ELDER ABUSE WITHIN THE FAMILY ENVIRONMENT: A SYSTEMATIC REVIEW

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ABSTRACT

Background: Fundamental freedoms and human rights should be inviolable throughout life, without prejudice, ensuring the individual's highest possible level of physical and mental health. However, mistreatment of the elderly remains a major public health problem in today's society. The main objective of this systematic review was to identify the variables that influence elder abuse. The secondary objectives were to identify the demographic characteristics of caregivers of older adults who reside in their homes; determine whether there was a kinship relationship between caregivers and older adults; identify the degree of functional dependence of older adults; and determine the prevailing types of abuse in the home environment.

Methods: We conducted a literature search according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses standards on December 26 and 27, 2019 in the SCIELO, CUIDEN, CINAHL, PubMed and Google Scholar databases. The search process was conducted by two independent reviewers using the same methodology, and their discrepancies were resolved by consensus.

Results: A total of 46 cross-sectional studies and one case-control study were selected. The cross-sectional articles showed poor and fair methodological quality, whereas the case-control study presented good methodological quality. Limited evidence suggests that being abused is more often associated with being female, having a lower income, having cognitive or functional impairment, having mood disorders and having a first-degree relationship with the abuser. The qualitative analysis also showed conflicting evidence regarding the victims' educational level.

Conclusions: The results of this systematic review show that there are numerous risk factors that increase the prevalence of abuse. Further research and review studies are needed in this area.

Keywords: Abuse; Elderly; Family; Neglect; Substance-related disorder.

INTRODUCTION

In recent decades, there has been an increase in longevity as a result of medical advances and better control of age-related morbidity and mortality. With a longer life expectancy, it is foreseeable that improved health care for the elderly population will lead to better health quality and functional capacity. This is not always the case, however, and this heterogeneous and vulnerable group often has very diverse care needs due to fragility, lack of autonomy and impaired capacity, leaving them at risk of mistreatment, abuse, and neglect (Segura, 2016). We lack a valid consensus definition as to what constitutes violence, mistreatment, and abuse toward the elderly, despite the existence of several psychological, sociological and ecological models focused on abuse (Tortosa, 2004). An individual's vulnerability in their own environment will determine their behavior and state of well-being. Symbiotically, an individual's habitual physical and social environments will also condition (positively or negatively) the state of their psycho-physical health throughout life (Beard et al., 2015). At any stage of life, an individual's fundamental freedoms and human rights must remain inviolable, without prejudice from external causes, either by a single or repeated act that might cause them harm, damage or suffering, or by the absence of an appropriate response to their injury (Organización Panamericana de la Salud, 2008; OMS, 2018).

Mistreatment of the elderly constitutes a major public health problem in today's society, entailing serious socioeconomic consequences and grave repercussions for mental and physical health (Beard et al., 2015; Naciones Unidas, 2020). Given that mistreatment is a more subtle type of violence, it can often remain hidden. It is estimated that 1 in 6 older adults have experienced some type of abuse in the past year (Nyamwanza, 2014), and yet only 20% of cases of elder abuse are considered to be reported. Studies analyzing the "suspicion of unconfirmed abuse" have indicated a 12% prevalence of such abuse in this age group (Generalitat de Catalunya, 2007).

For events to be classified as abuse, they must occur within the framework of an interpersonal relationship in which there is an expectation of trust, care, cohabitation or dependence, and the aggressor can be a family member, institutional staff (from the health field or social services), a hired caregiver, a neighbor, or even a friend (Marmolejo, 2008).

Elder abuse by family members dates back to antiquity, when abuse was considered a private matter not to be made public. Since the end of the 16th century, acts of family violence in Spain could be dealt with before the Seigniorial Courts of Justice. However, few texts with complaints about this type of event have been preserved. These texts describe vulnerable victims marked by feelings of shame, fear, guilt, concealment and resignation in the face of abuse (González, 2006). Centuries later, the devastating cognitive-behavioral impact of ongoing domestic abuse results in victims who manifest learned disability, helplessness, or hopelessness (Quirós, 2003). Although the mistreatment of older adults was first identified in developed countries, it was not until the 1970s that the term "elder abuse" was coined and when most of the existing research began (Bazo, 2001). Anecdotal facts and data from developing countries have shown that abuse is a universal phenomenon (Krug et al., 2003).

In 2019, 19.3% of the Spanish population were aged 65 years or older (9,057,193 million people) (Pérez-Díaz et al., 2020). The number of cases related to abuse in the geriatric population has increased due to the aging of population, greater control over diseases, and various socio-cultural changes (Krug et al., 2003). However, only one out of every 24 cases of abuse is reported, according to the World Health Organization. It can therefore be deduced that elder abuse is still a private matter in many countries (OMS, 2020).

Elder abuse can be committed either by action or omission and can be intentional or unintentional. In all kinds of mistreatment against the elderly, older adults are unquestionably the victims of unnecessary suffering, injury or pain, loss or violation of their human rights, and deterioration of their quality of life (Saavedra et al., 2020). Changes in family relational models and social values and the development of resources aimed at protecting this age group have contributed to raising the awareness of the social conscience, although it is still insufficient (Estrada,

2008). Guidelines, reports and statements from expert committees dealing with elder abuse emphasize the lack of the following: legal frameworks for the defense of older adults; the early diagnosis of physical, psychological, behavioral and economic indicators and neglect, cruelty and discrimination; specific social education; and the need for greater multisectoral participation (OMS, 2002; Moya-Bernal and Barbero-Gutiérrez, 2005; Marmolejo, 2008). To eradicate this crisis in public health, up-to-date knowledge on the real scope of abuse and its various types is essential, especially in parts of the world where data are scarce, such as South-East Asia, the Middle East and Africa (Krug et al., 2003; Moher et al., 2009).

The main objective of this systematic review was to identify the variables that influence elder abuse. The secondary objectives were to identify the demographic characteristics of the caregivers of older adults who reside in their homes; determine if there is a kinship relationship between caregivers and older adults; identify the degree of functional dependence of older adults; and determine the prevailing types of abuse in the home environment.

METHODS

Study design

The present systematic review of observational studies (cross-sectional and case-control designs) was conducted following a protocol divided into four phases and based on the standards of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (Moher et al., 2009).

Study inclusion criteria

The studies included in this systematic review met the following criteria: cross-sectional design, either cohort or case-control studies; analyzed abuse or mistreatment within the family environment; study population over 60 years of age; and published since 2000.

Search strategy

The following databases were employed for the systematic search of observational articles: SciELO (December 26, 2019), CINAHL (December 26, 2019),

CUIDEN (December 26, 2019), Cochrane (December 26, 2019), PubMed (December 27, 2019) and Google Scholar (December 26, 2019). The terms used for the search were derived from a combination of Medical Subject Headings (MeSH) terms ("aged", "family", "substance-related disorders") and non-MeSH terms ("elderly", "neglect", "abuse") through the use of different Boolean operators (AND/OR/NOT), as shown in **Appendix 1**. In the CUIDEN database, we employed the Spanish search terms for "mistreatment" and "elderly" ("maltrato", "anciano"). The time range (from 2000 to the present) and the removal of patents and citations were used as filters.

Selection criteria and data extraction

Two independent reviewers performed the first evaluation of the studies to assess their relevance to the present systematic review. The first analysis was performed using the information from each study's title, abstract, and keywords. If there was a lack of consensus or if the information provided by the abstract was insufficient, the full text was reviewed. During the second phase, the full texts were reviewed to verify that the selected studies met the inclusion criteria. A third reviewer acted as an expert mediator to reach a consensus when there were disagreements between the two reviewers. The data described in the results were extracted by means of a structured protocol that ensured the most relevant information from each study was obtained.

