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A literature review of screening scales used for the diagnosis of elder abuse

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*A literature review of screening scales used for the diagnosis of
elder abuse*

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ABSTRACT

Background: Elder abuse is a public health problem. However, its prevalence is largely underestimated as, according to the WHO, only 1 case out of 24 would be detected. One of the reasons is the lack of a standardized screening tool, even though several screening scales have been developed since the 1980s.

Aim: The purpose of this study was to identify, describe and classify the scales according to their reliability data in order to find the most appropriate one for general practice.

Method: A systematic review questioning PubMed, PsycINFO and BDSP databases was undertaken on April 2018. It included articles with screening scales used for diagnosis of elder abuse, validated or not. A second search was achieved using the bibliography of the included articles.

Results: Of the 1041 articles found, 61 were included of which 6 were included thanks to the study of the bibliography of included articles. 36 screening scales were classified by type of maltreatment and screening method, and then by their reliability data.

Conclusion: The scales had different reliability results, some had excellent psychometric data, some needed additional studies with other samples, others did not yet have validity data but were promising tools. They also differed by their purpose, their target, their place of setting, the type of abuse and their language version, hence the difficulty of comparing them and recommend a single tool. The possibility of using multiple tools combined should be considered in order to evaluate all aspects of violence.

RESUME

Introduction : La maltraitance des personnes âgées est un problème de santé publique. Sa prévalence est largement sous-estimée, étant donné que selon l’OMS, seul 1 cas sur 24 serait dépisté. Une des raisons retrouvées, est l’absence d’un outil standardisé dans ce dépistage, malgré le fait que plusieurs échelles de dépistage aient été développées depuis les années 80.

Objectif : Le but de cette étude était de répertorier, décrire, puis classer les échelles selon les données de fiabilité afin de trouver la plus adaptée à la pratique de la médecine générale.

Méthode : Une revue systématique de la littérature a été effectuée en Avril 2018 en interrogeant les bases de données PubMed, PsycINFO et BDSP. Les articles inclus étudiaient les échelles utilisées pour le dépistage de la maltraitance des personnes âgées qu’elles soient validées ou non. Une deuxième recherche a été réalisée en étudiant la bibliographie des articles inclus.

Résultats : Sur les 1041 articles trouvés, 61 articles ont été inclus dont 6 grâce à l’étude de la bibliographie des articles précédemment inclus. 36 échelles de dépistage ont été classées selon le type de maltraitance et leur méthode de dépistage puis par fiabilité.

Conclusion : Les échelles retrouvées avaient des données de fiabilité différentes, certaines disposaient d’excellentes données psychométriques, d’autres nécessitaient des études supplémentaires avec d’autres échantillons, d’autres n’avaient pas encore de données de validité mais étaient des outils prometteurs. Elles différaient également par leur but, leur cible, leur lieu de dépistage, le type d’abus et leur version linguistique, d’où la difficulté de les comparer et d’en recommander une seule. La possibilité d'utiliser plusieurs outils combinés devrait être prise en compte afin d’évaluer tous les aspects de la violence.

INTRODUCTION

Elder abuse has always existed, but it has a relatively recent definition and recognition. Numerous attempts to define it have emerged, but these definitions are lacking acuity. Even the very notion of “elder” does not make a consensus in scientist writing. The age at which a person reaches elder status varies considerably from one study to another, but usually is between 60 and 70 years, when the person becomes vulnerable. Elder vulnerability cannot be omitted when the notion of abuse is addressed, as it is a risk factor for abuse. It is defined as a multidimensional phenomenon including three factors: health status, cognitive ability, and social network (1).

In 2002, the first international definition was adopted by the World Health Organization's (WHO) Toronto Declaration on 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"* (2).

Several types of maltreatment are defined (WHO): physical, psychological or emotional, sexual and financial abuse. It can also be the result of intentional or unintentional neglect. Several authors also include the notion of self-neglect in the different types of elder abuse (3,4).

The prevalence of elder abuse has been the focus of many studies, and provided a wide range of results and estimate, but these numbers are only the top of the iceberg. The latest study was conducted in 2017 and was based on 52 studies in 28 countries from diverse regions, including 12 low- and middle-income countries and estimated that, over the past year, 15.7% of people aged 60 years and older were subjected to some form of abuse (5). But these prevalence rates are likely to be underestimated as the phenomenon is underreported. It has been estimated that only 1 in 24 cases of elder abuse is reported (6).

One of the reasons was that the problem of detecting elder abuse is compounded by the absence of a standardized, psychometrically valid instrument for case finding.

Several instruments have been developed and are currently available. Although all share similar content and are directed toward assisting with the identification of various form of elder mistreatment, there are key differences in the focus, format, structure, and type of data gathered by each instrument. Several articles (7–11) reference a number of screening instruments but none of them include them all.

The purpose of this review of literature was to summarize, describe and discuss attributes and limitations of the existing screening tools. Psychometric properties were also examined in order to discuss which scale would be the most reliable and appropriate to use in General Practice.

METHOD

Protocol and registration

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) guidelines for systematic reviews were strictly followed.

Eligibility criteria

Inclusion criteria were:

- article recruiting individuals aged 60 and older
- article recruiting caregivers of elders
- articles recruiting health professionals, care workers in home cares or social professional that are involved in the assessment or reporting of elder abuse
- articles describing the development or validation of a scale used for detecting elder abuse or articles using scales in order to diagnosis elder abuse
- no restriction applied regarding patient gender, race, co morbidity, setting or other characteristics.
- no restriction applied to type of administration and screening techniques
- no restriction applied regarding the psychometric properties or validity of the screening tool
- no restriction applied to the geographic origin of the article
- articles written between 1st January 1986 and 31 December 2017
- articles written in IMRAD format

Exclusion criteria were:

- articles in other languages than English or French
- no screening tool described or used in the article
- articles which principal aim is not diagnosis of elder abuse
- article describing screening by dentist, gynecologist, radiologist, orthopedist or dermatologist
- articles describing or using assessment protocols and guidelines
- duplicates
- no abstract available
- literature review

Information sources

This systematic review was conducted using the following databases: PUBMED, PsycINFO and BDSP.

