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Elder Abuse Prevalence in Iran: A Systematic Review and Meta-Analysis

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Abstract

Background & Objective: With the increase in the population of the aged, one of the most crucial issues that can result in serious health consequences is elder abuse. This study aimed to estimate the prevalence of elder abuse and its subtypes in Iran.

Materials & Methods: This is a systematic review and meta-analysis based on PRISMA guidelines. Relevant keywords were used for database search in Scopus, PubMed, Web of Science. All of the search and data extraction process was conducted independently by two researchers. JBI checklist was used for risk of bias assessment. The data were cleaned and analyzed using Biostat, (Comprehensive Meta-Analysis). The meta-analysis was performed using Random Effects Model, and I2 index was calculated for assessing heterogeneity.

Results: Twenty-three articles were finally analyzed. The data of 6,298 individuals were analyzed, which were significantly heterogeneous (I2= 99.38). The prevalence of elder abuse was 55% (95% CI: 0.42-0.68). The subtype with the highest prevalence was emotional neglect (39%, 95% CI: 0.29-0.50), while the lowest prevalence was related to social rejection (15%, 95% CI: 0.11-0.19).

Conclusion: All types of elder abuse are highly prevalent in Iran. Therefore, it is crucial to develop evidence-based comprehensive plans to better identify, intervene, and prevent this issue.

Keywords: Elder abuse, Maltreatment, Prevalence, Meta-Analysis, Iran

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Introduction

The global population is aging due to considerable improvements in population control, health care access, and increasing life expectancy (1). Both the United Nations and the WHO estimate that by 2030, there will be an increase in the world's elderly population from 9% to 16% In the same manner, there will be an increase from 6.5% to 17% in Iran (2). To be more detailed, the number of older adults in Iran has experienced a 6-fold rise from less than 1.2 million in 1956 to more than 7.4 million in 2016 (2). This dramatic upsurge can lead to various physical, mental, and social issues; among the most important is elder abuse (3, 4). Elder abuse refers to any intentional or

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unintentional act, or lack of appropriate action by a caregiver that puts the elderly (above 60 years old) at the risk of injury, human rights violation, and reducing the quality of life. It includes physical, sexual, or psychological abuse; neglect; abandonment; or financial abuse (4). In recent years, health care professionals and communities have paid more attention to this severe and detrimental type of violence (5). Studies indicate that any level of abusive acts endangers the health, safety, confidence, and hope for the future among the elderly (5).

Despite WHO's call for the need to raise international awareness for identifying and preventing elder abuse, a small body of research has been done to collect systematic statistical data in developing countries, yet, ample evidence in these countries indicates that a large number of the elderly are victims of elder abuse (6). As in many other developing countries, no detailed nationwide report on the prevalence and determinants of different types of elder abuse is available in Iran. Therefore, concerning Iran's large elderly population and the prevalence of elder abuse compared to other countries in previous local studies, finding a solution to this problem is of utmost importance (7).

It can be due to the lack of systematic management that resulted in lack of accountability for this problem. There are no organizations directly responsible for taking care of the elderly in Iran. Instead, several organizations and ministries such as the Ministry of Health and Medical Education, Welfare Organization, and Pension Organization are all involved, without proper interconnection. This disorganization can disrupt providing services to this vulnerable community (8). Therefore, issues including investment in education, healthcare, and well-being of the elderly, which are critical components in the development index (9), require much more attention. Despite various estimates of the prevalence of elder abuse, studies suggest that this phenomenon is pervasive in all countries, including Iran, and will exacerbate when relationships with family and caregivers become more complicated (10).

Given the significance of the elderly as a vulnerable community and a lack of sufficient studies in Iran, this study aims to integrate related studies conducted in Iran to reach a general understanding of the prevalence of elder abuse.

Materials & Methods

This study is a systematic review and meta-analysis examining published research on the prevalence of elder abuse in Iran. This study conforms to the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) guidelines.

