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REVIEW

Elder Abuse Assessment Tools and Interventions for use in the Home Environment: a Scoping Review

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Background and Aim: Caregivers in the home environment have an important role in timely detecting and responding to abuse. The aim of this review was to provide insight into both the existing tools for the assessment of and interventions for elder abuse by formal and informal caregivers in the home environment, and to categorize them according to a public health perspective, into primary, secondary, tertiary or quaternary prevention.

Methods: We selected the assessment tools and interventions that can be used by caregivers in the home environment included in previous reviews by Gallione et al (2017) and Fearing et al (2017). To identify published studies after these reviews, a search was performed using PubMed, Cochrane Database, CINAHL and Web of Science.

Results: In total, fifteen assessment tools and twelve interventions were included. The number of assessment tools for elder abuse for use in the home environment is increasing; however, tools must be validated over different cultures and risk groups. In addition, the tools lack attention for the needs of vulnerable older persons such as persons with dementia. Existing interventions for caregivers in the home environment lack evidence for addressing elder abuse and do not address potential adverse effects (quaternary prevention).

Conclusion: Assessment tools for elder abuse need further testing for validity and reliability for use by caregivers in the home environment. For interventions, meaningful outcome measures are needed. Important to note is that quaternary prevention requires more attention. This argues for taking into account perspectives of (abused) older persons and caregivers in the development of assessment tools and interventions protocols.

Keywords: caregivers, elder abuse management, prevention, assessment tools, interventions, review

Introduction

In 2017, globally there were an estimated 962 million people aged 60 or more, comprising 13% of the global population.[1] Demographic projections demonstrate that the proportions of old people will continue to grow, so that by 2050 all regions of the world except Africa will have nearly a quarter or more of their populations at ages 60 and above. This rapid ageing of the population leads to an increasing number of people staying at home. Aging-in-place policies have been implemented by many Western governments,[2] leading to a shift towards home-based care and significant roles for care partners and home care services.[3,4]

Population aging is also expected to result in higher abuse rates of older persons, a worldwide problem urgently requiring attention. A recent systematic

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review and meta-analysis 5 shows that abuse affects one in six older persons worldwide, which amounts to approximately 141 million people. However, prevalence figures of elder abuse vary widely.[5,6] The variance in prevalence rates can be explained by the following factors: the difference in definitions of elder abuse studied or explored, categories of types of elder abuse, measurements and instruments used, time frames examined, populations, age restrictions, income classification of the country, sampling methods and sample sizes and research designs used. All these differences make it extremely difficult, if not virtually impossible, to compare results on the prevalence of elder abuse from the different studies undertaken.[5,6] The definition of the World Health Organization (WHO) is frequently used. In their Toronto Declaration the WHO describes elder abuse as

> A single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person.[7]

Six different types of elder abuse can be distinguished: physical, psychological, sexual, financial abuse, neglect and violation of personal rights.[6]

Despite higher abuse rates, elder abuse continues to be a neglected problem, particularly compared to child abuse and domestic violence. In addition, the urgency to tackle older persons' abuse is all the more important given the adverse outcomes for the victims: physical health problems, including increased hospitalization and mortality; psychological distress; loss of property and security.[8–10] Evidence demonstrates that elder abuse has high economic costs, including direct healthcare costs for treatment and rehabilitation as well as provision of protection and care by the legal and social system.[11]

Previous reviews of Fearing et al[12] and Gallione et al[13] only focused either on tools for the assessment or on interventions for elder abuse. To manage elder abuse by caregivers in the home environment, it is important we have insight in which validated instruments exist and at the same time can be used in the home environment, both in terms of assessment and intervention. This review also categorized all included elder abuse assessment tools and interventions according to a public health perspective into primary, secondary or tertiary prevention.[11]

Primary prevention concerns interventions that are designed to avoid the occurrence of elder abuse and focus on eliminating risk factors. These include risk assessment tools, programs to identify and support caregivers who are at "high risk" of abusing or for example programs for older people to prepare for less capability (eg, legal/financial tools).[14] Secondary prevention is aimed at preventing further abuse or harm by early detecting abuse with the help of screening instruments intended to detect and measure elder abuse. Other programs include counseling for victims or legal protection. Tertiary prevention includes actions to manage the consequences of elder abuse such as justice system services and medical follow-up[11] as well as programs to prevent further re-victimization such as housing, counselling and legal services.[14] In addition, we will also look at mechanisms to control negative consequences or side-effects of interventions, also known as quaternary prevention or actions to prevent more harm than good.[15] This can be due to, for example, inappropriate risk assessment, a breach of confidentiality, invasion of privacy and failure in safety plan.[16]

Objectives

With this scoping review, the overall aim is to provide insight in which tools are available for the assessment of and which interventions for elder abuse, specifically for informal caregivers and professionals in the home environment.

Given that cases of elder abuse are often left undetected, it is important for health care providers and social workers who are ideally placed to recognize the abuse of older persons, to equip them with the right tools. Therefore, it is important to identify effective assessment instruments.