The research was conducted on April 2018.

Search

The search strategy on the electronic databases was conducted by one investigator helped by the Brest University's library team.

Elder abuse was the key word for every database. The search equation in PUBMED was: ["Elder Abuse/diagnosis"[Mesh] OR ("Elder Abuse" AND screening)]. The search equation in BDSP was: ["elder abuse" AND (screening OR diagnosis OR assessment OR tool OR scale OR instrument)]. The search equation in PsycINFO was: ["elder abuse" AND (screening OR diagnosis OR assessment OR tool OR scale OR instrument)].

Study selection

For the first research on databases, only articles with abstracts published from the 1st January 1986 to the 31th December 217, in English or French were selected. Books were excluded. Then we selected articles on screening titles and abstract and applied the exclusion criteria. Duplicates were excluded as well as if the full text was not available. For the final selection phase, eligibility criteria were applied on reading the full text to select the studies that are included in this study. Articles were then added by reading the included articles bibliography and applying the same selection criteria.

Data collection process

Previous reviews were inspected to obtain relevant information and identify all existing elder abuse tools with no restriction. After search results were obtained, we screened titles and abstract of every article found. Once the full text of selected articles was retrieved, we evaluated their pertinence to the review. If the full text was not available on the database, it was requested at the Brest University Library, or in Google®.

Data extraction

For all the articles, the following parameters were extracted when available: scale description, language version, ways of scoring, location of the study, studied population, sample's numbers, psychometric properties (Cronbach's alpha, ICC and the interval period for the retest, Cohen's kappa) and limitations of the study.

Reliability data

Reliability of a scale is tested to know if this scale is stable over time. Reliability is a generic term to indicate the internal consistency (and homogeneity) of a questionnaire, the test-retest reliability (reproducibility) and the inter-rater reliability.

a. Internal consistency

Internal consistency measures the stability of a scale. If this scale is used to measure the same phenomenon several times under the same conditions, it should give similar results (12,13). Cronbach's alpha measures the internal consistency of a tool composed of several items. The KR-20 coefficient can also be used when the scale offers dichotomous answers. When several items form a single tool, they must measure the same thing, being correlated to each other. Its value ranges from 0 (no internal consistency; none of the items are correlated with each other) to 1 (perfect internal consistency; all the items are perfectly correlated with each other). It is considered excellent over 0.9, acceptable from 0.7 to 0.9 and below satisfactory range if it drops below 0.7 (14).

b. Test-retest reliability

Test-retest reliability evaluates the reproducibility of a questionnaire. It concerns the degree to which repeated measurements in stable persons provide similar answers. The same person is evaluated by passing a psychometric instrument a first time (test), then a second time (retest). The interval period between the 2 tests must be sufficient to avoid participants remembering their previous responses and to prevent variations in the observed phenomenon that could affect the repeatability. Often, 1 or 2 weeks is appropriate, but there could be reasons to choose otherwise. The stability of the individual's responses is estimated by intraclass coefficient correlation (ICC) between their responses in the two administrations. $ICC \geq 0,70$ is considered to indicate good test-retest reliability (15).

c. Inter-rater reliability

Cohen's Kappa is a statistical measure of the degree of agreement between two observers when they independently evaluate the same subjects using a nominal measurement scale (or a tool with several items). When observers totally agree, $\kappa = 1$. If they totally disagree $\kappa \leq 0$. Often 0,70 is recommended as a minimum standard for reliability (16,17). Kendall model can also be used, and an acceptable range is found for variables over .486. (18)

RESULTS

Selection process

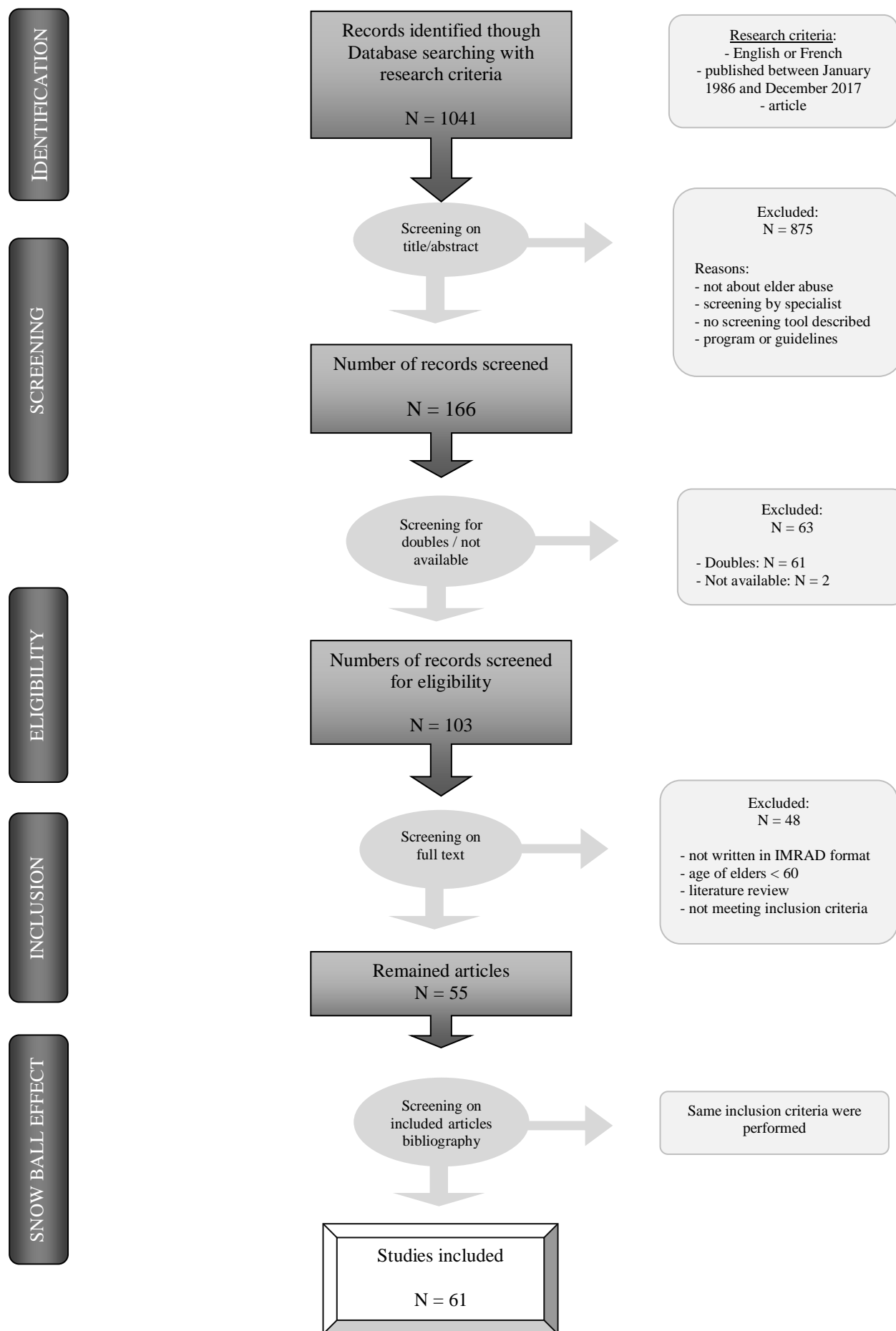
1041 references were identified through database searching with the research criteria, distributed as follows: 444 from PubMed, 578 from PsycINFO and 19 from BDSP. Then exclusion criteria were applied on screening title and abstract. It permitted to exclude 875 articles. On the 166 remained articles, doubles and articles which were not available were excluded. Finally, inclusion criteria were applied on reading the full text of 103 articles. 48 articles were excluded.