We searched the following databases from June1st to June 30th, 2021: Jihad Daneshgahi, Mental Health Research, IranMedex, Magiran, Noor, Humanities, Google Scholar, Scopus, PubMed, ProQuest, Web of Science, ScienceDirect, and some online-available dissertations. Keywords including "Elder Abuse" and "Elder Violence" were used. Also, we combined terms such as "Prevalence" and "Elder Abuse" with words such as "operator" to find more articles. Finally, words including "neglect", "physical", "financial", "material", "psychological" and "verbal" were searched to find more articles with similar terms including "abuse".

The inclusion criteria for the study were the following: Any study in Persian or English that consisted of quantitative data on the prevalence of violence in people aged 60 or above; studies that used the same definition for elder abuse and were conducted between 2010- 2020. The exclusion criteria consisted of qualitative studies that included no data on the prevalence of elder abuse.

Critical appraisals were performed by two researchers independently. The JBI checklist (for systematic review) was used (11). In more detail, we appraised the full text of the articles and scored them in terms of risk of bias. Articles

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that received scores higher than 20% of the minimum were considered as having a low risk of bias. Documents with a high risk of bias were excluded.

A checklist was prepared for data extraction. To prepare the checklist, a focus group consisting of a psychologist, a medical doctor, and a nurse was formed. The initial draft of the data collection table was prepared using bibliographic and methodological studies and similar studies conducted about elder abuse. Then, a pilot study using five random studies was conducted and each researcher filled out the checklist separately and independently. After making final corrections, the final checklist was used for data extraction. To reduce human error and measurement bias, data were extracted independently by two researchers at all stages. A third researcher checked the results, and in case of inconsistency between the first two forms, consensus on the final decision was reached by discussion. If necessary, the third researcher was consulted to make the final decision (Figure 1).

Data analysis was performed using V2.0, Biostat-(Comprehensive Meta-Analysis). The heterogeneity of the studies was examined using the I2 test. (The heterogeneities of the studies were divided into less than 25% (low heterogeneity), 25%–75% (moderate heterogeneity), and more than 75% (high heterogeneity)). Random effects modeling (DerSimonian and Laird method) was applied as well. Pooled estimates of prevalence and its 95% confidence interval were estimated (figure 2). Forrest plot was drawn. Although publication bias is not the case in descriptive meta-analysis, it was investigated by a funnel plot (Figure 3).