Several studies have been conducted to review instruments intended to detect and measure elder abuse.[13,17,18] Currently there is no gold standard test for identifying elder abuse,[18] due to numerous tools and different methods employed in various studies, coupled with varying definitions of thresholds for age. Gallione et al[13] presented eleven measurement instruments for elder abuse. Based on their findings they concluded that several measurements have been tested, but none have been evaluated against measurable violence or health outcomes, premature death and disability or the adverse outcomes of screening and interventions. In addition, no study evaluated the acceptability of the instruments by older people themselves.[13]

Next to the assessment, it is particularly important to develop and implement effective interventions, both focused on the prevention and management of elder abuse. Systematic reviews and meta-analyses were conducted focused on providing an overview of interventions

designed to prevent or stop elder abuse.[12,19,20] In the study by Ploeg et al[20] the findings suggested insufficient evidence to support any intervention associated with elder abuse addressed to the victims, perpetrators, or healthcare professionals. Ayalon et al[19] included 24 studies which were divided into three groups: (i) interventions designed to improve the ability of healthcare professionals to identify and stop elder abuse, (ii) Interventions that target the victims, and (iii) interventions focused on caregivers who maltreat older people. The majority of these studies were carried out in a nursing home and addressed people with dementia. Interventions with the aim to reduce physical restraint in nursing homes proved to have the greatest empirical support.

A Cochrane review was performed by Baker et al.[11] This review demonstrates that among the interventions for preventing elder abuse there is inadequate evidence to assess the effects of these interventions on occurrence or recurrence of elder abuse. Some evidence was present that interventions might change depression in combination with anxiety by the caregivers. In addition, it is not certain that educational interventions improve the relevant knowledge of both healthcare professionals and caregivers.

The last systematic review was conducted byFearing et al[12] aiming to review the efficacy of community-based interventions for elder abuse. The authors[12] identified nine studies of which only two studies with Level-1 evidence. They emphasize the importance of further research in order to elevate knowledge concerning elder abuse and to develop effective interventions on identification and management.

Materials and Methods

Aforementioned studies about instruments for the identification of elder abuse were conducted until May 2015[13] and interventions on prevention and management of elder abuse until December 2015.[12] The aim of the present study is to update the evidence with regard to these tools and interventions, as well as distinguish between the different types of prevention (primary, secondary, tertiary and quaternary prevention). We searched for instruments aimed at secondary (screening tools) and tertiary prevention (interventions to address elder abuse when it has occurred); however, in addition we look whether the included instruments focus on primary or quaternary prevention. In our review, we focus on community-dwelling older people. Since the scope is limited to elder abuse in the home environment, excluding residential settings, we will focus exclusively on tools to be used by healthcare professionals or informal caregivers coming in the home environment of older people.

This scoping review was conducted in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).[21]

Assessment Tools

For providing insight in which tools are available for the assessment of elder abuse we are building on the content and methods of the systematic review by Gallione et al.[13] We used the following inclusion criteria:

- The study includes community-dwelling people aged 60 years and older
- The study describes a measurement tool for the assessment of elder abuse, of which the validity was established
- The tool can be used by caregivers (informal or formal) in the home environment
- No applied restriction to type of instrument (e.g. self-report questionnaire, interview)
- No applied restriction to type of elder abuse
- Articles in English, French, German, and Dutch

The databases PubMed (including MEDLINE), Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Web of Science were consulted by two researchers (RG, KVR), to search for relevant studies that were published in the period after May 2015; after the review by Gallione et al.[13] We finished our search on August 31, 2019. We used the following search terms: For Cochrane "elder abuse" and for the other databases: "elder abuse OR elder neglect* OR elder maltreat* AND assess* OR screen* OR diagnosis". See Figure 1 for our search outcomes.

Interventions

Our starting point for updating the evidence with regard to interventions aiming to prevent or manage elder abuse was the systematic review on community-based interventions conducted by Fearing et al.[12] For this part of our scoping review we used the inclusion criteria:

- The study includes community-dwelling people aged 60 years and older
- The study describes an intervention focused on preventing or managing elder abuse and assesses the effect of the intervention

