sever ties with friends and family due to financial constraints, leading to social isolation. Their inability to participate in social gatherings further deepens this isolation, increasing their vulnerability to abuse.

Additionally, older adults often face multiple health issues requiring various medications and specialized diets, which they may struggle to afford. These financial limitations can worsen their health conditions, creating a vicious cycle of untreated illnesses, deteriorating health, and increased abuse arising from the complications of their ailments. In such circumstances, their dependence on caregivers may lead to abuse, exacerbated by the pressures associated with caregiving.

In Iran, the financial burden on older adults is particularly severe, contributing to heightened tensions in their relationships with family members. This strain often results in reduced contact, neglect of care needs, and inadequate financial support. The lack of necessary assistance worsens their health and disrupts their overall well-being, ultimately increasing their susceptibility to elder abuse.

Although sex is widely recognized as a prominent risk factor for elder abuse, empirical evidence on the issue remains mixed. univariate analysis revealed a significant relationship between abuse and sex, indicating that women were more vulnerable to abuse than men. This finding aligns with numerous studies [11, 73–75]. However, other research [13, 64, 68] has presented evidence that contradicts these results.

The persistence of partner abuse in older age often reflects deeply rooted patriarchal values and traditions [76]. In Iran, traditional family dynamics have historically resulted in a predominance of housewives, with fewer older women having employment experience. While housewives take on numerous responsibilities—such as raising children, grocery shopping, and cooking—they typically lack a stable income and remain financially dependent on their husbands. This dependency reduces their social and financial power, further increasing their vulnerability to abuse.

Financial dependence among older adults generally diminishes their referential authority, making them more susceptible to abuse. Studies [77–80] have also shown that women tend to have poorer physical and mental health than men, which exacerbates their vulnerability. Furthermore, the longer life expectancy of women compared to men often leaves many housewives living alone after their husbands pass away. Without strong support systems and given inadequate physical and mental health, these women face a significantly higher risk of abuse [69].

Conclusion

The study found a high prevalence of elder abuse in Qazvin city, with psychological abuse being the most common form, while rejection was the least prevalent. Economic status, employment status, and mental health were identified as key predictors of elder abuse. To address this issue, a multi-step approach is recommended, including a comprehensive investigation to identify the causes, community education on elder abuse, and the development of accessible care policies for older adults. Furthermore, preventive measures should focus on improving physical and mental health, reducing dependency, supporting caregivers, and enhancing health literacy to mitigate elder abuse in the region.

Suggestions for future research

Suggestions for future research include conducting longitudinal studies to gain deeper insights into causal relationships and identify critical time points for intervention. Research should also explore the influence of cultural norms, family dynamics, and caregiver burden on abuse patterns, while evaluating the effectiveness of targeted interventions, such as economic support programs, mental health services, and caregiver training initiatives. Additionally, Qualitative studies can provide deeper contextual insights by capturing the lived experiences of abused older adults and their caregivers, highlighting barriers to reporting and accessing help.

Innovation and implication

This study on the prevalence of elder abuse among Iranian community-dwelling older adults is significant for its thorough exploration of elder abuse within a culturally specific context. It highlights the high prevalence of psychological abuse and care neglect, forms of abuse that are often underreported and overlooked in both research and practice. The findings reveal that 71.1% of older adults experienced at least one form of abuse in the past year, underscoring a significant public health concern. The study's innovative contribution lies in its identification of key correlates of elder abuse, including economic status, occupation (specifically being a homemaker), and mental health, offering actionable insights for targeted interventions. By demonstrating that better economic status and improved mental health serve as protective factors, while being a homemaker increases vulnerability, the study highlights the critical need for socio-economic support systems and accessible mental health services to effectively mitigate elder abuse.

Strength and limitation

This cross-sectional study utilized culturally relevant instruments and face-to-face interviews to assess elder abuse and functional impairment among urban older adults. While self-reported data allowed for detailed accounts, it introduced potential biases, including recall and social desirability biases. The study employed the Activities of Daily Living (AADL) scale instead of BADL and IADL to evaluate functional impairment. However, limitations include the exclusion of rural populations, nursing home residents, and hospital patients, reducing generalizability. Additionally, the study did not comprehensively assess cognitive decline or psychological distress, which may influence self-reported experiences. Future research should adopt longitudinal designs, incorporate objective assessments, and include more diverse populations to enhance validity and applicability.

Abbreviations

GHQ	General Health Questionnaire
AADL	Advanced Activities of Daily Living
MSPSS	Multidimensional Scale of Perceived Social Support
SF-DEAQ	Short form domestic elder abuse assessment questionnaire

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Clinical trial number

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Authors' contributions
All authors (MM, SZHG,S AM, MR) contributed to the development of the study protocol and design. SZHG supervised the study and validated the findings. Data collection was conducted by MM, who also prepared the initial draft of the manuscript and created the tables. Data analysis was jointly carried out by MR and MM. All authors reviewed and approved the final version of the manuscript.

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Data availability
The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
The proposal for this study was approved by the Ethics Committee of Qazvin University of Medical Sciences, with the ethics code IR.QUMS.REC.1402.433. Before conducting the study, participants were informed about the purpose and methodology of the study, and written informed consent was obtained from them. All procedures were conducted in accordance with the Declaration of Helsinki. Participation in this study was voluntary, and participants were informed that they could withdraw from the study at any time. Ethical considerations, including the principles of confidentiality, anonymity, and the protection of information, were strictly observed throughout the research process.

Consent for publication
Not relevant to this study.

Competing interests
The authors declare no competing interests.

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