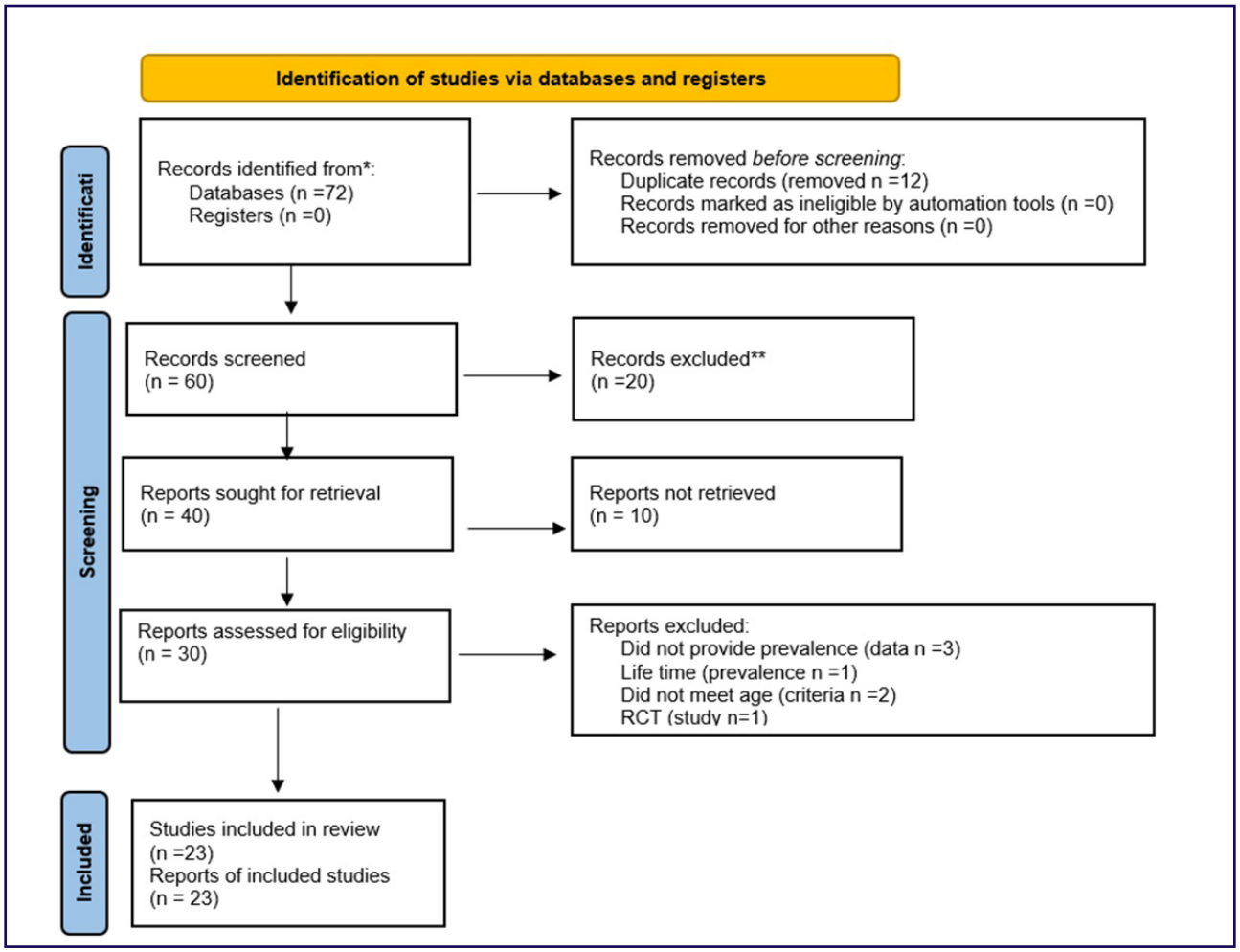


Figure 1. PRISMA flow diagram of study selection