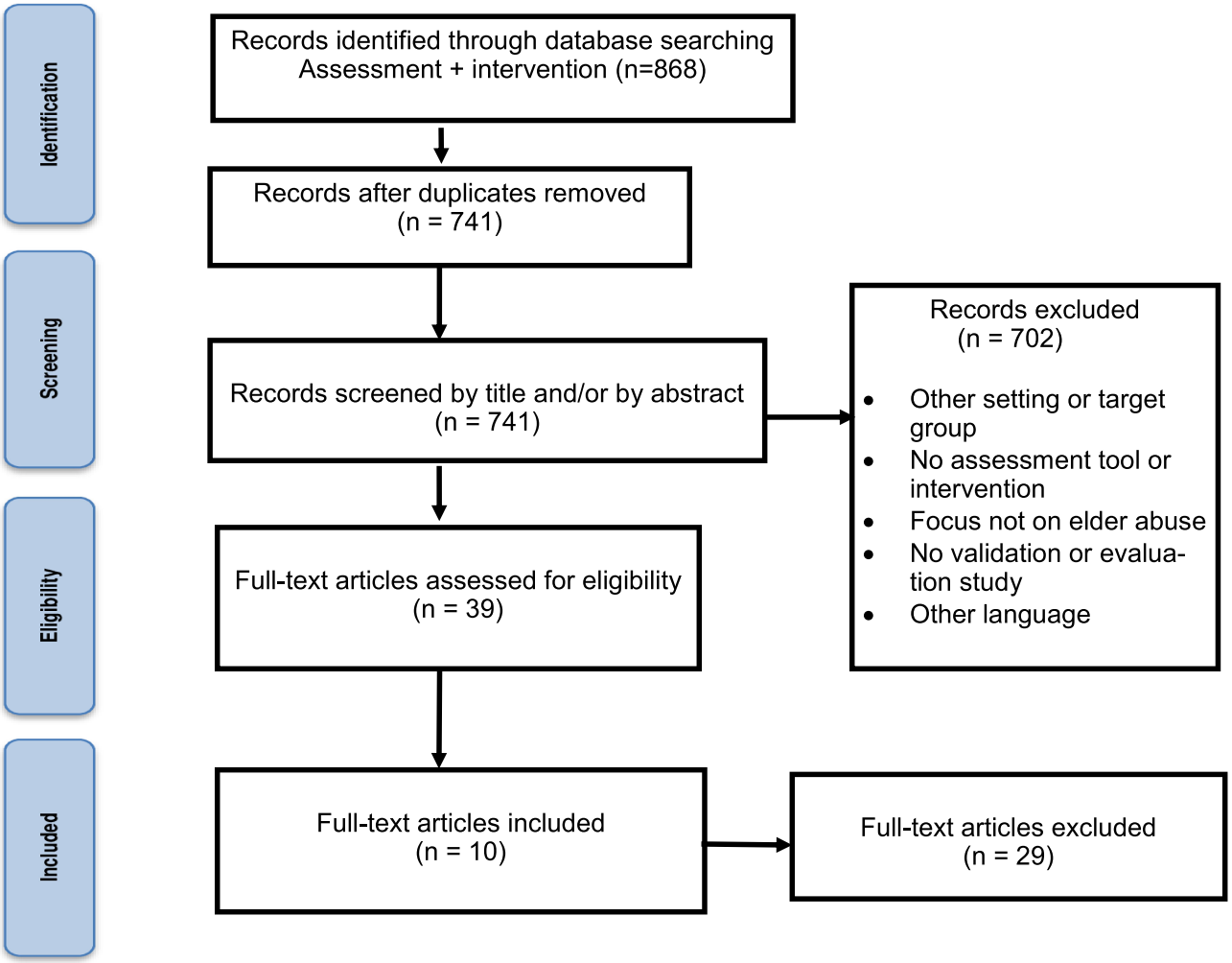

Figure 1 Flow chart of search strategy for new tools.

- The intervention can be applied by caregivers (informal or formal)
- No applied restriction to type of intervention (e.g. individual, group)
- No applied restriction to type of elder abuse
- Articles in English, French, German, and Dutch

Following the review by Fearing et al[12] we used the keywords "elder abuse* OR elder neglect* OR elder maltreat* AND prevent* OR interven* OR program*" to search within each database. Because the authors[12] searched for relevant studies until December 2015, we examined which studies were published thereafter (until June 30, 2019).

Aforementioned databases were consulted by the two researchers (RG, KVR). All titles and abstracts were reviewed by two independent researchers (RG, KVR) based on the inclusion criteria. In case of disagreements, a consensus was established.

Data extraction was conducted independently by the same two researchers. Disagreements were discussed with a third researcher (PVR) until a consensus agreement was reached. Extraction details are presented in Tables 1 and 2.

Results

Assessment Tools

Gallione et al[13] found eleven assessment tools for elder abuse in their systematic review. Of these, eight tools were eligible for inclusion in our scoping review: Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST),[22] Vulnerability Abuse Screening Scale (VASS),[23] Elder Abuse Suspicion Index (EASI),[24] Caregiver Abuse Screen for the Elderly (CASE),[25] Brief Abuse Screen for the Elderly (BASE),[26] Caregiver Psychological Elder Abuse Behavior (CPEABS),[27] Older Adult Abuse Psychological Measure (OAPAM)[28] and Older Adult Financial Exploitation Measure (OAFEM).[29] The three tools we have excluded are: Elderly Indicators of Abuse (E-

Table 1 Assessment Tools for Elder Abuse, Including Eight Tools Based on Gallione, Dal Molin, Cristina, Ferns, Mattioli, Suardi[13] and Seven New Tools[a]

Assessment Tool	Purpose	Phase of the Prevention	Method	Items/Subscales	Target Group	Psychometric Properties
Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST)[22]	To identify people at high risk of the need for protective services	Primary prevention	Interview using a questionnaire	5 item questionnaire measuring 3 forms of abuse: violations of personal rights or direct abuse, characteristics of vulnerability, and potentially abusive situations	Service providers	Content, concurrent and construct validity has been established (USA)[61] Reliability is poor with Cronbach's alpha = 0.29
Vulnerability Abuse Screening Scale (VASS)[23]	To identify older women at risk of elder abuse	Primary prevention	Self-report questionnaire	12 item Likert Scale with 4 subscales: Vulnerability Dependence Dejection Coercion	Older women	Content and construct validity has been established (Australia)[23] Reliability: Vulnerability α = 0.45 Dependence α = 0.74 Dejection α = 0.44 Coercion α = 0.31
Elder Abuse Suspicion Index (EASI)[24]	To identify victims of elder abuse	Secondary prevention	Interview using a questionnaire	5 patient items (types of abuse, general dependency) + 1 item for evaluation by clinician (observed indicators of abuse). Question with yes/no response format	General practitioner	Correlation between EASI and Social Worker Evaluation (SWE) indicated a sensitivity and specificity rate of 0.47 and 0.75, respectively (Canada)[24]
Caregiver Abuse Screen for the Elderly (CASE)[25]	To identify abuse of older people by an informal caregiver	Secondary prevention	Self-report questionnaire	8-item to be completed by caregivers. Yes/No response options. The questionnaire was reduced to 6 items to improve validity	Informal caregivers	Good construct, concurrent and convergent validity (Canada) Reliability: α = 0.71 for the 6-item tool[25]
Brief Abuse Screen for the Elderly (BASE)[26]	To assess the risk of elder abuse	Primary prevention	Telephone interview (followed by home visit and plenary evaluation by multidisciplinary team)	5 questions to be completed by a health professional after training. Evaluation about presence or absence of physical, psychosocial, financial abuse or neglect	Health care professionals	Validity was supported by significant correlations with other measurements and expected differences in the correct direction between abusive and non-abusive caregivers (Canada) Reliability: Cronbach's alpha = 0.91 Predictive validity from 0.89 to 0.91 [26,62]
Caregiver Psychological Elder Abuse Behavior (CPEAB)[27]	To identify psychological abusive behavior by the caregiver	Secondary prevention	Self-report questionnaire	20 items Each item is rated on a 4-point Likert-type scale	Caregiver	Content validity has been established (China).[27] The expert content validity index for the CPEAB was 0.95; Cronbach's alpha for internal consistency =0.85. The test-retest reliability over a 2-week period was estimated by the intraclass correlation coefficient (ICC=0.64, P<0.001)

(*Continued*)

Table 1 (Continued).