Methodological quality assessment

The methodological quality of the articles included in this review was assessed using the modified version of the Newcastle-Ottawa Quality Assessment Scale (NOS) (Deeks et al., 2003), which is an appropriate tool for assessing the quality of case-control, cohort and cross-sectional studies and has moderate inter-rater reliability (Hootman et al., 2011). The NOS assesses three criteria with a range of 0 to 4 stars: grade selection of participants; assessment of exposures, outcomes, and comparability; and control of confounding variables. The tallied stars provide four categories of study quality: poor, 0–3 stars; fair, 4–5 stars; good, 6–7 stars; and excellent, 8–9 stars (Wells et al., 2008). To analyze the methodological quality of

the cross-sectional studies, we employed the NOS modifications proposed by Fingleton et al. (Fingleton et al., 2015). The tallied stars provide 3 categories of study quality: poor, 0–1 out of 3; fair, 2 out of 3; and good, 3 out of 3.

Two independent reviewers examined the methodological quality of the selected studies using the same methods. Disagreements between the reviewers were resolved by a consensus that included mediation by a third expert reviewer. The inter-rater reliability was determined using the Kappa coefficient, in which $\kappa > 0.7$ indicated a high level of inter-rater agreement; $\kappa = 0.5–0.7$ indicated a moderate level of agreement; and $\kappa < 0.5$ indicated a low level of agreement (Cohen, 1960).

Qualitative analysis

For the qualitative analysis of the selected observational studies, we employed an adaptation of the classification criteria proposed by van Tulder et al. for randomized clinical trials (van Tulder et al., 2003). We categorized the results into five levels depending on the methodological quality: strong evidence, consistent among multiple high-quality case-control/cohort/cross-sectional studies (at least 3); moderate evidence, consistent findings from multiple low-quality case-control/cohort/cross-sectional studies and/or one high-quality case-control/cohort study; limited evidence, 1 low-quality case-control/cohort studies and/or at least 2 cross-sectional studies; conflicting evidence, inconsistent findings among multiple studies (case-control/cohort/cross-sectional studies); and no evidence, no case-control/cohort/cross-sectional studies reported.
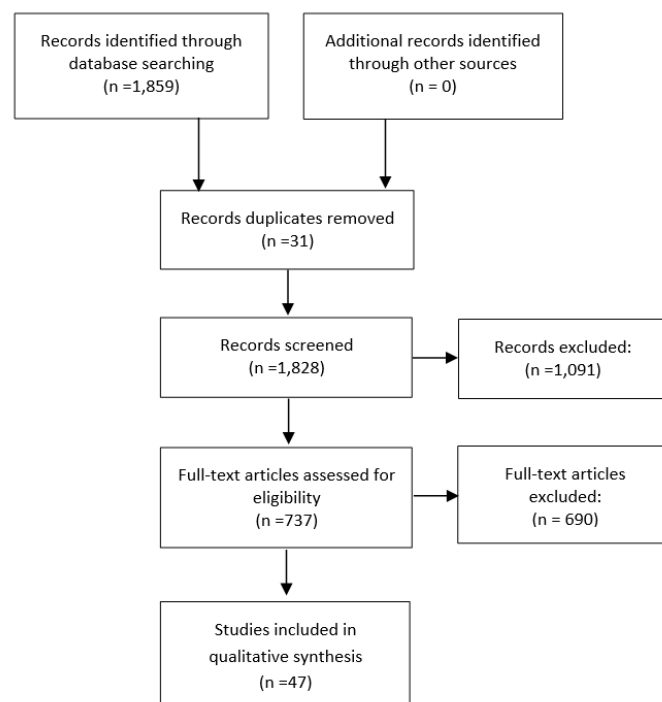
RESULTS

A total of 46 cross-sectional studies (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Zimmelová, 2004; Heath et al., 2005; Hernández-Ramírez, 2005; Daskalopoulos, 2006; Manthorpe et al., 2007; Sánchez-Salgado, 2007; Gaiolo and Rodrigues, 2008; Rinsky and Malley-Morrinson, 2008; Roberto et al., 2008; Biggs et al., 2009; Acierno et al., 2010; Rodrigues et al., 2010; Ghodousi et al., 2011; Kissal and Beşer, 2011; Lai, 2011; Shimbo et al., 2011; Amstadter et al., 2011; Abdel Rahman and El Gaafary, 2012; Almeida-da-Silva et al., 2012; Chan et al., 2013; Edirisinghe et al., 2014; Alizadeh-Khoei et al., 2014; Martins-Gil et al., 2014; Park, 2014; Reis et al., 2014; Skirbekk and James, 2014; Wilson et al., 2014; de Paiva and Tavares, 2015; Gil et al., 2015; Smith, 2015; Tareque et al., 2015; Carmona-Torres et al., 2015; Morowatisharifabad et al., 2016; Sepúlveda-Carrillo et al., 2016; Evandrou et al., 2017; Farid, 2017; Leung et al., 2017; Lino et al., 2017; Özcan et al., 2017; Silva et al., 2018; Breckman et al., 2018; Curcio et al., 2019; Kołodziejczak et al., 2019; Arruda et al., 2019) and one case-control study (Friedman et al., 2011) were selected in the first phase of the analysis **(Figure 1)**. In all articles, the following variables were analyzed: age (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Gaiolo and Rodrigues, 2008; Friedman et al., 2011; Ghodousi et al., 2011; Kissal and Beşer, 2011; Amstadter et al., 2011; Abdel Rahman and El Gaafary, 2012; Chan et al., 2013; Alizadeh-Khoei et al., 2014; Skirbekk and James, 2014; Edirisinghe et al., 2014; Gil et al., 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Morowatisharifabad et al., 2016; Sepúlveda-Carrillo et al., 2016; Leung et al., 2017; Silva et al., 2018; Breckman et al., 2018; Arruda et al., 2019; Curcio et al., 2019), sex (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Gaiolo and Rodrigues, 2008; Friedman et al., 2011; Ghodousi et al., 2011; Kissal and Beşer, 2011; Amstadter et al., 2011; Abdel Rahman and El Gaafary, 2012; Chan et al., 2013; Alizadeh-Khoei et al., 2014; Skirbekk and James, 2014; Edirisinghe et al., 2014; Gil et al., 2015; Tareque et al., 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Sepúlveda-Carrillo et al., 2016; Evandrou et al., 2017; Leung et al., 2017; Lino et al., 2017; Özcan et al., 2017; Silva et al., 2018; Breckman et al., 2018; Arruda et al., 2019; Curcio et al., 2019), marital status (Ruiz Sanmartín et al., 2001; Gaiolo and Rodrigues, 2008; Alizadeh-Khoei et al., 2014; Edirisinghe et al., 2014; Smith, 2015; Tareque et al., 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Gil et al., 2015; Sepúlveda-Carrillo et al., 2016; Morowatisharifabad et al., 2016; Leung et al., 2017; Silva et al., 2018; Breckman et al., 2018; Arruda et al., 2019), educational level (Ruiz Sanmartín et al., 2001; Ghodousi et al., 2011; Kissal and Beşer, 2011; Alizadeh-Khoei et al., 2014; Edirisinghe et al.,