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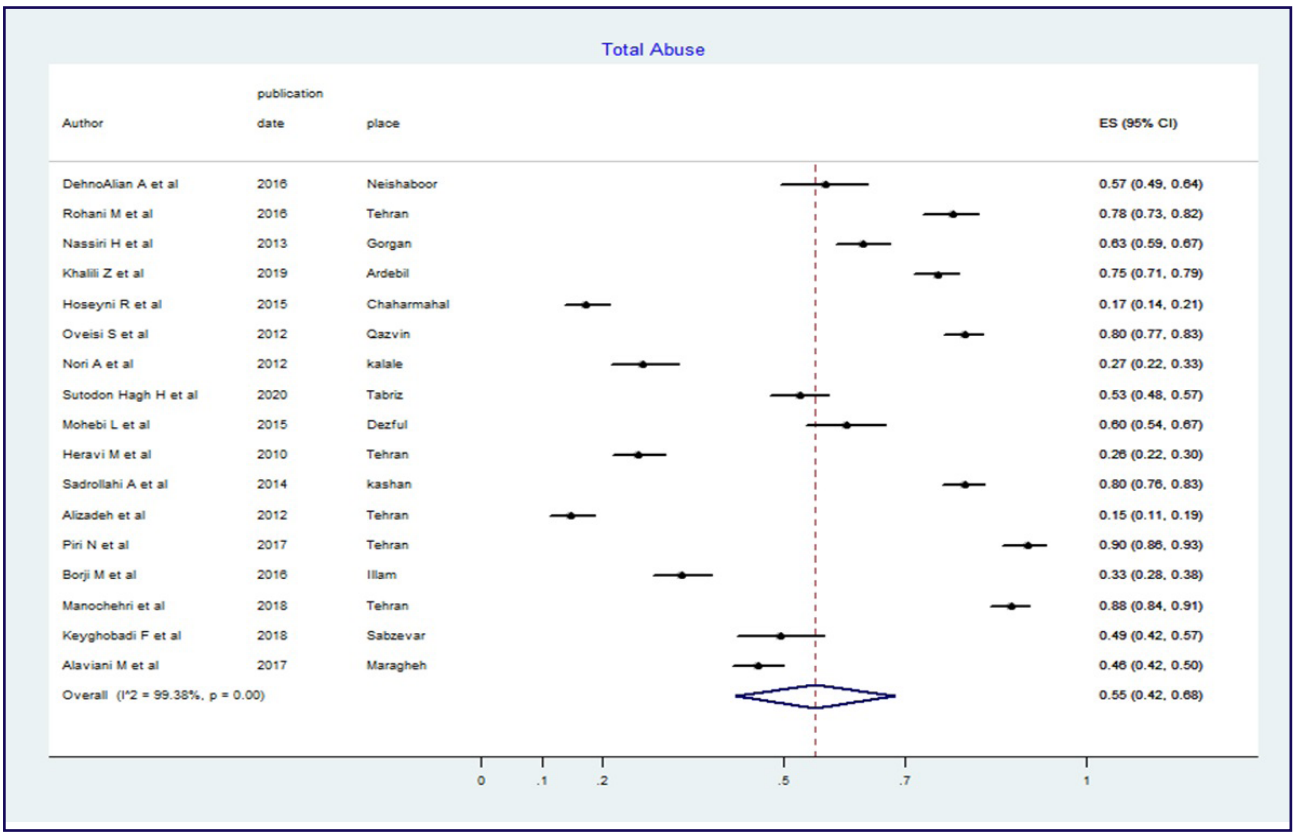