A review of bibliography of the 55 remained articles was done, and the same inclusion criteria were applied. 6 articles were included by this selection process.

A total of 61 studies were included and 36 scales were identified. (Flow diagram: Figure 1).

All the scales are summarized in a table with their related articles. (Appendix 1)

Figure 1: Flow diagram



Synthesis of results

The tools were classified according to types of elder abuse and then according to the 3-dimensional model of screening for abuse proposed by Cohen et al. (19): direct questioning or self-report of the older adults, inspecting signs of abuse, and evaluating risk of abuse. A single tool may fall into more than one category as the author recommends that awareness is increased when a tool combined these 3 ways of screening. If the tool used falls into a single category, it is recommended to combine it with another tool in order to enhance the screening.

A - VARIOUS KIND OF ELDER ABUSE

1) DIRECT QUESTIONNING OR SELF REPORT TOOLS FOR PATIENTS

H-S/EAST

The Hwalek-Sengstock Elder Abuse Screening Test (Hwalek and Sengstock, USA, 1986) was created, to identify older adults who are being abused or who are at risk for abuse. This 15-item scale asks a series of yes/no questions about 3 major domains of elder abuse: characteristics of elder vulnerability (*sad/lonely, inability to get around by oneself*), situations with potential for abuse (*little privacy at home, family members drinking a lot*), and violations of personal rights or abuse (*forced to do things they did not want to do, taken things without agreement*). A theoretical score of 3 or greater indicates that the patient may be at a higher risk of being mistreated (20). Later it was found that a cutoff point of 6 gave better results, giving priority to the specificity value (21). The test takes 5 to 10 minutes to complete, and even less since it was found that the 9 items versions had the best discriminating ability between the abused and non-abused participants (22).

This tool is one of the most described, used and tested in the field of screening for elder abuse. Its ability to distinguish between known groups of abused and non-abused elders was demonstrated as well as construct and concurrent validity, but all the results showed a high rate of false negative and low internal consistency (20,23). In 2009 using a telephone test of reliability and validity with a small sample, it was demonstrated that this tool had no discriminating power for screening (24). Better results for internal consistency were found later in a study of 100 American Indian elders in which results remained low but higher than appearing elsewhere (25).

Authors of the previously cited studies explained these results by the fact that all psychometric data were limited by small unrepresentative samples. So even if the H-S/EAST appeared to be a practical tool for data collection with the frail elderly, the authors recommended larger and more diverse sample of elders to redefine its psychometric properties before using it as a screening tool.

It has been adapted and used in other countries such as Sri Lanka, or Turkish where it was shown that Turkish version could be used as a valid and reliable tool for the assessment of elder abuse (21,26).

NELS

The Native Elder Life Scale (Jervis et al., USA, 2014) was developed from the well-known H-S/EAST to capture culturally salient aspects of mistreatment in American Indian context, and more specifically financial exploitation (FE) and neglect which were considered inadequately assessed for this population. It consists of two different scales: the NELS-FE with 18 items, that showed low to moderate internal consistency, and the NELS-neglect with 12 items that showed better psychometric results (25).

Responses options of these scales are “never,” “sometimes,” “usually,” and “always,” with “not applicable” as an additional category. Three sets of items are conditional on the endorsement of a previous question. Only those answering “sometimes,” “usually,” or “always” are then asked optional questions. The additional response categories, then, indicates both that the vulnerability exists and provides information on the frequency to which problems occurs (sometimes, usually, or always).

As for the HS-EAST, the authors recommended to increase the sample sizes for further psychometric investigations.

VASS

The Vulnerability Abuse Screening Scale (Schofield and Mishra, Australia, 2003) was created in context of a longitudinal study, conducted from a project of the WHA (Women’s Health in Australia) that lasted 20 years. It’s a 12-item yes/no direct questioning or self-report tool, which includes 10 items from the H-S/EAST and 2 additional ones, and investigates vulnerability, dependence, dejection and coercion. It is not adapted for patients with cognitive disorders.

Several studies were conducted, with sample of older women selected in the baseline survey of the Australian Longitudinal Study on Women’s Health. It showed strong stability and moderate internal reliability which is appropriate for a rapid screening tool (27,28). The authors found later, with the same sample of women, preliminary evidence that this instrument could predict a decline in both physical and mental health outcome over a three year period (29). As the H-S/EAST, a limitation of the tool is that its final score is based on the answers to questions regarding signs of abuse and risk factors all receiving the same unweighted scoring.