2014; Tareque et al., 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Gil et al., 2015; Morowatisharifabad et al., 2016; Sepúlveda-Carrillo et al., 2016; Leung et al., 2017; Breckman et al., 2018; Arruda et al., 2019), cohabitation (Ruiz Sanmartín et al., 2001; Amstadter et al., 2011; Kissal and Beşer, 2011; Abdel Rahman and El Gaafary, 2012; Alizadeh-Khoei et al., 2014; Edirisinghe et al., 2014; Skirbekk and James, 2014; Özcan et al., 2017; Arruda et al., 2019), family relationship between victim and aggressor (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Zimmelová, 2004; Sánchez-Salgado, 2007; Gaiolo and Rodrigues, 2008; Friedman et al., 2011; Lai, 2011; Abdel Rahman and El Gaafary, 2012; Gil et al., 2015; Smith, 2015; Sepúlveda-Carrillo et al., 2016), existence of mood disorders (Heath et al., 2005; Lino et al., 2017; Breckman et al., 2018), cognitive impairment (Ruiz Sanmartín et al., 2001; Heath et al., 2005; Leung et al., 2017; Lino et al., 2017; Breckman et al., 2018), substance abuse (Friedman et al., 2011; Ghodousi et al., 2011; Lino et al., 2017), level of functional independence (Ruiz Sanmartín et al., 2001; Kissal and Beşer, 2011; Abdel Rahman and El Gaafary, 2012; de Paiva and Tavares, 2015; Breckman et al., 2018; Curcio et al., 2019), income level (Sánchez-Salgado, 2007; Ghodousi et al., 2011; Almeida-da-Silva et al., 2012; Alizadeh-Khoei et al., 2014; Gil et al., 2015; Tareque et al., 2015; Arruda et al., 2019), and type of abuse (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Zimmelová, 2004; Heath et al., 2005; Hernández-Ramírez, 2005; Daskalopoulos, 2006; Manthorpe et al., 2007; Sánchez-Salgado, 2007; Gaiolo and Rodrigues, 2008; Rinsky and Malley-Morrinson, 2008; Roberto et al., 2008; Biggs et al., 2009; Acierno et al., 2010; Rodrigues et al., 2010; Friedman et al., 2011; Ghodousi et al., 2011; Kissal and Beşer, 2011; Lai, 2011; Amstadter et al., 2011; Shimbo et al., 2011; Abdel Rahman and El Gaafary, 2012; Chan et al., 2013; Edirisinghe et al., 2014; Alizadeh-Khoei et al., 2014; Martins-Gil et al., 2014; Park, 2014; Reis et al., 2014; Skirbekk and James, 2014; Wilson et al., 2014; de Paiva and Tavares, 2015; Gil et al., 2015; Smith, 2015; Tareque et al., 2015; Carmona-Torres et al., 2015; Morowatisharifabad et al., 2016; Sepúlveda-Carrillo et al., 2016; Evandrou et al., 2017; Farid,

2017; Özcan et al., 2017; Silva et al., 2018; Kołodziejczak et al., 2019; Arruda et al., 2019; Curcio et al., 2019). **Table 1** lists each study's sample characteristics, inclusion criteria, outcome measures, assessment measures and conclusions.

Figure 1. Flow chart of the items selected with the PRISMA method.

Study population characteristics

All studies were conducted on geriatric populations. A total of 89,315 participants aged 60 years and over were evaluated, and the mean age was 71.4 years. In 21 studies, the sample consisted predominantly of women. Only in 1 study did the number of men exceed the number of women (Acierno et al., 2010).

Results of the methodological quality assessment

Of the 47 articles included in the present systematic review, 46 were cross-sectional and one was case-control, with 37 of the cross-sectional articles showing poor methodological quality (1/3 stars) (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Zimmelová, 2004; Hernández-Ramírez, 2005; Daskalopoulos, 2006; Rinsky and Malley-Morrinson, 2008; Roberto et al., 2008; Rodrigues et al., 2010; Ghodousi et al., 2011; Kissal and Beşer, 2011; Lai, 2011; Amstadter et al., 2011; Shimbo et al., 2011; Abdel Rahman and El Gaafary, 2012; Almeida-da-

Table 1. Characteristics of the Included Studies

Authors and Publication Year	Article Design	Sample Characteristics	Inclusion Criteria	Outcome Measures	Assessment Measures	Conclusions Regarding Outcome Measures
Ruiz Sanmartín et al., 2001	Cross-sectional	N = 219 (122 F/97 M)	Age ≥70 years, absence of cognitive impairment or sensory disturbances	Demographic variables (age, sex, marital status, educational level, occupation, cohabitation); type of abuse; independence in ADLs; victim-aggressor relationship	The Katz Index, interview	The prevalence of abuse was 11.9%. Abuse was more frequent in women. There were 6 cases of physical abuse, 20 of psychological abuse, 1 of sexual abuse, 3 of neglect and 3 of abandonment. The most frequent aggressors were the victim's children (57%), followed by sons-in-law or daughters-in-law (23%), and spouses (8%).
Kuniyoshi et al., 2003	Cross-sectional	N = 186		Demographic variables (age, sex, cohabitation); type of abuse; victim-aggressor relationship	Self-administered questionnaire	In 75% of abuse cases, the victim was a woman. The abuse was more frequent when the victims lived with their children. The most common type of abuse was neglect (60%), followed by psychological or emotional abuse (56%), and physical abuse (48%). The most frequent aggressors were partners (28%), daughters-in-law (25%) and children (20%).
Zimmelová, 2004	Cross-sectional	N = 1300	Age ≥ 60 years	Type of abuse; victim-aggressor relationship	Questionnaire	13% of the sample had experienced physical abuse, and 22% knew about some case of violence. Abuse was most prevalent when the caregiver was the victim's child.
Hernandez, 2005	Cross-sectional	N = 101		Type of abuse	Questionnaire	93% of the sample perceived abuse at some point; 50% of the sample believed that emotional abuse was the most frequent, followed by physical (16%) and financial (15%) abuse.
Heath et al., 2005	Cross-sectional	N = 211 (155 F/56 M) Mean age: 77 years	Age ≥65 years. Clients of adult protective services whose mistreatment was proven and who were perceived to have unmet health needs	Demographic variables (sex); cognitive impairment; depression	MMSE, GDS	Women were more likely to be abused than men. There was a high association between abuse and having dementia and depression.
Daskalopoulos, 2006	Cross-sectional	N = 60 (46 F/14 M)	Participants originally recruited for another study	Type of abuse	Questionnaire	The most common type of abuse was physical abuse, followed by psychological abuse and neglect. In English households, older adults often do not live with other family members, which makes the abuser less likely to be a relative.
Sánchez-Salgado, 2007	Cross-sectional	N = 255 (155 F/100 M)	Adults over 60 years of age from the Puerto Rico Protection Section	Income level; type of abuse; victim-aggressor relationship	Data collection form	The most frequent type of abuse was neglect, followed by emotional abuse, physical abuse, material or economic exploitation and sexual abuse; 14% of all cases of abuse were perpetrated by the victim's children. The most abused individuals had a low income.
Manthorpe et al., 2007	Cross-sectional	N = 2111	Age ≥66 years	Type of abuse; prevalence of abuse	Face-to-face interview	Some 2.5% experienced abuse or neglect. The most frequent type of abuse was neglect (1.1%), financial abuse (0.7%), psychological and physical abuse (0.4%) and sexual abuse (0.2%).
Roberto et al., 2008	Cross-sectional	N = 93 (F) Mean age: 78.5 years	Female gender; age ≥60 years. Clients of adult protective services whose mistreatment was proven	Type of abuse	Data collection form	Some 65% of the cases of abuse were perpetrated by a family member. Neglect was the most common type of abuse (44%), followed by financial abuse (14%) and physical abuse (12%).