Figure 2. Individual and pooled estimates of elder abuse

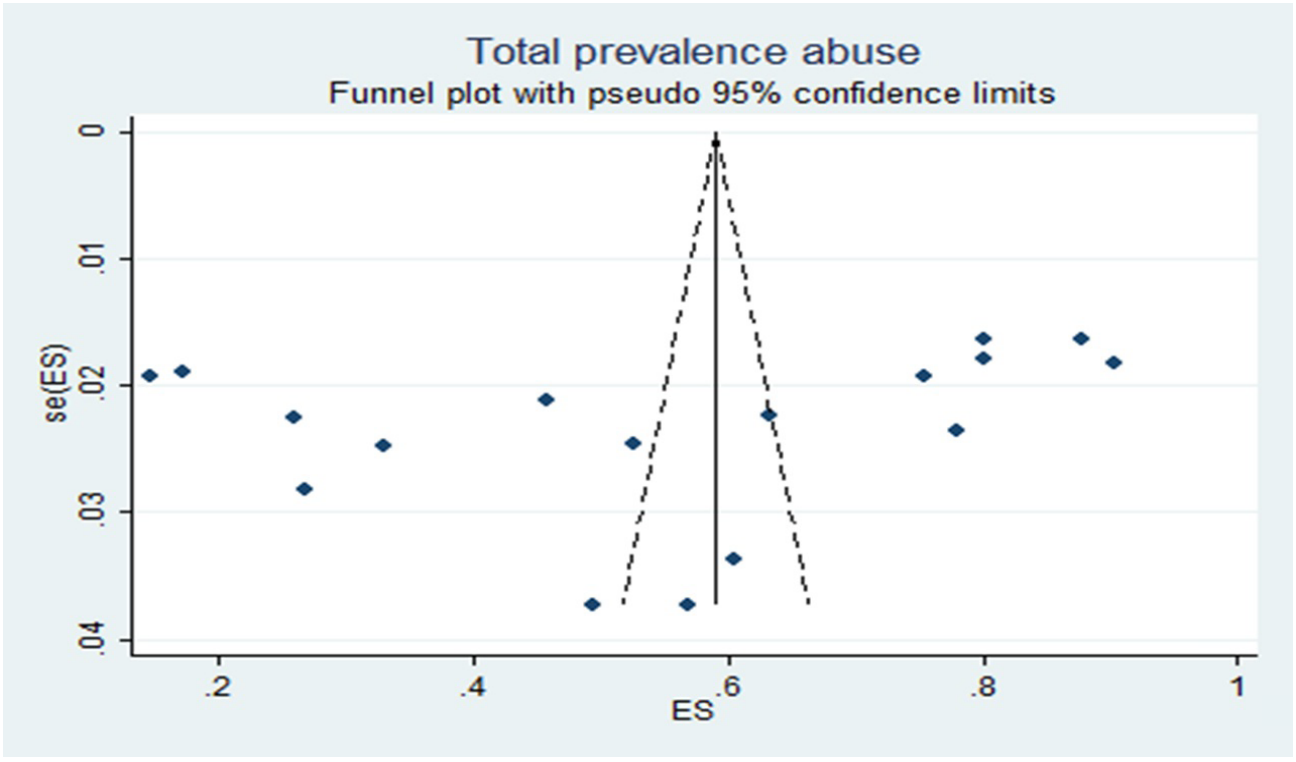


Figure 3. The association between the prevalence estimates and standard errors

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Results

After the initial search, 72 articles were found, of which 12 articles were duplicated. After reading the full text of articles another 20 were excluded based on inclusion and exclusion criteria. Full texts of 10 studies could not be retrieved. Also, 7 studies were found inelligible by reading the full text. Finally, twenty-three studies were analyzed. The total number of participants in all studies was 6,296 from both genders. The details of the studies are represented in tables 1 and 2, respectively (Table1, 2). The data collection method in studies was by in-person questionnaire administration (Table 2), which was similar in all studies. The highest prevalence of elder abuse in studies was 87.8% among the general population aged over 60 in Tehran, and the lowest prevalence was reported in the study of Hosseini et al. in Shahrekord, which was 17.1% (Table 1).

A brief overview of the studies indicates that the most common type of elder abuse is emotional neglect, ranging between 7- 71.3% among different studies. The prevalence of other types of elder abuse has also been reported; which had the following ranges: Physical abuse (1%- 64.9%), financial abuse (3-55%), psychological abuse (3-100%), authority deprivation (1.2 – 68.5%), sexual abuse (1- 3.2%), rejection (2.8 – 42.8%), emotional neglect (8 – 74.45%), financial neglect (7 – 71.3%), and finally care neglect (2.4 – 62.9%), as shown in Table 1.

The estimated heterogeneity among studies meta-analyzed for elder abuse prevalence estimation and its dimensions was the following: I2= 99.38 for the total prevalence of elder abuse; the calculated I2 for physical, financial, psychological abuse, authority deprivation, rejection, financial, emotional, and care neglect was 98.64, 99.01, 98.59, 95.64, 98.27, 99.22, 98.29 and 98.77 respectively (Tables 3, 4).

Using the random model, the overall prevalence of elder abuse is 55% (95%CI: 0.42-0.68). After implementing meta-regression, the effect of the human development index on total prevalence was insignificant (P-value = 0.211) (Table 3). the highest prevalence among subtypes was related to emotional neglect (39%, 95%CI: 29-50). Then, psychological abuse had second place with 37% (95%CI: 26-48) (Table 4). The prevalence of other subtypes is shown in Table 4.

Table 1. Characteristics of the studies on the prevalence of elder abuse

Num	Author &Year of Publication	Place	Sample Size	Physical Abuse (%)	Financial Abuse (%)	Psychological Abuse (%)	Authority Deprivation (%)	sexual abuse (%)	Rejection (%)	Neglect (%)			Total (%)
1	Atefeh Dehnou Alian (21) 2018	Neyshabour	176	8	7.4	47.7	19.9	-	2.8	13.1	8	35.8	56.8
2	Ali Akbari (36) 2020	Rafsanjan	137	2	55	10	29	-	40	7	35	21	-
3	Marzieh Rouhani (37) 2019	Tehran	312	16.3	43.6	56.4	45.2	3.2	9.3	34.6	50.3	58.3	77.9
4	Hosein Nasiri (22) 2016	Gorgan & Agh Ghala	465	8	39.1	53.3	34	-	8.2	34	43	59.8	63.3
5	Marzieh Esmat Satlou (38) 2015	Tehran	65	1.2	5.9	14.1	1.2	-	3.5	5.9	-	2.4	-
6	Arash Ghodousi (39) 2014	Meybod	200	11.18	5.08	9.68	-	-	-	-	21.17	21.14	-