Assessment Tool	Purpose	Phase of the Prevention	Method	Items/Subscales	Target Group	Psychometric Properties
Older Adult Abuse Psychological Measure (OAPAM)[28]	To identify psychological abuse	Secondary prevention	Self-report questionnaire	31 items (long form) 18 items (short form) Yes/no/suspected/unknown with 5 concepts included: isolation, threats and intimidation, Insensitivity & disrespect, Shaming & blaming, Risk factors	Older people	Construct validity has been established (USA)[28] Reliability Cronbach's alpha for OAPAM was 0.92 (long form) and 0.87 (short form)
Older Adult Financial Exploitation Measure (OAFEM)[29]	To identify financial abuse	Secondary prevention	Interview using a questionnaire	Full form: 79 items Short forms: 54 items and 30 items Dichotomous: yes/no	Social services	Construct validity has been established (USA)[29] Reliability Cronbach's alpha for OAFEM was 0.96 (full form), 0.95 (54-items) and 0.93 (30-items)
Assessment Tool for Domestic Elder Abuse (ATDEA)[34]	Detection and prevention of elder abuse	Primary and secondary prevention	Checklist	34 items (checklist) no scale	Health care professionals	Face and Content validity has been established (Japan)[34] Overall Sale-Content Validity score index was 0.90 No testing of reliability
Risk on Elder Abuse and Mistreatment Instrument (REAMI)[33]	To identify people at risk of elder abuse	Primary prevention	Questionnaire	For the professional to evaluate 22 statements whether they apply to their client. Answer categories range from completely disagree (1) to completely agree (4).	Domestic helpers, healthcare professionals, social workers	Internal validity has been established (Belgium). Reliability for the 3 scales very acceptable • Risk factors of the older person α = 0.74 • Risk factors of the environment/possible perpetrator α = 0.84 • Signals of elder abuse α = 0.89
QualCare Scale[35,40]	To identify people at risk or experiencing abuse due to caregiver behaviors	Primary and secondary prevention	Direct observational rating scale	QualCare scale measures 'quality of elder caregiving'. Scale consists of 6 dimensions of caregiving responsibilities: environmental care, physical care, medical care maintenance, psychological care, human rights violations and financial care.	Nurses and social workers	Sensitivity and specificity for each of the 6 QualCare subscales with high sensitivity (≥0.811) but a wide range for specificity (0.167–1.000) (USA)[35] No testing of reliability

Elder Abuse Risk Assessment and Evaluation (EARAE) tool[36]	To capture elder abuse indicators, track contributing risk factors, measure multiple case outcomes, and track types of interventions utilized	Primary and secondary prevention	Checklist with abuse indicators	The tool is comprised of 6 sections: client demographics, indicators, contributing risk factors, overall level of risk, interventions, and outcomes. For the abuse indicators, caseworkers review each case, checking off all indicators that apply.	Community-based caseworkers working with older adults	The tool is developed and comprehensive, but only face validity has been established (USA)[36] No testing of reliability
Older Adult Financial Exploitation Measure (OAFEM) Short Form; Older Adult Emotional Abuse Measure (OAEAM) Short Form; Older Adult Physical Abuse Measure (OAPAM) Short Form; Older Adult Neglect Measure (OANM) Short Form[37]	Short-form measures to assess four types of elder abuse: financial, emotional/ psychological, physical, and neglect.	Secondary prevention	Questionnaire	OAFEM: 11 items OAEAM: 11 items OAPAM: 6 items OANM: 8 items	Adult protection services (APS) caseworkers	All short-form measures appear to be valid for detecting real cases of elder abuse (USA); the AUCs of OAFEM, OAEAM, OAPAM, and OANM were 94.5%, 97.4%, 96.1%, and 95.0%, respectively.[37] Cronbach's alpha for OAFEM, OAEAM, OAPAM, and OANM were 0.89, 0.88, 0.86, and 0.66, respectively.
Lichtenberg Financial Decision Screening Scale (LFDSS)[38]	To assess financial decision making and preventing financial exploitation	Primary and secondary prevention	A structured, multiple—choice interview	7 items are used for an overall risk score	APS workers or other professionals who assist older adults in making significant financial decisions	Evidence for convergent and criterion validity; sensitivity, specificity, and the ROC curve were 0.88, 0.91, and 0.93 for the ordinal scale (USA)[38] Ordinal coefficient alpha: 0.91
Family Members Mistreatment of Older Adults Screening Questionnaire (FAMOASQ)[39]	Early identification of the familial mistreatment of older adults	Secondary prevention	Questionnaire to be conducted by means of an interview	15 items with yes/no response format	The FAMOASQ does not need to be administered by an expert or highly trained healthcare professional	Construct and concurrent validity (sensitivity: 86%; specificity: 90%; AUC: 0.93) has been established (Mexico) Cronbach's alpha: 0.89[39]

Note: [a]Seven new tools under triple line.