Authors and Publication Year	Article Design	Sample Characteristics	Inclusion Criteria	Outcome Measures	Assessment Measures	Conclusions Regarding Outcome Measures
Gaiolo & Rodrigues, 2008	Cross-sectional	N = 175	Age ≥60 years	Demographic variables (age, sex, marital status); type of injury; victim-aggressor relationship	Arbitral award, compendium, ICD-10	The prevalence of abuse was higher in men (59%). In 69% of abuse cases, the victim's age was between 60 and 69 years. In most cases, the aggressor was a close relative. Injuries were more frequently located in the eye area and head. Physical abuse was the most frequent, followed by sexual and psychological abuse.
Rinsky & Malley-Morrinson, 2008	Cross-sectional	N = 21		Type of abuse	Questionnaire	The most common type of abuse was psychological abuse (39%), followed by physical abuse (31%) and neglect (29%). The small number of participants suggests that domestic violence is a private family matter in Russian society.
Wilson et al., 2014	Cross-sectional	N = 228	Individuals who spend at least a third of their routine activities in the direct provision of services to older adults	Type of abuse	Questionnaire	Some 45% of the sample reported having seen older adults abused by a relative; 28% of the sample experienced physical abuse.
Sepúlveda-Carrillo et al, 2016	Cross-sectional	N = 145 (110 F/35 M)	People who have filed a complaint of abuse	Demographic variables (age, sex, marital status, occupation, education level); type of abuse; victim-aggressor relationship	Questionnaire	The most common types of abuse were physical abuse (35%), psychological abuse (21%), financial abuse (9%) and neglect (3%). The most frequent aggressors were the victim's children (41%), spouse (34%), daughter-in-law (5%) and grandchildren (3%). The prevalence of abuse was higher in women than in men. Abuse was more frequent in the 60–74-year age range. Married people showed the highest prevalence of abuse. People who were in charge of housekeeping tasks were more prone to experiencing abuse.
Biggs et al., 2009	Cross-sectional	N = 2111	Age ≥66 years; living in their own home	Type of abuse	Interview	Some 2.6% of the sample reported having experienced some type of abuse by family members, caregivers or friends. The most common types of abuse were neglect (1.1%), financial abuse (0.6%), psychological abuse (0.4%), physical abuse (0.4%) and sexual abuse (0.2%).
Acierno et al., 2010	Cross-sectional	N = 5776 (2399 F/3477 M) Mean age: 71.5 years	Age ≥60 years; people with cognitive abilities who agree to participation	Type of abuse	Interview	Older adults experienced financial abuse (5.2%), emotional abuse (4.6%), physical abuse (1.6%) and sexual abuse (0.6%).
Rodrigues et al., 2010	Cross-sectional	N = 34	Age ≥60 years	Type of abuse	Semi-structured interview	Mistreatment ranged from physical violence (beating, hitting, kicking, etc.) to neglect, psychological abuse and financial abuse.
Friedman et al., 2011	Case-control	Experimental group N = 41 Mean age: 73.3 years Control group N = 123 Mean age: 73.9 years	Age ≥60 years; received treatment at a level 1 trauma center for a traumatic injury inflicted by a caregiver or another person in a trusting relationship	Demographic variables (age, sex, race and ethnicity); type and severity of injury; substance abuse (alcohol); fatality rate from injury; victim-aggressor relationship	ISS, NCODES, CAGE questionnaire, ICD-9-CM	Some 85% of aggressors were relatives, the most frequent being the victim's partner and children (32%). Men stood out as aggressors in 61% of cases. There were serious traumatic injuries in 41 cases. The most common types of injuries were open wounds (56%), internal injuries (24%) and fractures (24%).

Authors and Publication Year	Article Design	Sample Characteristics	Inclusion Criteria	Outcome Measures	Assessment Measures	Conclusions Regarding Outcome Measures
Kissal & Beşer, 2011	Cross-sectional	N = 331 (188 F/143 M) Mean age: 72.5 years	Age ≥65 years	Demographic variables (age, sex, educational level, cohabitation); type of abuse; independence in ADLs	Semi-structured questionnaire, the Katz Index	The most frequent types of abuse were psychological abuse (9%), neglect (8%), physical abuse (4%), financial abuse (2%) and sexual abuse (1%). Abuse was more frequent in women. A low educational level and living with a spouse or children influenced the frequency of abuse. Most of the sample was independent in ADLs.
Shimbo et al., 2011	Cross-sectional	N = 96 (82 F/14 M)	Workers of the Family Health Strategy with ≥6 months of experience in that institution	Type of abuse	Structured interview	Some 91% of the sample reported having experienced abuse by a relative. The most frequent types of abuse were neglect or abandonment (24%), physical abuse (9%) and sexual abuse (6%).
Lai, 2011	Cross-sectional	N = 2272 (1271 F/1001 M)	Age ≥55 years; Chinese origin	Type of abuse; victim-aggressor relationship	OARS Social Resource Scale, SF-36	Some 4.5% of the sample experienced some type of abuse in the last year. Verbal abuse was the most common type of abuse, and close family members were the most frequent abusers.
Amstadter et al., 2011	Cross-sectional	N = 902 (541 F/361 M) Mean age: 71 years	Age ≥60 years	Demographic variables (age, sex, cohabitation); type of abuse	SF-36	The most frequent types of abuse were emotional abuse (12%), financial abuse (5.6%) and sexual abuse (0.3%). The vast majority of those who experienced abuse reported not having significant social support. People who lived with relatives experienced more abuse than those who lived alone.
Ghodousi et al., 2011	Cross-sectional	N = 136 (68 victims of abuse, 68 aggressors)		Demographic variables (age, sex, educational level, job); income level; type of abuse; substance abuse (tobacco, drugs, alcohol)	Questionnaire	The prevalence of abuse was higher in women. People with a low level of education and income and those who were unemployed experienced the most abuse. The most frequent types of abuse were neglect (100%), physical abuse (100%) and sexual abuse (12%). Among the abusers, 35% smoked, 18% were drug addicts, 7% smoked and used drugs and 3% were alcoholics.
Abdel Rahman & El Gaafary, 2012	Cross-sectional	N = 1106 (588 F/518 M) Mean age: 68.2 years	Age ≥60 years; residents of Mansoura and Dakahlia (Egypt)	Demographic variables (age, sex, cohabitation); type of abuse; independence in ADLs; victim-aggressor relationship	GDS, the Katz Index, questionnaire, EAI	Some 44% of the sample experienced some type of abuse. The most common type of abuse was neglect, followed by physical abuse, psychological abuse and financial abuse. Women experienced more abuse than men. The abuse was perpetrated by daughters-in-law (70%), children (59%) and partners (28%). All of the participants experienced abuse when the caregiver was younger than 30 years. Some 25% of abuse victims needed assistance in ADLs, and 4.7% were dependent on ADLs.
Almeida-da-Silva et al., 2012		N = 1838		Income level; victim-aggressor relationship	Questionnaire	There was a higher prevalence of children who had abused their parents.
Chan et al., 2013		N = 15,797	People registered in the Hong Kong emergency department for having experienced abuse	Demographic variables (age, sex); type of abuse	Clinical report, self-report	Individuals aged 60–69 years experienced more abuse. There was a higher prevalence of abuse in women (71.6%) than in men. The most frequent type of abuse was physical abuse.
Park, 2014	Cross-sectional	N = 10 (5 F/5 M)	People who have experienced some type of abuse by family members	Type and consequences of abuse	Questionnaire, interview	Elder abuse is a traumatic life event that has a considerable psychological, physical and social impact on older adults. Participants claimed to have experienced episodes of financial abuse, emotional abuse and neglect.