It also has been used, translated and validated in different countries showing that it has a good cross-cultural adaptation. In Brazil and Turkish it proved to be a valid, reliable and easy to use instrument with acceptable psychometric capacities (30,31). After adaptation and translation in French, sensibility and specificity of the EDVM (Echelle de Dépistage de Vulnérabilité et de Maltraitance), were tested in a sample in France and showed acceptable sensibility but poor specificity for a cut off score of 1 (Specificity was increased with a cut off score of 2 but Sensibility was decreased) (32).

EASI

The Elder Abuse Suspicion Index (Yaffe et al., Canada, 2003) was developed to assist physicians in primary care settings with identifying quickly patients who might be experiencing abuse (neglect, verbal, psychological, emotional, financial, physical and sexual abuse) over a 12-month period. It's a 6-item tool, including 5 items completed by questioning patients with MMSE \geq 24, and a last one reserved for physicians about the patient's appearance and behavior. The goal of this tool is not necessarily the diagnosis of elder abuse but to generate a level of suspicion in order to justify referral to an appropriate community service.

It was tested in the practice setting and showed a low sensitivity and a moderate specificity when at least one question was positive; so it was concluded that it could be used to exclude mistreatment (33).

It's a culturally transferable tool and EASI items were studied in a joint research program with 8 countries (Australia, Brazil, Chile, Costa Rica, Kenya, Singapore, Spain and Switzerland) in order to create a "universal" tool. (34). Further studies are needed in this goal.

sa-EASI (see Appendix 2)

The sa-EASI (self-administration of the EASI) was then developed (Yaffe et al., Canada, 2011) and is a 5-item dichotomous question (yes/no) that can be completed by a cognitively intact patient in about 2 to 5 minutes in doctor's waiting room.

The authors showed that the sa-EASI was practical, feasible, and acceptable (35). A formal validation study would be needed utilizing a larger sample size to allow direct comparisons of outcomes between the EASI and the sa-EASI.

EASI – LTC

This 9-item tool was developed from the EASI and included 3 new questions to further address neglect and psychological abuse. It was designed to be used in Long Term Facilities for elders with MMSE ≥ 24 , to raise suspicion of abuse that would initiate further inquiry by professional. Further work is needed to explore the practical aspects of EASI-ltc implementation in cognitively intact elders first and then in cognitively impaired elders, residing in LTC and then its validation (36).

EASI-Leo

Another adaptation of the EASI has been developed for law professionals, the EASI-Leo. It has the potential to provide an appropriate and easy detection tool for law enforcement officers to use in cases of suspected elder abuse. The feasibility of tool utilization and validation of the tool content are the next steps (37).

GMS

The Geriatric Mistreatment Scale (Rodriguez et al., Mexico, 2013) was developed to measure 5 types of mistreatment: physical, psychological, neglect, financial and sexual abuse. Each of the 22 items allows a dichotomous-type response, and if a person answers yes to one question, it is considered as mistreatment. It contains direct and easy to understand questions, so its application is quite quick and easy. It is the first instrument created to assess mistreatment of older people in a Spanish-speaking population. The English version has also been developed by a process of translation retranslation proposed by Guillemin et al. (38)

It was tested in Mexico City and showed an appropriate internal consistency for the full scale and for each type of mistreatment, except for economic mistreatment which was lower than the acceptable range. Its convergent validity and external reliability were not assessed as it was not possible to use another scale to assess mistreatment (39).

AVOW

The authors (Lang et al. 2014) developed this tool in a study which purpose was to evaluate the feasibility of reducing the numbers of item of a tool. They used the 34-item CTS scale as the original scale and developed a shorter and user friendliness version of 22 items, the AVOW (Abuse and Violence against Older Women). This brief version comprises 22 indicators (5 neglect, 5 emotional, 3 financial, 3 physical, 3 sexual abuse, and 3 rights violations). Compared to the original form, the adapted version of the instrument yields the same reliability and validity (40).

This scale has not been tested on its own, so further sample are needed in order to use it for detection of EA.

FAMOASQ (see appendix 2)

The Family Members Mistreatment of Older Adults Screening Questionnaire (Ruelas-Gonzales et al. Mexico. 2017) is a 15 yes/no item tool developed for detecting familial mistreatment of older adults in primary care settings for Spanish speaking elders. It can be filled in a short amount of time and does not need to be administered by an expert or highly trained healthcare provider. Items are phrased in understandable terms for older adults. Interpretation of evaluation to more than 3 positive responses considers the possibility of being an older adult with family mistreatment.

The 15 items achieved internal and concurrent validity levels that were similar to those of tools with up to 42 items such as the previously validated “Elder Assessment Instrument” (EAI) or the GMS which was also designed for Mexican population. Authors concluded that applying this tool at the first level of care could limit damage to older adults’ health and could lower the frequency of emergency room use. But they also specified that their study represented an initial validation of the screening tool, therefore other validation studies are needed to ensure its reliability across the target population (41).

EADSS Short forms (see appendix 2)

The Elder Abuse Decision Support System Short forms were developed by studying sensibility and specificity of the full-length scales previously validated and known as the EADSS long forms (42). It consists of 4 brief measures of Physical Abuse, Emotional Abuse, Financial Exploitation and Neglect meant to be used by APS workers. The brief measure for Sexual abuse was not validated. These 4 scales can be used separately or as a 31-item screening tool that could further be included as part of the medical evaluation in clinical settings. It is estimated that administering all four forms takes approximately 10–15 minutes.

Each item is answered by “*yes*” or “*no*”, and if abuse is positively substantiated on any item, it is recommended to ask additional items from the long form to collect further evidence. (43)

The OAPhAM (Older Adult Physical Abuse Measure) short form was developed from the validated 20 items long form which was constructed by incorporating indicators used by Illinois ‘Abuse Neglect and Exploitation (ANE) assessments along with others found in the elder abuse literature. It resulted of a 6-item tool, internally consistent and highly correlated with the long form. (For sake of clarity, this tool will be referred in this study as OAPhAM, for distinction with the previously validated OAPAM)

The OAEAM (Older Adult Emotional Abuse Measure) short form was developed from the OAPAM 18-item short form which is used to detect psychological abuse (44) (see below). It resulted of an 11-item tool, internally consistent and highly correlated with the long form.