Table 2 Community-Based Interventions for Elder Abuse, Including Nine Interventions Based on Fearing, Sheppard, McDonald, Beaulieu, Hitzig[12] and Three New Interventions[a]

Study	Target Group	Phase of the Prevention	Purpose	Intervention	Results	Level of Evidence[b]
Livingston et al[47]	Family caregivers of people with dementia	Primary prevention	To examine the effectiveness of the Strategies for Relatives (START) intervention in reducing anxiety and depression	8-session manual-based individual coping intervention based on the Coping with Caregiver programme	Lower levels of anxiety and depression among family caregivers As a secondary outcome a decrease in abusive behaviour (UK)	1
Cooper et al[45]	Family caregivers of people with dementia	Primary prevention (and secondary)	To examine whether reductions in depression and anxiety reduces abusive behavior toward people with dementia	8-session manual-based individual coping intervention (cf. Livingston et al 2013 but with abusive behavior as an outcome); included strategies were: communication, relaxation, behavioral management, etc.	No evidence that START, which reduced caregiver anxiety and depression, reduced caregiver abusive behavior (UK)	1
Drossel et al[46]	Family caregivers of people with dementia	Primary prevention	To examine the impact of Dialectical Behavioral Therapy (DBT) on high-risk caregivers for elder abuse	9-week group (2.5 hour sessions) for caregivers of a family member with dementia; included: interpersonal effectiveness, skills in mindfulness, emotional regulation and distress.	Significant effects on problem-focused coping, emotional well-being, and energy level (USA)	4
Alon & Berg-Warman[48]	Victims of elder abuse	Secondary/ tertiary prevention	To examine the impact of the Israeli multisystem model to treat and prevent elder abuse	Components of the Israeli model: unit dedicated to treatment and prevention of elder abuse; a social work assistant; multidisciplinary advisory team	The model significantly improved outcomes in cases of neglect. In 18% of all cases, the abuse stopped (Israel)	5
Ernst & Smith[51]	Persons investigated for abuse	Secondary/ tertiary prevention	To examine the difference between a multidisciplinary approach (nurse and social worker) and social worker alone	Multidisciplinary team approach (nurse and social worker) and social worker alone	Social workers alone were more likely to confirm elder abuse. Recidivism rate of re-investigation of abuse was lower for social worker alone The multidisciplinary team yielded the largest risk reduction for abuse (USA)	5
Navarro et al[53]	Persons seen by the forensic center (FC) or referred to adult protection services (APS) for alleged financial exploitation	Tertiary intervention	To examine whether an elder abuse FC increases prosecution of elder financial abuse	Multidisciplinary team that includes legal, medical and behavioral experts to review and consult on cases of elder abuse aiming to prevent and protect victims as well as prosecute perpetrators	The FC group was more likely to be referred to the district attorney's (DA) office (USA)	4
Gassoumis et al[52]	Persons who have not received services from the FC and referred to APS	Secondary and tertiary prevention	To examine the role of an elder abuse forensic center in referring financial exploitation abuse victims to conservatorship through the public guardian (PG)	A multidisciplinary team (FC) that includes legal, medical and behavioral experts to review and consult on cases of elder abuse aiming to prevent and protect victims as well as prosecute perpetrators	FC gave more conservatorship referrals to PG compared to APS 52.9% of FC referred cases were conserved, compared to 41.7% APS referred cases Cases of FC investigation were 7x more likely to be referred to PG (USA)	4

Mariam et al[49]	Suspected victims of elder abuse and their caregivers	Secondary and tertiary prevention	To examine the effectiveness of the elder abuse intervention and prevention program (E-CARE) in assisting suspected victims of elder abuse	E-CARE is a community based program for elder abuse victims and caregivers to minimize to risk of abuse and to focus on building relationships between older person and caregiver, connecting the older person to social supports and helping people overcome difficult life changes	Decrease in overall risk factors of elder abuse Decrease in abuse risk factors associated with economic and housing, social/community and dependency/isolation (USA)	4
Bagshaw et al[50]	Chief executive officers (CEO) and practitioners providing services to older people and their family members	Primary, secondary, tertiary and quaternary prevention	To examine the role of elder mediation in preventing or ending financial abuse in older persons	Mediation that involves an impartial mediator to facilitate communication, listening, sharing and assisting in creating options and planning	Over half stated that mediation prevented or stopped the financial abuse (Australia)	5
Khanlary et al[42]	Abused older persons and their families	Secondary prevention	To examine the effectiveness of Family-Based Cognitive-Behavioral Social Work (FBCBSW) in reducing elder abuse	FBCBSW is a home-based intervention consisting of five sessions focusing on all family members. Topics are: raise awareness about caretaking for older people and on conflict resolution techniques	The intervention had a positive effect on reducing the instances of elder abuse, financial neglect, curtailment of personal autonomy, and psychological abuse (Iran)	2
Pickering et al[43]	Social workers and nurses providing in-home services	Secondary prevention	To develop, implement and evaluate a virtual-reality based educational intervention for health care providers to improve recognition and reporting of elder abuse and neglect	The Elder Abuser Training Institute Island (EATI Island) is an interdisciplinary educational intervention including an introductory course as well as an advanced training in virtual reality, focusing on using the QualCare Scale.	The participants made progress in knowledge about identification; in addition, their overall decisions whether to report potential elder abuse had 99% accuracy relative to the gold standard (USA).	5
Ejaz et al[44]	Healthcare professionals (e. g. nurses) and social workers	Secondary prevention	To develop and implement an online training to improve identification, reporting, and prevention of abuse, neglect, and exploitation	A online training program comprising three modules (background on abuse, screening for abuse, reporting protocol for cases of abuse).	With respect to Module 1 and 3 there was a statistically improvement in care managers' knowledge about how to identify and report abuse, neglect, and exploitation (USA).	4

Notes: [a]Three new interventions under triple line. [b]Levels of evidence based on Modified Sackett Scale.[40] Level 1, RCTs with a PEDro scale ≥6. Level 2, RCTs with a PEDro scale <6. Level 3, case control studies. Level 4, pre–post or post-intervention and case series. Level 5, case reports, clinical consensus, or observational studies.