Authors and Publication Year	Article Design	Sample Characteristics	Inclusion Criteria	Outcome Measures	Assessment Measures	Conclusions Regarding Outcome Measures
Alizadeh-Khoei et al., 2014	Cross-sectional	N = 300 (160 F/140 M)	Age ≥60 years	Demographic variables (age, sex, marital status, job, educational level, health status, cohabitation); income level	Face-to-face semi-structured interview, H-S/EAST	Elder mistreatment was reported by 15% of the sample. Educational level was a risk factor for experiencing abuse, especially physical and psychological abuse. Financial dependence on children was related to being neglected. The most prevalent types of abuse were physical abuse (10%), neglect (9%), psychological abuse (3%) and financial abuse (3%). Women stood out as victims of abuse. The prevalence of abuse was higher if victims lived with their children or spouses.
Martins-Gil et al., 2014	Cross-sectional	N = 1123 (633 F/490 M)	Age ≥60 years; people who had been living in private households in Portugal for ≥12 months	Type of abuse	Group interview, semi-structured interview	Physical abuse occurred in 6.3% of cases, psychological abuse in 6.1%, financial abuse in 5.1%, neglect in 0.4% and sexual abuse in 0.2%. In 12% of cases, close relatives were the aggressors.
Reis et al., 2014	Cross-sectional	N = 15 (11 F/4 M)	Age ≥60 years; cohabitation with family members; functional impaired capacity	Type of abuse	Semi-structured interview	Individuals reported having experienced physical abuse, neglect, psychological abuse and financial abuse.
Edirisinghe et al., 2014	Cross-sectional	N = 530 (348 F/182 M) Mean age: 68.5 years	Age ≥60 years; gave consent to participate; MMSE score >23	Demographic variables (age, sex, marital status, educational level, cohabitation); type of abuse	H-S/EAST, questionnaire	Some 45% of the sample reported having experienced some type of abuse. Physical abuse had a prevalence of 5.6%. Women were abused more often than men. Abuse was more frequent in people who had a high level of education and in those who lived with a relative.
Skirbekk & James, 2014	Cross-sectional	N = 9852	Age ≥60 years; people who live in one of 7 specified states in India	Demographic variables (age, sex, cohabitation); type of abuse	Questionnaire	Some 11% of the sample had experienced some type of abuse. The prevalence of abuse was higher in women than in men, except for physical abuse. Family members perpetrated 68.3% of financial abuse cases, 68% of verbal abuse cases and 66% of physical abuse cases.
Tareque et al., 2015	Cross-sectional	N = 896 (486 F/411 M) Mean age: 68 years	Age ≥60 years; people who live in Rajshahi (Bangladesh)	Demographic variables (sex, marital status, educational level); income level; type of abuse	Questionnaire	Some 34.6% of the sample experienced some type of abuse. Abuse was more prevalent in women, married people, and those with a low educational level. The most common type of abuse was neglect (32.5%), followed by emotional abuse (5.1%), physical abuse (1.9%) and financial abuse (0.7%). Middle-class households had 7-fold fewer cases of abuse than poorer households.
de Paiva & Tavares, 2015	Cross-sectional	N = 738		Demographic variables (age, sex, marital status, educational level); independence in basic and instrumental ADLs; type of abuse	Interview, the Katz Index, the Lawton Instrumental Activities of Daily Living Scale, CTS	The prevalence of physical and psychological abuse was 21%. The typical victim's profile was a 60–80-year-old woman who lived with her partner, had a low educational level and was dependent on instrumental ADLs.
Gil et al., 2015	Cross-sectional	N = 510 (388 F/122 M) Mean age: 70.7 years	Age ≥60 years; having lived in a private household in Portugal for ≥12 months	Demographic variables (age, sex, marital status, educational level); income level; type of abuse; victim-aggressor relationship	Questionnaire	The most frequent types of abuse were physical abuse (88%), psychological abuse (70%), financial abuse (47.5%), sexual abuse (7.5%) and neglect (6.5%). The most common aggressor was the spouse. The prevalence of abuse was higher in women aged 60–69 years, in married individuals and in those with a low educational and income level.

Authors and Publication Year	Article Design	Sample Characteristics	Inclusion Criteria	Outcome Measures	Assessment Measures	Conclusions Regarding Outcome Measures
Carmona-Torres et al., 2015	Cross-sectional	N = 210 (121 F/89 M) Mean age: 69.3 years	Age ≥60 years; people who attended the Santa Cruz de la Sierra health center (Bolivia) and had been living in the same cohabitation situation for 6 months or more.	Demographic variables (age, sex, marital status, educational level); type of abuse	EASI, the Social Work Evaluation form, the Family APGAR	Some 21% of the sample reported having experienced some type of abuse at home. The victim's children were the aggressors in 67% of the cases. The most frequent types of abuse were psychological abuse (32%), neglect (22%), physical abuse (7%) and financial abuse (6.7%). Abuse was more prevalent in women, widows and individuals with a low educational level.
Smith, 2015	Cross-sectional	N = 15 (F)	Female gender; age >62 years; individuals with at least 2 adult biological children	Victim-aggressor relationship	Interview	Some 46% of the sample had observed abuse toward older adults. The victim's children were the aggressors in 20% of the cases.
Morowatisharifabad et al., 2016	Cross-sectional	N = 250	Age ≥60 years	Demographic variables (sex, marital status, job, educational level); income level; type of abuse	Demographic questionnaire, questionnaire on abuse	Some 79.6% of the sample experienced at least 1 type of abuse. Emotional neglect was the most reported type of abuse, and physical abuse was the least reported. The prevalence of abuse was related to a low educational level.
Breckman et al., 2018	Cross-sectional	N = 1000 (499 F/501 M)	Adults with a family member, friend, or neighbor who has experienced elder mistreatment	Demographic variables (age, sex, marital status, job, educational level); mood disorder (anxiety)	Telephone interview, CNSS	Two-thirds of the abuse cases were related to a high level of caregiver anxiety. Being married and having a job carried a higher risk of experiencing abuse.
Lino et al., 2017	Cross-sectional	N = 270 (elderly individuals and their caregivers)	People with a caregiver and disability in ≥2 ADLs	Demographic variables (sex); independence in ADLs; cognitive impairment; mood disorder (depression); caregiver burden; substance abuse (alcohol)	Interview, the Katz Index, MMSE, CSDD, GDS, CAGE questionnaire, Medical Outcomes Study Social Support Scale, Caregiver Abuse Screen	Most of the sample had cognitive impairment, high levels of depression and moderate-high dependence on ADLs. Men were 3 times more likely to experience violence. Women predominated as caregivers, and 60% of caregivers reported having a moderate-severe burden. The aggressors' alcoholism rate was high.
Farid, 2017	Cross-sectional	N = 40	Age ≥60 years	Economic variables; type of abuse	Face-to-face interviews	All participants had experienced abuse. Neglect and psychological abuse were present in all cases. Physical and financial abuse occurred in people with disabilities and limited resources. The probability of abuse was higher in the individuals with socioeconomic difficulties.
Leung et al., 2017	Cross-sectional	N = 3435 (2082 F/1353 M) Mean age: 79.7 years	Age ≥60 years; applicants for long-term care services in Hong Kong who did not have prior/current long-term care support or a domestic helper	Demographic variables (age, sex, marital status, educational level); cognitive impairment	MDS-HC2.0, CPS	Abuse was more prevalent in married women. The most affected by abuse were those with a medium educational level.

Authors and Publication Year	Article Design	Sample Characteristics	Inclusion Criteria	Outcome Measures	Assessment Measures	Conclusions Regarding Outcome Measures
Özcan et al., 2017	Cross-sectional	N = 186 older adults (120 F/66 M) Mean age: 73.1; N = 136 caregivers (105 F/31 M) Mean age: 52.3	Age ≥65 years; mental capacity to understand and express opinions; no diagnosis of dementia or Alzheimer's disease; and a MMSE score ≥24. Caregivers: age ≥18 years; having cared for the older adult for ≤6 months; and being the primary caregiver	Demographic variables (sex, cohabitation); type of abuse	Questionnaire	Some 69% of the sample experienced some type of abuse from their caregiver; 75% of caregivers were family members. Living with a family member was considered a risk factor for abuse and mistreatment. The most frequent type of abuse was psychological abuse.
Evandrou et al., 2017	Cross-sectional	N = 9589	Age ≥60 years; residents of India	Demographic variables (sex); type of abuse	Interview, BKPAI, GHQ-12	Some 40.6% of the sample experienced emotional distress, which is a risk factor for experiencing abuse; 5% of the sample experienced physical abuse, emotional abuse or some type of violence in the past month. Women seemed to be more vulnerable to abusive behavior from a family member.
Silva et al., 2018	Cross-sectional	N = 389	Age ≥60 years	Demographic variables (age, sex, marital status); type of abuse	Computer script	Abuse was more prevalent in women (57.5%). The aggressors were men in 39.5% of cases and the victim's children in 43.6% of cases. The most frequent types of abuse were neglect (35%), psychological abuse (16%) and financial abuse (9%). The age range with the highest prevalence of abuse was 70–79 years (38%); 20% of married individuals experienced abuse.
Curcio et al., 2019	Cross-sectional	N = 23,694	Age ≥60 years; people who had experienced abuse in the past 3 months	Demographic variables (age, sex); independence in basic and instrumental ADLs; type of abuse	Questionnaire, Barthel's Index, the Lawton Instrumental Activities of Daily Living Scale	Abuse was more prevalent in women. The age range that experienced the most abuse was 60–69 years. The most frequent types of abuse were psychological abuse (13%), neglect (8.5%), physical abuse (2%), economic abuse (1.3%) and sexual abuse (0.2%). Of all the individuals who experienced abuse, 23% were dependent on basic ADLs and 34% were dependent on instrumental ADLs.
Arruda et al., 2019	Cross-sectional	N = 581	Age ≥60 years	Demographic variables (age, sex, marital status, educational level, cohabitation); income level; type of abuse	Interview, CTS	Abuse was more prevalent in women, individuals with a low income and educational level, and those who lived with their children. The most frequent types of abuse were physical (8%) and psychological abuse (2%). The age range that experienced the most abuse was 60–70 years.
Kołodziejczak et al., 2019	Cross-sectional	N = 137 (117 F/20 M) Mean age: 64.4 years	Age ≥60 years	Type of abuse	Interview	Some 40% of the sample reported having experienced violence from their family members; 36.5% experienced psychological violence, 22% experienced neglect, 9% were victims of economic violence and 5% of physical violence. Sexual abuse was the least frequently reported type of abuse.