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7	Vida Rahimi (40) 2016	Abadan	251	28.3	37.4	40.6	49	-	25.9	37	36.3	62.9	-
8	Zahra Khalili (41) 2018	Ardabil	500	12.4	35.2	47.2	36.8	-	15.4	20.6	47.2	26	75.4
9	Majideh Heravi (43) 2012	Tehran	360	23.34	35	62.22	43.33	-	13.34	32.22	74.45	57.78	-
10	Razie Hosieni (27) 2016	Cahahrmahal & Bakhtiari	400	35.9	14.3	31.9	-	-	23.3		14.6		17.14
11	Sonia Oveisi (43) 2012	Ghazvin	600	1	41	100	-	1	-		66		80
12	Noori et.al (26) 2015	Kalaleh	247	2.8	29.1	26.7	22.3	-	12.6	29.1	34.8	33.6	26.7
13	Habibeh Sotudan Hagh (28) 2020	Tabriz	414	-	17.6	-	-	-	-	-	26.6	-	52.6
14	Mohebi et.al (24) 2015	Dezful	210	14.3	14.3	12.4	15.3	-	12.9	-	38.5	7.3	60.5
15	Heravi et.al (44) 2013	Tehran	379	4.7	9.8	17.2	10	-	3.7	14.8	17.4	14.8	25.9
16	Khalili (23) 2014	Kashan	500	22.2	37.8	45	41.2	-	16.6	35.6	29	35.6	80
17	Mahtab Alizadeh Khooy (45) 2012	Tehran	340	10.3	3	3	-	-	-		9		14.7
18	NegarPiri (25) 2017	Tehran	260	13.8	35.4	63.5	68.5	-	11.2	33.5	45	38.5	90.4
19	Borji & Asadollahi (29) 2016	Ilam	360	11.3	10.5	33.2	23	-	21.4	71.3	37.2	55.8	33
20	Manoochehri (8) 2018	Tehran	400	35.2	40.1	-	-	-	-	-	84.8	-	87.8
21	Keyghobadi et.al 2014 (46)	Sabzevar	180	44.5	48.5	47.3	45.4	-	42.8	44.8	69	52	49.3
22	Kashfi (47) 2017	Shiraz	226	7	23	41.2	20.8	-	4	28.8	43.8	31.9	-
23	Mehri Alavian (48) 2017	Maragheh	555	64.9	29.7	76.3	-	-	16.8		42		45.8

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Table 2. Methodological Classification of the studies