IOA),[30] Elder Abuse Instrument (EAI)[31] and Elder Psychological Abuse Scale (EPAS).[32] All three tools have not been validated in a sample of community-dwelling older people. The E-IOA, EAI and the EPAS were validated in patients admitted to a hospital, an emergency department and in long-term care (nursing home), respectively.

Seven new instruments have been published since June 2015: Risk on Elder Abuse and Mistreatment Instrument (REAMI),[33] Assessment Tool for Domestic Elder Abuse (ATDEA),[34] QualCare Scale,[35] Elder Abuse Risk Assessment and Evaluation (EARAE) tool,[36] short-form measures of four types of elder abuse (financial, emotional/psychological, physical, neglect),[37] the Lichtenberg Financial Decision Screening Scale (LFDSS),[38] and the Family Members Mistreatment of Older Adults Screening Questionnaire (FAMOASQ).[39]

The REAMI, a questionnaire that contains 22 items, was developed and tested using a mixed method design. In total, 1920 older clients of home care were assessed by their Flemish home care professionals with the REAMI. In addition, 24 of these professionals were interviewed about experiences using this assessment tool. The findings demonstrated good internal reliability and internal validity for the REAMI.[33]

The ATDEA is recently developed in Japan; it is a checklist containing 34 items covering all types of elder abuse that can be used by healthcare professionals, in particular nurses, to detect and prevent elder abuse. Findings of face and content validity testing established the validity of the ATDEA.[34]

The QualCare Scale is a direct observational scale that was originally developed as a measure of the quality of caregiving provided by family caregivers[40] including the dimensions of physical care, psychological care, medical care maintenance, environmental care, human rights violations and financial care. Pickering et al[35] decided to use the QualCare Scale for assessing elder abuse among older persons receiving home care. The EARAE tool was developed for community-based caseworkers working with older adults. The tool is used to capture information from elder abuse cases in order to determine changes in the level of risk for primary and secondary types of abuse and abuse outcomes to identify and determine changes in contributing risk factors, and track interventions and outcomes.[36] The instrument is comprehensive, especially within the domains of indicators and contributing risk factors for most forms of elder mistreatment, minus self-neglect. However, the tool needs to be validated.

The short-form measures for assessing financial, emotional/psychological, and physical abuse and neglect were developed using data from the Elder Abuse Decision Support System (EADSS). The validity of the four short-form measures was similar to the original long-form measures.[37]

The LFDSS was introduced in 2016 aiming to prevent financial exploitation.[38] This scale is taken orally; because it is a rating scale the interviewer's judgment is critical.[38] However, the LFDSS can be easily taught to professionals of the Adult protection services (APS).[38]

Finally, the FAMOASQ is also a questionnaire that is answered orally. This instrument is culturally and socially tailored to Mexican older adults.[39] It contains eight questions referring to psychological/emotional abuse; nine questions addressed neglect/abandonment and two questions each addressed physical, economic and sexual abuse.

Table 1 presents an overview of the characteristics of the fifteen assessment tools for elder abuse included in our scoping review. Four of the included tools are aiming to identify older people at risk for elder abuse (primary prevention); seven tools aim at secondary prevention, the purpose of which is to early detect elder abuse. Four assessment tools; the ATDEA,[34] QualCare Scale,[35,40] the EARAE tool[36] and the LFDSS[38] can be used for both primary and secondary prevention. Moreover, the substantive focus of the tools is different. Ten tools have a wide scope on elder abuse, while CPEABS[27] and OAPAM[28] focus exclusively on identifying psychological abusive behavior by the caregiver and psychological abuse of an older person. The OAFEM[29] and the LFDSS[38] only consider the identification of financial abuse.

The data collection differs between the assessment tools. Six out of fifteen tools are questionnaires or a checklist. For six tools, the data will be collected by means of an interview, e.g. BASE[26] includes a telephone interview. As described above, the QualCare Scale[35,40] is a tool that can be used to collect data by means of observations. The target group also differs according to the tool. For example, the VASS[23] has been used and validated among older women. The OAPAM[28] also targets older people themselves. In particular, the BASE,[26] ATDEA[34] and REAMI[33] indicate that the tool can be used by a diversity of healthcare professionals. The last column of Table 1 briefly describes the validity of the instrument in question. Seven assessment tools are validated in the USA (H-S/EAST, OAPAM, OAFEM, QualCare Scale, the short-form

measures, EARAE, LFDSS) and three in Canada (EASI, CASE, BASE).