ADLs, activities of daily living; BKPAI, Building Knowledge Base on Ageing in India; CNSS, Cornell National Social Survey; CPS, Cognitive Performance Scale; CSDD, Cornell Scale for Depression in Dementia; CTS, Conflict Tactics Scale; EAI, Elder Assessment Instrument; EASI, Elder Abuse Suspicion Index; GDS, Geriatric Depression Scale; GHQ-12, 12-Item Version of the General Health Questionnaire; H-S/EAST, Hwalek-Sengstock Elder Abuse Screening Test; ICD-9-CM, 9th revision of the International Classification of Diseases, Clinical Modification; ICD-10, 10th revision of the International Classification of Diseases; ISS, Injury Severity Score; MDS, Validated Hong Kong-Chinese Version of the Minimum Data Set–Home Care Version 2.0; MMSE, Mini-Mental State Examination; OARS Social Resource Scale, Older Americans Resources and Services Social Resource Scale; SF-36, The Short Form-36 Health Survey

Silva et al., 2012; Chan et al., 2013; Martins-Gil et al., 2014; Park, 2014; Reis et al., 2014; Skirbekk and James, 2014; Wilson et al., 2014; Edirisinghe et al., 2014; Gil et al., 2015; Smith, 2015; Tareque et al., 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Morowatisharifabad et al., 2016; Sepúlveda-Carrillo et al., 2016; Farid, 2017; Leung et al., 2017; Lino et al., 2017; Özcan et al., 2017; Silva et al., 2018; Kołodziejczak et al., 2019; Arruda et al., 2019; Curcio et al., 2019) and 9 showing fair methodological quality (2/3 stars) (Heath et al., 2005; Manthorpe et al., 2007; Sánchez-Salgado, 2007; Gaiolo and Rodrigues, 2008; Biggs et al., 2009; Acierno et al., 2010; Alizadeh-Khoei et al., 2014; Evandrou et al., 2017; Breckman et al., 2018). The case-control study had good methodological quality (6/9 stars) (Friedman et al., 2011). The intervention of a third evaluator was required to reach consensus on the quality of two articles (Gaiolo and Rodrigues, 2008; Friedman et al., 2011). The agreement between the two evaluators, according to the kappa coefficient, was high (κ= 0.757). **Tables 2 and 3** show the numerical results of the NOS scale.

Qualitative analysis

The following section presents the results of the qualitative analysis of the studies' results according to their level of evidence.

There is limited evidence showing that women are more frequently abused than men (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Gaiolo and Rodrigues, 2008; Friedman et al., 2011; Ghodousi et al., 2011; Kissal and Beşer, 2011; Amstadter et al., 2011; Abdel Rahman and El Gaafary, 2012; Chan et al., 2013; Alizadeh-Khoei et al., 2014; Skirbekk and James, 2014; Edirisinghe et al., 2014; Gil et al., 2015; Tareque et al., 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Sepúlveda-Carrillo et al., 2016; Evandrou et al., 2017; Leung et al., 2017; Lino et al., 2017; Özcan et al., 2017; Silva et al., 2018; Breckman et al., 2018; Arruda et al., 2019; Curcio et al., 2019). This variable was assessed using multiple tools: interviews (Ruiz Sanmartín et al., 2001; Alizadeh-Khoei et al., 2014; de Paiva and Tavares, 2015; Evandrou et al., 2017; Lino et al., 2017; Breckman et al., 2018; Arruda et al., 2019) [semi-structured (Alizadeh-Khoei et al., 2014) and by

telephone (Breckman et al., 2018)], questionnaires (Kuniyoshi et al., 2003; Amstadter et al., 2011; Friedman et al., 2011; Ghodousi et al., 2011; Kissal and Beşer, 2011; Abdel Rahman and El Gaafary, 2012; Skirbekk and James, 2014; Edirisinghe et al., 2014; Tareque et al., 2015; Carmona-Torres et al., 2015; Gil et al., 2015; Sepúlveda-Carrillo et al., 2016; Leung et al., 2017; Özcan et al., 2017; Curcio et al., 2019), an arbitral award (Gaiolo and Rodrigues, 2008), a clinical report/self-report (Chan et al., 2013) and a computer script (Silva et al., 2018).

There is conflicting evidence indicating that a low educational level is a risk factor for abuse (Shimbo et al., 2011; Abdel Rahman and El Gaafary, 2012; Martins-Gil et al., 2014; Skirbekk and James, 2014; Smith, 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Gil et al., 2015; Özcan et al., 2017; Breckman et al., 2018; Kołodziejczak et al., 2019), whether it is the educational level of the older adult or the caregiver. A number of studies did not link a low educational level with a greater probability of abuse (Kuniyoshi et al., 2003; Biggs et al., 2009; Lino et al., 2017). This variable was evaluated through interviews (Kuniyoshi et al., 2003; Friedman et al., 2011; Gil et al., 2015), a telephone interview (Lino et al., 2017), a semi-structured interview (Martins-Gil et al., 2014), questionnaires (Biggs et al., 2009; Shimbo et al., 2011; Abdel Rahman and El Gaafary, 2012; Skirbekk and James, 2014; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Smith, 2015; Özcan et al., 2017; Breckman et al., 2018) [demographic (Breckman et al., 2018)].

There is limited evidence that income level is related to abuse (Sánchez-Salgado, 2007; Ghodousi et al., 2011; Almeida-da-Silva et al., 2012; Alizadeh-Khoei et al., 2014; Gil et al., 2015; Tareque et al., 2015; Arruda et al., 2019). Specifically, a low socioeconomic status is related to a higher probability of abuse. This variable was evaluated through an interview (Arruda et al., 2019), a semi-structured interview (Alizadeh-Khoei et al., 2014), questionnaires (Ghodousi et al., 2011; Almeida-da-Silva et al., 2012; Gil et al., 2015; Tareque et al., 2015) and a data collection form (Sánchez-Salgado, 2007).

There is limited evidence that functional dependence might be related to the probability of experiencing some type of abuse (Ruiz Sanmartín et

Table 2. Quality appraisal of the cross-sectional studies.