The OAFEM (Older Adult Financial Exploitation Measure) short form was developed from the previously validated OAFEM (45) (see below). It resulted of an 11-item tool, internally consistent and highly correlated with the long form.

The OANM (Older Adult Neglect Measure) short form was developed from the validated 17 items long form, which some indicators were based from the ESNA (Elder Self Neglect Assessment) (4,46) (see below). It resulted of an 8-item tool, highly correlated with the long form, but for which internal consistency failed below the acceptable range.

Authors recommended further validation studies for these short forms in community-based research and institutional settings. Furthermore, scaling of the short-form items may need to be revised as the “some indication” option may not work in survey-based self-report contexts.

2) DIRECT QUESTIONING OR SELF-REPORT TOOLS FOR CAREGIVERS

CASE (see Appendix 2)

The Caregiver Abuse Screen for the Elderly (Reis and Nahmiash, Canada, 1995) is part of a wide study conducted by the Canadian National Project Care. It's an 8 yes/no items instrument answered by caregivers to assess the possibility of turning into potential abuser. It is worded in a non-confrontational way to help the responder feel comfortable and answering truthfully. A score of 4 or more is considered "abuse likely", however even a single affirmative is worthy attention. Because of its brevity, the CASE could have utility in research as an initial screen of abuse for large populations of seniors, even using inexperienced workers. It was reported to have good construct validity and reliability (47). Cohen et al. suggested to use it in combination with other tools such as the e-IOA to enhance its effectiveness (48).

The Spanish version of the CASE showed sufficient validity and reliability, and could be considered as a suitable instrument to assess risks of elder abuse in a Spanish-speaking context (49).

The Italian version of the CASE was found as a reliable and consistent screening tool for tackling the risk of being or becoming perpetrators of abuse by family caregivers of people with Alzheimer disease (50).

The Brazilian version of the CASE was found reliable and valid, so it was concluded to be a promising detection tool for risk of abuse in clinical practice and research, but authors expressed a cautious utilization of it as new rounds of psychometric evaluations would be needed (51).

3) SIGNS OF ABUSE TOOLS

EAI

The Elder Abuse and neglect assessment Instrument (Fulmer et al., USA, 1984) was designed to detect elder abuse in emergency department, by nurses, with a clinical interview and physical assessment, in less than 15 minutes. It consists of 41 items, sub divided in 7 areas: general assessment (*hygiene, nutrition, ...*), neglect assessment (*dehydration, bruising, ...*), usual lifestyle (*management of finances, continence, ...*), social assessment (*interaction with family, ability to express needs, ...*), medical examination (*unusual doses of medication, greater than 15% of dehydration, ...*), psychological exploitation (*being ignored or given the “silent treatment”, ...*) and summary assessments (*evidence of neglect, ...*).

It is one of the few instruments that assess the field of neglect and the 3 weeks pilot study demonstrated that it was feasible for emergency nurses to conduct accurate screening protocols in their busy practice with a high percentage of agreement (52).

A French version has been developed : “Outil d’évaluation des situations de Suspensions de Maltraitance envers une Personne Âgée” (SMPA). Most participating consultants or nurses said it was useful and applicable to their professional practice. To be effective, the SMPA needs to be used by interdisciplinary teams and requires appropriate prior training (53).

EAI-R

The EAI was modified in 2012 with a 51-item version (EAI-R) that added psychological abuse and was designed to serve as a first screen to alert clinicians to the need for more expert assessment. (Fulmer et al., USA, 2012).

The screen does not have a numeric score but instead, if items in the summary assessments of the screen are equal to “probably no evidence”, “probably evidence”, or “evidence”, the screen is considered positive and referred to social services.

The pilot study demonstrated feasibility of screening for EM in busy clinics and the authors specified that the geriatrician/geriatric nurse practitioner willingness and capacity to complete the EAI-R showed promise for its widespread adaptation (54).

4) INDICATOR OF RISK OF ABUSE

E-IOA

The Expanded – IOA (Cohen et al., Israel, 2006) is a tool, based on the 27-item Indicator Of Abuse (IOA) screen reported by Reis and Nahmiash in 1998 which was designed to identify elderly people at high risk of abuse but was validated for people over 55 (55). After translation of the 27 sub-indicators in Hebrew (48), the e-IOA was converted into a risk indicators semi-structured interview as the responses were ranged from 1 “not at all” to 4 “very much”. It contains indicators of risk regarding the caregiver (*behavior problems, family/marital conflicts, inexperience in giving care, financial dependence, alcohol abuse ...*) and some indicators for the elderly patients. (*social isolation ...*) but is weak in identify financial abuse. It has to be administered by a trained professional and takes about 2 hours to be completed. Firstly a cut off score of 2,7 was determined by the authors, but they lowered it at 1,7 in a further study (19).

Its validity and reliability were assessed and confirmed in a sample of cognitively intact elders in Jerusalem, screened with their caregivers in a hospital setting. It proved to discern satisfactorily elders who were probably abused and those who were probably not (48).

In 2007 authors concluded that it could safely be used in settings in which identification of evident signs of abuse was not possible, such as social services and day centers. They also recommended further research in order to construct a shorter screening tool.

MOARF

An English-speaking adaptation of the e-IOA, the “Mistreatment of Older Adult Risk Factors” (MOARF) has been developed in a Canadian study for screening in the home setting. Its content validity was assessed using three rounds of Delphi over a seven-month period.

The assessment of inter-rater reliability showed that 90 of the 95 sub-indicators achieved satisfactory agreement among the nurses on paper case studies. To refine its psychometric properties, authors recommended further revision and validation before it could be used (56).

EDMA

The EDMA “Escala de Detección de Riesgo de Malos Tratos Domésticos y Comportamientos Autonegligentes” (Touza et al., Spain, 2004) is a Spanish 54-item tool and is known as “detection scales for the risk of domestic abuse and self-negligent behavior in elderly persons” which was designed for social services professionals to enable the detection of risk of domestic abuse and self-neglect. It consists of two scales which construct validity and reliability were assessed: the Elder Scale and the Alleged Abuser Scale, that can be used independently or combined. The items included in these scales contain examples of abuse, signs of abuse, and risk factors for abuse (57).