Interventions

The systematic review on community-based interventions for elder abuse conducted by Fearing et al[12] covers the period from 2009 to 2015; this study continued where the systematic review by Ploeg et al[20] ended. Fearing et al[12] found nine studies eligible for inclusion. All these studies are presented in Table 2. In the last column, the level of evidence is described for each intervention. The levels of evidence are based on the Modified Sackett Scale.[41] Our literature search yielded three new studies that met our inclusion criteria.[42–44] The first of these studies was conducted by Khanlary et al.[42] This research group carried out a randomized clinical trial with the aim to determine the effectiveness of Family-Based Cognitive Behavioral Social Work (FBCBSW) in reducing older persons' abuse. This intervention resulted in a significant reduction of emotional neglect, financial neglect, care neglect, curtailment of personal autonomy, financial abuse, and psychological abuse. The second study we added was conducted by Pickering et al.[43] They developed, implemented and evaluated the Elder Abuser Training Institute Island (EATI Island), a virtual-reality-based older persons' abuse educational intervention for social workers and nurses. Finally, we included the study by Ejaz et al[44] in our review. The authors[44] developed and implemented three online modules focusing on background on abuse, screening for abuse, and reporting protocol for cases of abuse, respectively. Statistically significant improvements in knowledge from pre- to post-training were evident for the participants (healthcare professionals, social workers) in all parts of Module 1 and most parts of Module 3. With respect to Module 3 (screening for abuse), none of the responses on the questions asked showed an improvement in their knowledge.

Five target groups can be distinguished: family caregivers of people with dementia,[45–47] victims of elder abuse,[48] victims of elder abuse and their caregivers,[49] victims of elder abuse and all their family members[42] and professionals, whether or not attached to a center (e.g. a forensic center).[43,44,50–53]

Table 2 also briefly presents the interventions. In the studies by Cooper et al [45] and Livingston et al,[47] an individual coping intervention focused on family caregivers of people with dementia has been carried out, including strategies such as behavioral management and relaxation. Drossel et al[46] offered a similar intervention for the same target group. Several studies emphasize that the intervention should be carried out in a multidisciplinary team;[51–53] in the Israeli multisystem model aiming to treat and prevent older persons' abuse a multidisciplinary advisory team was involved.[48]

All twelve studies examined the impact of the intervention; the outcome measures were all different. For example, a lower level of depression by family caregivers of people with dementia,[47] stopping the abuse[48,50] or progress in knowledge of nurses and social worker about the identification of older persons' abuse[43] and knowledge of background on abuse and reporting abuse.[44]

Collected data were evaluated in terms of changes in knowledge, changes in practice and user satisfaction. All included studies present positive results (see Table 2). However, as Fearing et al[12] described, the level of evidence of most studies is low. Only two studies have Level-1 evidence (the highest level)[45,47] and one study has Level-2 evidence[42] according to the Modified Sackett Scale;[41] the other studies have evidence of Level-4 or Level-5. The intervention studies demonstrate a lack of validated outcome measures to systematically detect change over time. Finally, it should be noted that seven of the twelve intervention studies were carried out in the USA.

As a final note, interventions are focused on primary, secondary or tertiary interventions; however, very few studies addressed quaternary intervention. Only one study[50] examined an intervention, the role of elder mediation in preventing or ending financial abuse in older persons, focusing on primary, secondary, tertiary as well as quaternary prevention. In their study the researchers included also the views of older people in order to develop, pilot, and evaluate a model of older-person-centered mediation to prevent the financial abuse of older people by family members.[50] Hardly any study included in this review emphasizes the effects for older persons or victims when preventing or responding to elder abuse.

Discussion

In this scoping review, we provide an overview of assessment tools and interventions for elder abuse to be used by professionals and informal caregivers in the home environment. We identified the suitable assessment tools and interventions for use in the home environment included in the two previous systematic reviews; the study by Gallione et al[13] focusing on assessment tools and the study by Fearing et al[12] concerning interventions. In addition, we have updated the existing evidence with a new

systematic literature search and focused specifically on assessment tools and interventions that can be used in the home environment. Also, we categorized all tools and interventions, according to a public health perspective, into primary, secondary, tertiary and quaternary prevention.

Need for More Rigorous Validation of Assessment Tools

Fifteen assessment tools met our inclusion criteria of which four were not included in the systematic review by Gallione et al:[13] QualCare Scale,[35] REAMI,[33] ATDEA[34] and EARAE tool.[36] Seven and three of the available tools have been developed and tested in the USA and Canada, respectively. Only one tool has been developed and validated in a European country (Belgium), the REAMI.[33] Exploration of the REAMI aimed at further validation including assessment by other care stakeholders (e.g. social workers) seems necessary.[33] There is a need for a more rigorous validation of assessment tools, within different cultural contexts and specifically for caregivers in the home environment. In line with the review by Gallione et al,[13] we conclude there is still no gold standard for assessment of elder abuse. A "gold standard" or reference standard is necessary to allow for comparison of other assessment tools against this standard in order to establish the validity of elder abuse screening tools. However, a gold standard that would definitively assess the presence or absence of elder abuse is difficult to determine due to the various legal definitions, a variety of clinical experiences and situations, signs of abuse having great overlap with markers of disease and other standards in different regions. More validity testing of the current assessment tools is needed – but when assessing elder abuse, a tool should not be used alone but rather combined with other data, longitudinal observation and review by experts in the field.

Given that cases of elder abuse are often left undetected, it is important for health care providers and social workers providing at-home care services, to equip them with validated tools to detect elder abuse as they are ideally placed to recognize a situation of abuse. In a study collecting the views of health professionals, none of the validated assessment tools were deemed suitable for use in their practice.[17] This was due to outdated terminology, asking binary questions, asking multiple questions at once, failure to consider the older person's cognitive status, failure to consider how culture mediates elder abuse, and failure to outline a referral pathway to those administering the tool. The health professionals recommended for a screening tool to promote trust and rapport between the assessor and the older person in order to solicit a story on this sensitive subject.[17] Therefore, the authors recommend that a successful assessment instrument for elder abuse must be concise, easy to use, consider frailty of older people, and give direction to a pathway if there is a suspicion of elder abuse.[17] A safe and calm environment together with formulating the questions in narrative and qualitative format could help the assessors to build trust and rapport.