Cross-sectional studies	S1: Representativeness of exposed cohort	S2: Selection of non-exposed cohort	S3: Ascertainment of exposure	S4: Outcome of interest not present at start	Ca: Study controls for age / sex	Cb: Study controls for additional factor	O1: Assessment of outcome	O2: Sufficiently long follow-up	O3: Adequate follow-up	Total	%
Ruiz Sanmartín et al., 2001		-	★	-	-	-		-		1/3	33%
Kuniyoshi et al., 2003		-	★	-	-	-		-		1/3	33%
Zimmelová, 2004		-	★	-	-	-		-		1/3	33%
Hernández, 2005		-	★	-	-	-		-		1/3	33%
Heath et al., 2005		-	★	-	-	-	★	-		2/3	66%
Daskalopoulos, 2006		-	★	-	-	-		-		1/3	33%
Sánchez-Salgado, 2007	★	-	★	-	-	-		-		2/3	66%
Manthorpe et al., 2007	★	-	★	-	-	-		-		2/3	66%
Roberto et al., 2008		-	★	-	-	-		-		1/3	33%
Gaiolo & Rodrigues, 2008		-	★	-	-	-	★	-		2/3	66%
Rinsky & Malley-Morrinson, 2008		-	★	-	-	-		-		1/3	33%
Wilson et al., 2014		-	★	-	-	-		-		1/3	33%
Sepúlveda-Carrillo et al., 2016		-	★	-	-	-		-		1/3	33%
Biggs et al., 2009	★	-	★	-	-	-		-		2/3	66%
Acierno et al., 2010	★	-	★	-	-	-		-		2/3	66%
Rodrigues et al., 2010		-	★	-	-	-		-		1/3	33%
Kissal & Beşer, 2011)		-	★	-	-	-		-		1/3	33%
Shimbo et al., 2011		-	★	-	-	-		-		1/3	33%
Lai, 2011		-	★	-	-	-		-		1/3	33%
Amstadter et al., 2011		-	★	-	-	-		-		1/3	33%
Ghodousi et al., 2011		-	★	-	-	-		-		1/3	33%
Abdel Rahman & El Gaafary, 2012		-	★	-	-	-		-		1/3	33%

Study				★		sel.	Score	%
Almeida-da-Silva et al., 2012	-	-	-	★	-		1/3	33%
Chan et al, 2013	-	-	-	★	-		1/3	33%
Park, 2014	-	-	-	★	-	★	1/3	33%
Alizadeh-Khoei et al, 2014	-	-	-	★	-		2/3	66%
Martins-Gil et al., 2014	-	-	-	★	-		1/3	33%
Reis et al., 2014	-	-	-	★	-		1/3	33%
Edirisinghe et al., 2014	-	-	-	★	-		1/3	33%
Skirbekk & James, 2014	-	-	-	★	-		1/3	33%
Tareque et al., 2015	-	-	-	★	-		1/3	33%
de Paiva & Tavares, 2015	-	-	-	★	-		1/3	33%
Gil et al., 2015	-	-	-	★	-		1/3	33%
Carmona-Torres et al., 2015	-	-	-	★	-		1/3	33%
Smith, 2015	-	-	-	★	-		1/3	33%
Morowatisharifabad et al., 2016	-	-	-	★	-		1/3	33%
Breckman et al., 2018	-	-	-	★	-	★	2/3	66%
Lino et al., 2017	-	-	-	★	-		1/3	33%
Farid, 2017	-	-	-	★	-		1/3	33%
Leung et al., 2017	-	-	-	★	-		1/3	33%
Özcan et al., 2017	-	-	-	★	-		1/3	33%
Evandrou et al., 2017	-	-	-	★	-	★	2/3	66%
Silva et al., 2018	-	-	-	★	-		1/3	33%
Curcio et al., 2019	-	-	-	★	-		1/3	33%
Arruda et al., 2019	-	-	-	★	-		1/3	33%
Kołodziejczak et al., 2019	-	-	-	★	-		1/3	33%

S, selection; C, comparability; O, outcome.

el Gaafary, 2012; de Paiva and Tavares, 2015; Lino et al., 2017; Curcio et al., 2019). Functional independence was assessed using the Katz Index (Ruiz Sanmartín et al., 2001; Kissal and Beşer, 2011; Abdel Rahman and El Gaafary, 2012; de Paiva and Tavares, 2015; Lino et al., 2017), the Barthel Index (Curcio et al., 2019) and the Lawton Instrumental Activities of Daily Living Scale (de Paiva and Tavares, 2015; Curcio et al., 2019).

There is limited evidence that the presence of cognitive impairment in older adults is related to abuse (Heath et al., 2005; Leung et al., 2017; Lino et al., 2017). This variable was assessed using the Mini-Mental State Examination scale (Heath et al., 2005; Lino et al., 2017) and the Cognitive Performance Scale (Leung et al., 2017).

There is limited evidence showing that in most cases of abuse there is a first-degree relationship (spouse, children) between the victim and the abuser (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Zimmelová, 2004; Sánchez-Salgado, 2007; Gaiolo and Rodrigues, 2008; Friedman et al., 2011; Lai, 2011; Gil et al., 2015; Smith, 2015; Sepúlveda-Carrillo et al., 2016). To a lesser extent, there is a second-degree relationship (son-in-law, daughter-in-law, grandchildren) between victim and abuser (Abdel Rahman and El Gaafary, 2012). This variable was evaluated through interviews (Ruiz Sanmartín et al., 2001; Smith, 2015), questionnaires (Kuniyoshi et al., 2003; Zimmelová, 2004; Friedman et al., 2011; Lai, 2011; Abdel Rahman and El Gaafary, 2012; Gil et al., 2015; Sepúlveda-Carrillo et al., 2016), a data collection form (Sánchez-Salgado, 2007) and an arbitral award (Gaiolo and Rodrigues, 2008).

There is limited evidence suggesting a greater likelihood of abuse if the victim or caregiver has depression or anxiety (Heath et al., 2005; Lino et al., 2017; Breckman et al., 2018). This variable was assessed with the Geriatric Depression Scale (Heath et al., 2005; Lino et al., 2017) and a telephone interview (Breckman et al., 2018).

There is limited evidence that substance use by caregivers is associated with an increased likelihood of abuse (Friedman et al., 2011; Ghodousi et al., 2011; Lino et al., 2017). This variable was measured with the CAGE questionnaire (Friedman et al., 2011; Lino et al., 2017) and a custom questionnaire (Ghodousi et al., 2011).

There is limited evidence on the existing typology of abuse (Abdel Rahman & El Gaafary, 2012; Acierno et al., 2010; Alizadeh-Khoei et al., 2014; Amstadter et al., 2011; Arruda et al., 2019; Biggs et al., 2009; Carmona-Torres et al., 2015; Chan et al., 2013; Curcio et al., 2019; Daskalopoulos, 2006; de Paiva & Tavares, 2015; Edirisinghe et al., 2014; Evandrou et al., 2017; Farid, 2017; Friedman et al., 2011; Ghodousi et al., 2011; Gil et al., 2015; Heath et al., 2005; Hernandez, 2005; Kissal & Beşer, 2011; Kołodziejczak et al., 2019; Kuniyoshi et al., 2003; Lai, 2011; Manthorpe et al., 2007; Martins-Gil et al., 2014; Morowatisharifabad et al., 2016; Özcan et al., 2017; Park, 2014; Reis et al., 2014; Rinsky & Malley-Morrinson, 2008; Roberto et al., 2008; Rodrigues et al., 2010; Ruiz Sanmartín et al., 2001; Sánchez-Salgado, 2007; Sepúlveda-Carrillo et al., 2016; Shimbo et al., 2011; Silva et al., 2018; Skirbekk & James, 2014; Tareque et al., 2015; Wilson et al., 2014; Zimmelová, 2004), with the most prevalent type of abuse being psychological abuse (Ruiz Sanmartín et al., 2001; Kuniyoshi et al., 2003; Zimmelová, 2004; Hernández-Ramírez, 2005; Daskalopoulos, 2006; Rinsky and Malley-Morrinson, 2008; Acierno et al., 2010; Rodrigues et al., 2010; Friedman et al., 2011; Ghodousi et al., 2011; Kissal and Beşer, 2011; Lai, 2011; Amstadter et al., 2011; Chan et al., 2013; Alizadeh-Khoei et al., 2014; Martins-Gil et al., 2014; Reis et al., 2014; Skirbekk and James, 2014; Wilson et al., 2014; Edirisinghe et al., 2014; Gil et al., 2015; Carmona-Torres et al., 2015; de Paiva and Tavares, 2015; Sepúlveda-Carrillo et al., 2016; Evandrou et al., 2017; Farid, 2017; Özcan et al., 2017; Kołodziejczak et al., 2019; Arruda et al., 2019; Curcio et al., 2019). This variable was measured using questionnaires (Kuniyoshi et al., 2003; Zimmelová, 2004; Hernández-Ramírez, 2005; Daskalopoulos, 2006; Rinsky and Malley-Morrinson, 2008; Friedman et al., 2011; Ghodousi et al., 2011; Kissal and Beşer, 2011; Lai, 2011; Park, 2014; Skirbekk and James, 2014; Wilson et al., 2014; Tareque et al., 2015; Gil et al., 2015; Sepúlveda-Carrillo et al., 2016; Morowatisharifabad et al., 2016; Özcan et al., 2017; Curcio et al., 2019), interviews (Ruiz Sanmartín et al., 2001; Manthorpe et al., 2007; Biggs et al., 2009; Acierno et al., 2010; Rodrigues et al., 2010; Shimbo et al., 2011; Martins-Gil et al., 2014; Park, 2014; Reis et