A limitation of the validation study is that the authors were unable to obtain a representative sample of the elders who use Social Services. An English version is available, but it has not been validated yet.

VRIP

The Vulnerability Risk Index Profile (Dong et al., USA, 2014) is a 9-item tool which was developed in South side of Chicago in a context of the CHAP study (Chicago Health and Aging Project), to predict the occurrences of elder abuse in community-dwelling populations. The risk for elder abuse is particularly high if an older adult has 5 or more of the risk indexes.

It demonstrated value for identifying individuals at risk of elder abuse. Additional studies are needed to validate this index in other community-dwelling population (58).

TRIO

The Tool for Risk, Intervention and Outcomes (Sommerfeld et al. 2014) was designed by APS administrators and social workers, in order to guide their practice and provide better data regarding risks, interventions, and outcomes of typical APS episodes including the identification of abuse and neglect risk factors. The 35 risk indicators are covering common factors associated with specific types of abuse and/or neglect (*e.g., physical, sexual, and psychological abuse, exploitation, or neglect*) as well as indicators of more generalized vulnerabilities (*e.g., environmental concerns or resource limitations*). All TRIO items were structured so that each can be used with either elder adult (age 65 and over) or dependent adult (age 18–64) APS clients.

The findings from the initial tests of TRIO field utility, feasibility, reliability, and validity were promising but authors recommended to perform additional field utility testing, in APS sites that were not directly involved in the development of the TRIO, to further inform the degree to which the TRIO could be successfully implemented into general APS practice (59).

B – PHYSICAL AND PSYCHOLOGICAL

1) DIRECT QUESTIONING OR SELF-REPORT TOOLS FOR CAREGIVERS

MCTS

The Modified Conflict Tactic Scale (Beach et al., UK, 2005) was developed from the CTS which is the most frequently used measure of abuse within relationships, but not validated to be used in older populations. It's a 10-item tool, answered by caregivers of elders with dementia who are asked how often in the last 3 months they had acted in each of 5 psychologically and 5 physically abusive ways, on a Likert scale from 0 (never) to 4 (all the time). A cut off score of 2 was found to be the best cut off score for sensitivity of the scale, even if specificity was too low (60).

It was found that this tool was acceptable, reliable, had convergent and discriminant validity, by comparing scores with those of other evaluative tools (61).

IFCEA

The Impulsive Feelings to Commit Elder Abuse scale (Lee et al. South Korea. 2007) was designed to measure impulsive feelings to abuse older adults by caregivers rather than judging whether caregivers are abusive or not. It was developed from the PBH checklist and includes 5 items for physical abuse and 5 items for emotional abuse. Response options for the 10 items range from 1 (*never*) to 5 (*almost always*). Higher scores indicate stronger impulses to commit elder abuse.

Although the results showed that the IFCEA was a reliable and valid measurement in a Korean sample, the authors recommended that replication studies should be conducted in other ethnic samples, and random sampling methods to be employed for generalization (62).

C – PSYCHOLOGICAL

1) DIRECT QUESTIONNING OR SELF REPORT TOOLS FOR PATIENTS

OAPAM

The Older Adult Psychological Abuse Measure (Conrad et al., USA, 2011) is a self-report tool, developed to assess the existence and the level of psychological abuse of older adults who are able to self-report using a MMSE score of at least 17. The 31 items are classified into four types of psychological abuse: isolation (*“Has he/she confined you against your will?”*), threats and intimidation (*“Has he/she abandoned or threatened to abandon you?”*), insensitivity and disrespect (*“Has he/she not let you speak for yourself?”*), and shaming and blaming (*“Has he/she called you unkind names or put you down?”*). Elders are asked if they had suffered such episode of violence in the past 12 months.

Even if the scale has been validated as it showed acceptable psychometric results, it would require further studies for development of validated cutoff scores. A shorter form user friendly was developed containing 18 items which was also validated (44).

2) DIRECT QUESTIONNING TOOLS FOR PATIENTS AND CAREGIVERS

EPAS

The Elders Psychological Abuse Scale (Wang et al., Taiwan, 2007) was designed to detect psychological abuse and to identify individuals at elevated risk for such form of abuse in clinical settings such as nursing homes and geriatric day care facilities. It’s a 32-item scale with a yes/no response format, easy to administer in about 5 to 10 minutes.

Items are divided in 3 parts: asking elderly person directly, active observation and asking an elderly person's caregiver. A cutoff point of 10 was established which suggests a higher chance of psychological abuse.

Psychometrics results provided support for the efficacy and showed content and construct validity. Besides, two tests in a 2-week period demonstrated that the EPAS was an instrument of stability (63).

The researchers specified that this instrument was developed through a focus group comprising elderly Asian subjects so generalization to the western population might engender some limitations. They recommended additional research to be performed with larger samples and to further validate a more sensitive cutoff point for this instrument.

The English version of the test has not been validated.

D – FINANCIAL

1) DIRECT QUESTIONNING OR SELF REPORT TOOLS FOR PATIENTS

OAFEM

The Older Adult Financial Exploitation measure (Conrad et al., USA, 2010) is a self-report tool developed to assess financial abuse of older adults who are able to self-report using a MMSE score of a least 17. The initial version of the OAFEM was a 79-item tool, but the authors developed short forms (SF) that would be user-friendly for clinical applications containing 54 items and 30 items. The SF is viewed as most useful, but the longer forms provide a bank of items that may be useful in future development of alternative forms or computerized adaptive tests.

A raw score of 12 out of 60 is indicative of financial abuse in the 30-item form, but it will require further replication and validation with external criteria to refine it.

Validation studies showed excellent reliability but this tool needs further sensitivity and specificity testing once a more sensitive cutoff point will be defined (45).