Professionals are also insufficiently trained in detecting abuse, due to a lack of understanding and education into the signs and risk factors for older persons' abuse, as well as a lack of identification skills and reporting procedures.[13] Also, the level of perception and knowledge of elder abuse by healthcare workers are still poor; thus, there is still a strong need for education and specific training program.[54]

Besides allowing for detection of elder abuse, assessment tools should include a clear referral pathways on what to do when potential abuse is found—when to report, who to contact, and how to involve the older person in the referral process. A clear referral pathway has been previously identified as an important requirement for future developed assessment tools.[17]

The included assessment tools also lack adaptation to risk groups. Given that cognitive impairment and dementia symptoms constitute one of the most relevant risk factors for elder abuse, a disease-sensitive assessment tool specifically to elder abuse in persons with dementia is required to capture the specific characteristics of abuse involving older persons with different stages of dementia.[55] Fang et al[55] recommend in their review that detection and interventions of elder abuse take into account the stages of the disease. Furthermore, healthcare professionals should be educated on the nature and prognosis of dementia and when providing care at home be alert of the potential risk related to symptoms associated with different stages of dementia.[55]

Lack of Validated Interventions

Despite the serious impact on older persons and on society, there also remains a significant lack of validated community-based interventions for elder abuse. In total, we identified twelve intervention studies that met our inclusion criteria of which nine were identified previously by Fearing et al.[12] Our additional literature search yielded three other interventions.[42–44]

Several systematic reviews report many difficulties in responding to elder abuse, which is due to a lack of evidence regarding the most effective ways to address elder abuse.[11,12,19]

In particular, the elder abuse intervention research field is constrained by a deficiency in validated and meaningful intervention outcome measures capable of systematically detecting the extent of case resolution over time.[56] Burnes et al[56] propose a severity framework as a guideline for outcome measurement and recommends qualitative research with professionals who work in the field and with victims of elder abuse themselves, to develop an outcome measure and understand how to conceptualize and operationalize the outcome construct of elder abuse severity.

In addition, given the complex nature of elder abuse and multidimensional needs and problems of victims, the use of a multidisciplinary team (MDT) approach is the recommended golden standard for interventions.[57,58] As Blowers et al state:

> Detecting and preventing elder mistreatment requires the involvement of professionals and community partners from many disciplines. It is a community problem, a legal issue, a social concern, and a medical matter.[57]

The responses required for elder abuse must come from different sectors, including criminal justice, health care, mental health care, victim services, civil legal services, adult protective services, financial services, long-term care, and proxy decision making.[59] However, hardly any research has been done in this area. "As one of the field's most promising practices, MDTs should be implemented and tested internationally", according to Pillemer et al.[59] As a result, there is a lack of coordinated care and a fragmentation of knowledge among health care, welfare and legal professionals. For instance, health care providers experience many barriers to collaborate with the professionals within the judicial field because of confidentiality issues.[60] Healthcare providers, social workers and legal professionals hold complementary knowledge and skills in the context of elder abuse; however, they often address the abuse independently and without consultation, which creates barriers and inefficiencies. MDT intervention strategies should be tested to be applied in different societies, in the context of available resources and taking into account the different cultural manifestations of elder abuse.[59] This would ideally result into multidisciplinary collaboration protocols to enhance coordination and reduce fragmentation.

Quaternary Prevention

Important to note is the deficiency of attention for quaternary prevention or preventing the adverse effects of assessment and interventions in current and within this review included elder abuse assessment tools or interventions.[15] These side-effects may include, for example, inappropriate risk assessment, a breach of confidentiality, invasion of privacy, damaging the relationship between victim and abuser, and failure in safety plan.[16,11] In future research projects aiming to prevent and intervene on elder abuse, older people and also their family caregivers should participate from the beginning to the end in the development of an intervention protocol.

Limitations

The search strategy applied for this review is not without limitations. First, no further efforts were made to retrieve unpublished studies such as contacting authors or searching in grey literature.

Moreover, EMBASE and Scopus databases were not accessed due to unavailability at our institution. However, four main databases, Medline, CINAHL, Web of Science and Cochrane Databases, were consulted applying a broad search strategy, as such, we feel that this review provides a comprehensive overview of assessment and intervention tools for elder abuse by caregivers in the home environment. Furthermore, a limitation for languages potentially may have excluded relevant papers in other languages. Finally, apart from the limitations of our own search strategy, it is important to note that we might have carried the limitations of the review studies we used as a starting point into this scoping review.

Conclusion

Given the significant number of older people staying at home and being dependent on formal and informal care or assistance, care providers in the home environment have an important role for detecting and responding to abuse. Both assessment tools and existing interventions for elder abuse need further testing in the setting of the home environment and over different cultural contexts and with risk groups. There is a need for intervention outcome measures to assess the extent of case resolution. Furthermore, more research is needed, in particular interdisciplinary research, in order to advance the knowledge for facilitating multidisciplinary team approaches.

Important is also that interventions need to address potential side-effects when responding to elder abuse (or quaternary prevention). In future studies, when developing an intervention protocol, the perspectives of (abused) older people and their environment should be accounted for.

Disclosure

Liesbeth De Donder reports the following as it might give an appearance of potential influence: the paper/literature review has found fifteen assessment tools that met our inclusion criteria of which four were not included in the systematic review by Gallione et al. These four instruments are discussed and one of these four is the Risk on Elder Abuse and Mistreatment Instrument (REAMI) of which I am the developer/first author of the validation paper (De Donder et al, 2018). The authors report no other potential conflicts of interest in this work.

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