al., 2014; Farid, 2017), data collection forms (Sánchez-Salgado, 2007; Roberto et al., 2008), the Elder Assessment Instrument (Abdel Rahman and El Gaafary, 2012), a clinical report/self-report (Chan et al., 2013), the Hwalek-Sengstock Elder Abuse Screening Test (Alizadeh-Khoei et al., 2014; Edirisinghe et al., 2014), the Conflict Tactics Scale (de Paiva and Tavares, 2015; Arruda et al., 2019), the Elder Abuse Suspicion Index (Carmona-Torres et al., 2015), the General Health Questionnaire-12 (Evandrou et al., 2017) and a computer script (Silva et al., 2018).

DISCUSSION

This systematic review aimed to identify the variables associated with the abuse of older adults and found numerous factors that appear to affect the abuse of older adults in their home environment. These variables can be divided in two major groups: personal and caregiver-related.

Being female appears to be related to the risk of experiencing both physical and mental abuse. In many cases, the assumption of traditional roles, such as submission to their husband, taking care of the children, the silent acceptance of problems, the need to maintain privacy over family dynamics and the loss of roles in the home due to disability appear to be reasons related to this variable (Aronson et al., 1995; Seaver, 1996; Wolf, 1997, 2000; Hightower et al., 2001; Straka and Montminy, 2006).

A low level of education and income predisposes older adults to requiring care from others. In many cases, this role is fulfilled by informal caregivers, such as family members and friends (Gordon and Brill, 2001; Strasser et al., 2011). Educational level is a determining factor in an individual's position in the labor market. Workers with a higher educational level have access to better paying jobs and greater economic stability. Individuals who retire from poorly paid jobs experience an increased loss of income that puts them in a situation of greater dependence on those they live with. In general, women receive lower pensions than men. In Spain, a gender gap in wages of 34.46% has been reported, which is below the minimum interprofessional wage and worsens after widowhood (Strasser et al., 2011; epdata, 2020b, 2020a).

Table 3. Quality Appraisal of the Case-control Study

Case-control studies	S1: Adequate case definition	S2: Representativeness of cases	S3: Selection of controls	S4: Definition of controls	Ca: Controlled for age/sex	Cb: Controlled for additional factor	E1: Ascertainment of exposure	E2: Same method for cases and controls	E3: Non-response rate	Total	%
Friedman et al., 2011		★	★	★	★	★		★		6/9	66%

S, selection; C, comparability; E, exposure.

The caregiver-related variables identified in the studies are consanguinity, mood disorders and substance abuse. A number of authors have already found an association between mental health problems and abuse committed against older adults, determining a relationship between mental health problems and alcohol and drug abuse, especially when the caregiver is a family member (Wolf, 1994; Hwalek et al., 1996; Caballero García and Remolar, 2000). This situation could be related to burnout, which has been widely studied in health professionals (Ortega Ruiz and López Ríos, 2004) but whose characteristics can also be applied to informal caregivers. These caregivers decrease their sensitivity and understanding toward the people they care for and hold them accountable for their emotional overload and stress to the extent that they sometimes resort to violence (Calero Pérez et al., 2009; Marchena Hernández and Torres Brieva, 2011). In many cases, it is difficult to reconcile a family and work life that generates conflicts (Otálora Montenegro, 2007).

Regarding the types of abuse, there were no differences in relation to other studies in which physical and verbal abuse and neglect stood out as the main forms of abuse (Chintanawat, 2003; Pérez-Cárceles et al., 2009; Giraldo Rodríguez, 2010; Bigala and Ayiga, 2014). It seems clear that, despite the passage of time, the characteristics of older adults who experience abuse and the characteristics of caregivers who mistreat them remain unchanged. The stability of the factors related to abuse can be employed as a solid basis for designing prevention policies and community action programs that help reduce the incidence and prevalence of abuse in the elderly population.

Limitations

Most of the studies have a high risk of bias due to their methodological quality and limited sample sizes, which might affect the results. In addition, heterogeneity in the included studies regarding the sample's characteristics, and the outcome and assessment measures have prevented the realization of a quantitative analysis.

CONCLUSION

The results of the present systematic review showed that there are numerous risk factors that increase the likelihood of abuse in older adults. Psychological abuse was identified as the most common type of abuse. The term "abuse" is widely associated with situations of physical violence, which is why psychological abuse often goes completely unnoticed.

HIGHLIGHTS

➢ Personal and caregiver-related factors affect the abuse of older adults in their home environment.

➢ Females with a low income and cognitive or functional impairment are at a greater risk of being abused.

➢ Caregivers' consanguinity, mood disorders, and substance abuse increase the likelihood of abuse.

Acknowledgements

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Appendix 1. Search strategies

Databases	Strategies
SciELO	(((((elderly) AND abuse) AND aged) AND neglect) and family and not child
CINAHL	(((((elderly) AND abuse) AND aged) AND neglect) and family
CUIDEN	("maltrato") AND ("anciano")
Cochrane	(elderly) AND abuse) AND aged) AND neglect) and family and not child
PubMed	(((((elderly) AND abuse) AND aged) AND neglect) and family,BestMatch,"Abstract, Aged: 65+ years","((((((((("""aged""[MeSH Terms] OR ""aged""[All Fields]) OR ""elderly""[All Fields]) OR ""elderlies""[All Fields]) OR ""elderly's""[All Fields]) OR ""elderlys""[All Fields]) AND ((((((((((((((""abusable""[All Fields] OR ""abuse's""[All Fields]) OR ""abused""[All Fields]) OR ""abuser""[All Fields]) OR ""abuser's""[All Fields]) OR ""abusers""[All Fields]) OR ""abuses""[All Fields]) OR ""abusing""[All Fields]) OR ""abusive""[All Fields]) OR ""abusively""[All Fields]) OR ""abusiveness""[All Fields]) OR ""substance-related disorders""[MeSH Terms]) OR (""substance-related""[All Fields] AND ""disorders""[All Fields])) OR ""substance-related disorders""[All Fields]) OR ""abuse""[All Fields]) AND (""aged""[MeSH Terms] OR ""aged""[All Fields]) AND (((("""neglect""[All Fields] OR ""neglected""[All Fields]) OR ""neglectful""[All Fields]) OR ""neglecting""[All Fields]) OR ""neglects""[All Fields]) AND (((((((((""familialities""[All Fields] OR ""familiality""[All Fields]) OR ""familially""[All Fields]) OR ""familials""[All Fields]) OR ""familie""[All Fields]) OR ""family""[MeSH Terms]) OR ""family""[All Fields]) OR ""familial""[All Fields]) OR ""families""[All Fields]) OR ""family's""[All Fields]) OR ""familys""[All Fields])"
Google Scholar	elderly AND abuse AND aged AND neglect and family and article journal -"systematic review" -review -book -hospital -community -childhood -adolescent