Number	Author	Research Methodology	Sample Size	Study Population-Place	Sampling Method	Data Collection Method
1	Atefeh Dehnou Alian (21)	Descriptive/Cross-sectional	176	Elderly Health Centers-Neyshaour	Cluster	Questionnaire
2	Ali Akbari (36)	Descriptive/Cross-sectional	200	Elderly Health Centers-Rafsanjan	Cluster	Questionnaire
3	Marzieh Rouhani (37)	Descriptive/Cross-sectional	312	Elderly Health Centers-West of Tehran	Simple Random	Questionnaire
4	Hosein Nasiri (22)	Descriptive/Cross-sectional	465	Elderly Health Centers-Gorgan & Agh Ghala	Systematic Random	Questionnaire
5	Marzieh Esmat Satlou (38)	Descriptive/Cross-sectional	65	Elderly in daily rehabilitation center- Kahrizak, Mohammadshahr	Systematic Random	Questionnaire
6	Arash Ghodousi (39)	Descriptive/Cross-sectional	200	Hospitalized Elderly in Meybod	Non-Random	Questionnaire
7	Vida Rahimi (40)	Descriptive/Cross-sectional	251	Hospitalized elderly in Abadan	Convenience	Questionnaire
8	Zahra Khalili (41)	Descriptive/Cross-sectional	500	Elderly Health Centers-Ardabil	Quota Sampling	Questionnaire
9	Majideh Heravi (42)	Descriptive/Cross-sectional	361	Elderly, Jahandidegan Centers	Simple Random	Questionnaire
10	Razie Hosieni (27)	Descriptive/Cross-sectional	400	Elderly, Chahar Mahal & Bakhtiari	Simple Random	Questionnaire
11	Sonia Oveis (43)	Descriptive/Cross-sectional	600	Elderly Health Centers-Ghazvin	Simple Random	Questionnaire
12	Noori et.al (26)	Descriptive/Cross-sectional	247	The elderly, Kalaleh	Simple Random	Questionnaire
13	Habibeh Sotudan Hagh (28)	Descriptive/Cross-sectional	414	Elderly Health Centers-Tabriz	Two-stage cluster	Questionnaire
14	Mohebi et.al (24)	Descriptive/Cross-sectional	210	Elderly Health Centers-Ahvaz	Simple Random	Questionnaire
15	Heravi et.al (44)	Descriptive/Cross-sectional	379	Elderly Health Centers-Tehran	Simple Random	Questionnaire
16	Khalili (23)	Descriptive/Cross-sectional	500	Elderly Health Centers-Kashan	Simple Random	Questionnaire
17	Mahtab Alizadeh Khooy (45)	Descriptive/Cross-sectional	340	Elderly Health Centers-Tehran	Simple Random	Questionnaire

18	Negar Piri (25)	Descriptive/Cross-sectional	260	Elderly Health Centers-Shahid Beheshti University	Cluster	Questionnaire
19	Borji & Asadollahi (29)	Descriptive/Cross-sectional	360	Elderly Health Centers-Ilam	Simple Random	Questionnaire
20	Manoochehri (8)	Descriptive/Cross-sectional	400	Elderly Health Centers-Tehran	Simple Random	Questionnaire
21	Keyghobadi et.al (46)	Descriptive/Cross-sectional	180	Elderly Health Centers-Sabzevar	Simple Random	Questionnaire
22	Kashfi (47)	Descriptive/Cross-sectional	226	Elderly Health Centers-Shiraz	Cluster Random	Questionnaire
23	Mehri Alavian (48)	Descriptive/Cross-sectional	555	Elderly Health Centers-Maragheh	Cluster Random	Questionnaire

Table 3. Data of the analysis of the selected studies in meta-analysis of the prevalence of elder abuse in Iran

95% CI	p-value	Standard Error	Coef.	Factor
((-1.33)-(5.55))	0.21	1.61	2.11	HDI

Table 4. Meta-analysis results, Prevalence of different types of abuse

Abuse prevalence	Number of studies	Sample size	Pooled Estimate	95% CI		I Square (%)	P-value$
				Lower	Upper		
Physical	22	7123	0.17	0.12	0.22	98.77	<0.001
Financial	23	7537	0.27	0.20	0.33	98.29	<0.001
Psychological	21	6723	0.37	0.26	0.48	99.22	<0.001

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Authority Deprivation	16	4628	0.32	0.23	0.40	98.27	<0.001
Rejection	18	5583	0.15	0.11	0.19	95.64	<0.001
Financial neglect	19	6313	0.30	0.22	0.39	98.59	<0.001
Emotional neglect	19	5917	0.39	0.29	0.50	99.01	<0.001
Care neglect	18	5168	0.35	0.25	0.44	98.64	<0.001
Total	17	6298	0.55	0.42	0.68	99.38	<0.001

$ P-value for heterogeneity test, level of significance

Discussion

Twenty-three studies conducted between 2010-2020 were analyzed to estimate the prevalence of elder abuse in Iran. The study's findings demonstrated that the overall estimate of the prevalence of elder abuse in Iran is 55% (95%CI: 0.42-0.68%). In comparison with results from other countries, including Canada (15.7%) (12), the United States (14%) (13), Denmark (32%) (14), Brazil (5.7%) (15), Spain (44.6%) (16), Russia (28.6%) (17), South Africa (30- 43.7%) (18, 19), China, Ireland, and India (20), our study indicated a higher prevalence of elder abuse. Also, in the study of the prevalence of elder abuse in 28 countries, the results indicated an average prevalence of 14.1%, which is highly different from our estimated prevalence and could be attributed to the vast differences of the studied countries in terms of developmental, and social and economic status with Iran (12). This high prevalence of elder abuse in Iran compared with other countries may indicate that this issue has not been managed properly by responsible bodies.