The OAFEM was further reduced to a 25-item screening instrument in an Irish study in order to examine its appropriateness for use as a screening instrument in Ireland. As it was tested with a small sample, the authors recommended further research with a greater sample size. Even though, findings from this pilot study showed possibility of a reduction of items to asking just 6 questions and only completing the remaining 18 questions if a response to questions 1–6 was ‘positive’ or ‘suspected’. This would substantially reduce the time to complete the OAFEM and be more practical in use (64).

2) INDICATOR OF RISK OF ABUSE

LFDRS

The Lichtenberg Financial Decision Rating Scale (Lichtenberg et al., USA, 2015) was designed to aid assessment of the integrity of an elder’s financial judgment or financial decisional abilities in order to screen for financial exploitation. It consists of 61 multiple-choice questions ranged into four subscales: Financial Situational Awareness, Psychological Vulnerability, Susceptibility to Undue Influence, and Intellectual Factors. Items are scored from 0 (= Lacks decisional abilities) to 2 (= Has full decisional abilities to make this decision /transaction). It is possible to be asked up to 17 additional questions depending on the answers to certain items. Due to its length, only highly trained professionals are likely to use it.

The authors demonstrated acceptable results for inter-rater agreement and preliminary criterion validity, but the results have limited generalizability because elders were mostly women and by design, all African Americans. A further larger sample will be needed (65,66).

LFDSS

The Lichtenberg Financial Decision Screening Scale (Lichtenberg et al., USA, 2016) is a 10-item structured, multiple-choice interview, derived from the LFDRS (7 from the Intellectual Factors subscale and 3 from the Susceptibility to Undue Influence subscale), in order to detect financial exploitation. It was designed to be used by criminal justice and non-criminal justice professionals, unlikely the LFDRSS which requires a high-level training. Two ways of scoring the scale can be used (dichotomous yes/no questions and multiple-choice method: from “0 = major concerns” to “2 = no concerns”) which both provided strong evidence for their validity. It is recommended that a cutoff of 1 and above to be used for the dichotomous variable scale and a cutoff of 5 and above to be used for the ordinal variable scale (67,68).

Another study supported validity for this tool so it could be recommended as a brief screen for financial incapacity (69).

E – NEGLECT

1) SIGNS OF ABUSE TOOLS

CSNS

The Clinical Signs of Neglect Scale (Friedman et al., USA, 2017) was developed to utilize routine clinical data captured in electronic health records, with the intent that a simple

algorithm could be added to existing electronic health records software to flag potential cases of neglect.

It demonstrated feasibility, as a pre-screener to help identify cases of neglect among the elderly. Sensitivity was adequate with a cut off score of 5, but the specificity was too low to be effective as a screening tool in isolation. Further validation studies would be necessary, to assess whether this scale is correlated with known risk factors for neglect. Authors also recommended that, within the hospital setting, the CSNS should only be used to improve discharge planning for at-risk patients, not as definitive tools to identify cases of neglect for legal intervention (70).

F - SELF – NEGLECT

1) SIGNS OF ABUSE TOOLS

SSS

The Self neglect Severity Scale (Dyer et al., Texas, 2008) was developed by the CREST (Consortium for Research in Elder Self-neglect of Texas) to provide an objective measure for identifying the presence and severity of self-neglect. It contains 37 items, scored from 0 to 4 which are divided in 3 sections: personal hygiene (*dirty hair and clothing, poor condition of nails and skin*), impaired function (*decline in cognitive function and activities of daily*) and an environmental assessment (*visual evidence of subject's inability to make necessary household repairs, clean the house and yard, and manage material goods*). Almost all of it can be completed through observation. The rankings have an associated color picture applicable to guide the administrator.

It is to be known that the SSS does not include food intake/nutrition information; other studies of this population have documented nutritional deficiencies as a significant factor in self-neglectors.

Further studies for validation would be necessary in order to develop the SSS for use as a screening tool. Overall, the authors suggested that the SSS was a promising measure for rapidly differentiating those persons who self-neglect from those who don't (71).

ESNA

The Elder Self-Neglect Assessment (Iris et al. USA, 2010) was designed to assess an older adult's status in each of the areas (behavioral or environmental), using 73 standardized indicators categorized into 7 areas (personal, endangerment, environmental, financial issues, mental health, personal living conditions, physical health, and social network and culture) that could be determined as present or absent by observation. Rating of this scale can be done with 5 possible responses: Yes (problem exists), No (problem doesn't exist), Suspected Problem, Don't Know, and Not Applicable (46). A sample further reduced the scale to 62 items, as 9 items did not meet the criteria for validation. A shorter form of 25 items was also developed to be easier to use.

Both 62 and 25 item versions were validated to be used, with high internal consistency and item reliability. This being the case, the short form would normally be preferred for a full assessment. Authors recommended further research that should include a larger and more representative sample of older adults from various backgrounds (4).

2) INDICATOR OF RISK OF ABUSE

COMP

The COMP Screen (Naik et al. USA, 2006) is a concise 4-item tool that was developed to screen for decision-making capacity in the context of self-neglect, by clinical and social services professionals. It tests 3 cognitive domains that assess an older adult's ability to comprehend information: attention (*count forward from 1 to 20 then backwards from 20 to 1 in twenty seconds*), expressive language (*identify 3 common items*), and delayed recall (*repeat 3 standard items twice*). A fourth domain, awareness, tests the rational process of comparing different alternatives and articulating a single choice using a medical scenario to evaluate judgment in the context of self-care. It takes around 10 minutes to administer with a dichotomous (pass/fail) scoring for each of the four measurement items.

Results of a study demonstrated that it could be used as part of a comprehensive battery of geriatric assessments, but findings do not support the validity of the COMP Screen as a screening tool for decision-making capacity in the setting of self-neglect (72).

G - IN HOME CARE

1) DIRECT QUESTIONING OR SELF REPORT TOOLS FOR PATIENTS AND CAREGIVERS

R-REM

The Resident to Resident Elder Mistreatment (Ramirez et al., USA, 2013) was developed to advance the measurement and interventions associated with this under recognized problem facing residents in long-term care settings.