In comparison with other studies conducted in Iran, the estimated prevalence was higher in the following studies: Dehnou Alian et al. in the study on Neyshabour's elderly population (56.8%) (21), Nasiri et al. in population over 60 years old in Gorgan (63.3%) (22), Khalili et al. Kashan's elderly (80%) (23), Mohebbi et al. 2015 study in Dezfoul (60.5%) (24), Piri et al. in the elderly population of Tehran (90.4%) (25). In addition, the results of this study demonstrated a higher prevalence of abuse compared with the following studies: Nouri et al. study on Kalaleh elderly (26.7%) (26), (26.7%), Hosseini et al. on Chaharmahal & Bakhtiari elderly (17.14%) (27), Sutodan Hagh et al. in Tabriz (52.6%) (28) and Borji et al. on over 60 population of Ilam (33%) (29). Despite using the same definition and mostly even the same questionnaires, this discrepancy could be due to the small sample size of most studies and the effect of subcultures and attitudes toward elder abuse in different parts of Iran (30). In many societies, beliefs such as secrecy, the discretion of speech, and fear of disclosure of harassment can impede

help-seeking among the victims (31).

The most common type of elder abuse in Iran was emotional neglect. In the meta-analysis done by Ho, C.S, et al., 2017, emotional neglect also had the highest prevalence of other abuse types (32%, 95%CI:18.1- 51.5) (32). In our study, more than one-third of the elderly had experienced psychological abuse. Similar to this type, in the study of Peshesvka et al., in Denmark, the elderly experienced psychological abuse at a lower rate, which almost included 25% of the participants (14). In addition, more than 25% of the population has reported financial abuse, which is almost close to the systematic review and meta-analysis of Zoozani et al. (27.4%, 95%CI: 18.8-36.0) (33). Finally, the prevalence of rejection and abandonment in our study was 15% and 32%, respectively; which did not have much difference compared to other systematic reviews and meta-analyses done in Iran (30, 34, 35).

Conclusion

The prevalence of elder abuse and its different types in Iran is considered high. Accordingly, this issue requires immediate and comprehensive action by all related sectors of society. Health authorities need to plan more efficiently for raising awareness and tackling the stigma toward elder abuse by implementing effective population-based programs and policies. Most of the included articles in this study used the same definition of elder abuse and its subtypes. The sampling was carried out randomly among most studies. Accordingly, it seems that the observed differences in the prevalence of elder abuse among studies are not biased. Our study suffered limitations, such as the insufficient number of high-quality articles on elder abuse in all cities and districts. Also, not all types of elder abuse were evaluated separately in all studies.

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Conflict of interest

The authors declare that they have no competing interests

Ethics approval and consent to participate

This study using human data was conducted in accordance with the Declaration of Helsinki. In addition, it was approved by the Research Committee of Jahrom Branch of Islamic Azad University.

Availability of Data and Materials

The dataset supporting the conclusions of this article is available in the Harvard Dataverse repository, https://doi.org/10.7910/DVN/4I1U3D, reference number: UNF:6:34+YA3edbK4s5bEXC8fWDA==

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Authors' contributions

TD developed the main idea, conducted the preliminary search, prepared the data extraction checklist (check the main text for more details), checked the results of data extraction and revised the initial and final draft. AF conducted the search, extracted data from articles, conducted critical appraisal of articles and was a major contributor in writing the manuscript. AB conducted the search, extracted data from articles, conducted critical appraisal of articles and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

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