The instrument includes 22 items descriptive of R-REM behaviors, 5 verbal (“*other residents trying to scare, frighten or threaten you with words*”, ...); 7 physical (“*hitting you on purpose*” ...); 3 sexual (“*touching you in a sexual way that made you feel uncomfortable*”, ...); and 7 others (“*going into your room without asking you*”, ...). The tool is limited in use to residents with mild to moderate cognitive impairment that are capable of meaningful communication. For those with severe mental disorder, information might need to be cross-referenced with an independent source (73). For this reason, staff reports are critical in the assessment of R-REM, so the authors developed the R-REM-staff version (R-REM-S) which contains 11 items derived from the resident version (74). Both staff and resident versions should be used to obtain a comprehensive assessment from the resident and staff perspective.

2) DIRECT QUESTIONNING TOOLS FOR CAREGIVERS

CHCS

The Care Home Conflict Scale (Cooper et al., UK, 2013) was developed in order to measure abuse by care home workers in an anonymous way. It was based on the MCTS, from which some items were changed to be more appropriate to care workers, some were added to cover topics participants raised, and some positive items were included too (“*taken a resident out for their enjoyment*”, ...). The result is a 16-item questionnaire based on 5-point scale ranging from “never” to “all the time” that covers psychological and physical abuse but does not discuss financial or sexual abuse.

The authors indicated that this new measure had primary criteria of validity, but they needed to test its wider acceptability and psychometric properties in a further study (75).

H – QUALITY OF CARE

1) SELF-REPORT TOOL FOR PATIENT AND CAREGIVER

ECS

The Exemplary Care Scale (Dooley et al. USA, 2007) was designed for assessing quality of care and, specifically a level of care that goes beyond meeting basic needs to preserving a sense of worth among individuals with chronic illness or disabilities, and specifically elders. It can increase the accuracy of in-home assessment, provide helpful information about interventions to ease the burden of providing care, and, ultimately, enhance care recipient quality of life

Its 11-item self-report instrument to be completed by both informal caregivers and care recipients in 3 to 5 minutes, scored on a 4-point scale (from 1 « *never* » to 4 « *always* »). Items are divided in 2 factors: *Provide*, which reflects caregivers' attempts to provide their care recipients with special attention or niceties that extend beyond routine assistance with activities of daily living; and *Respect* which reflects caregivers' consideration of care recipient opinions, wishes, viewpoints, and desire for independence or autonomy.

Even though psychometrics showed adequate results, authors specify that further studies are needed with more heterogeneous sample for cross-validation and psychometric analyses. Moreover, these analyses were limited to dyads in which the care recipient showed no more than minimal cognitive impairment and may not generalize to all caregiving situations (76).

2) SIGNS OF ABUSE TOOL

THE QUALCARE SCALE (see Appendix 2)

The QualCare Scale (Philips et al., USA, 1990) is an observational rating scale which was designed to quantify the quality of family care giving to home-dwelling elders. It's completed by nurses in the elderly's place of residence and is based on observations of home environment and of the dynamics between the older adult and caregiver, verbal statements by the older adult and caregiver, and assessments of the older adult's health and wellness. It consists of 40 items across 6 subscales that cover 6 areas: physical, medical management, psychosocial, environmental, human rights and financial. It is based on 5-point Likert scale ranging from "Best Possible Care" to "Worst Possible Care". A cut off score of 3.5 has been defined in association with APS members (77). The length of administration depends on the situation and can range from 1 to 3 hours. As it goes through observation it can be used for persons with dementia.

Results of a pilot study supported evidence of inter-rater reliability, internal consistency as for criterion and construct validity (78,79). A French version of the scale also supported evidence for its validity, but a major finding was that this scale needed an intensive training in order to increase the inter-rater reliability. Indeed authors suggested further validation sample with a more concise scale in order to reduce the time of training and in order to be used outside research environment (80). The subscales were found with high sensitivity but a wide range for specificity. Authors suggested that further larger studies were needed to increase the specificity of the tool (77).

The Qualcare Scale could be an effective tool in detecting clinically significant elder abuse and neglect among older adults receiving care at home and is suitable and feasible for use by

highly trained practitioners working in home care. Additionally, it provides a quantifiable measure of quality of care giving which can allow a practitioner to examine changes in the care giving situation over time and evaluate the impact of interventions. The major limit of it is the length of the scale itself and the time required for training.

I – FAMILY VIOLENCE

1) DIRECT QUESTIONNING TOOL FOR PATIENTS

FVS

The Family Violence Scale (Préville et al. Québec, 2014) was developed from the CTS2 (Revised Conflict Tactic Scale) which is a well-known validated tool to assess family mistreatment, but which was not designed specifically for elder. The elder is asked if he hasd suffered from any kind of violence in the last 12 months by answering questions, including 4 items measuring spousal psychological violence, 4 items measuring financial violence, 3 items measuring physical violence, 4 items measuring children psychological violence, 4 items measuring financial violence, and 2 items measuring physical violence.

Its reliability and construct validity were reported in the ESA study. The internal consistency reliability coefficient of the ESA FVS suggested adequate reproducibility of the results obtained with the FVS (81).

It has been reported as easy to administer, well accepted by older adults and that can be used to estimate prevalence of psychological, financial and physical family violence among older adults.

2) SIGNS OF ABUSE TOOL

FVQA

The Family Violence Quality Assessment tool (Zink et al. USA, 2007) was designed to be used in primary care offices in order to facilitate efforts to better identify and manage patients with family violence. It's a 111- item tool, divided into 9 categories (*Office policies and procedures, office physical environment, Office cultural environment, Training of providers, Assessment, Documentation, Management, Evaluation activities, Collaboration*) with a total possible score of 100%. As it is not a specific tool to detect elder abuse, scoring was arranged so that offices are not penalized for something that is not within their range of practice. Hence, no answers are summed and subtracted from the possible total points. The tool may also be used to evaluate interventions in the primary care setting. It could be completed before and after an intervention and at later intervals to assess the maintenance of efforts.

Authors recommended further studies as the reliability and validity of the Delphi method and other methods of consensus development have not been scientifically established (82).

Additional analysis

The scales were ranked according to the internal consistency, which is the most found reliability data in the studies. Test retest reliability and interrater reliability were also noted but were found in less studies.

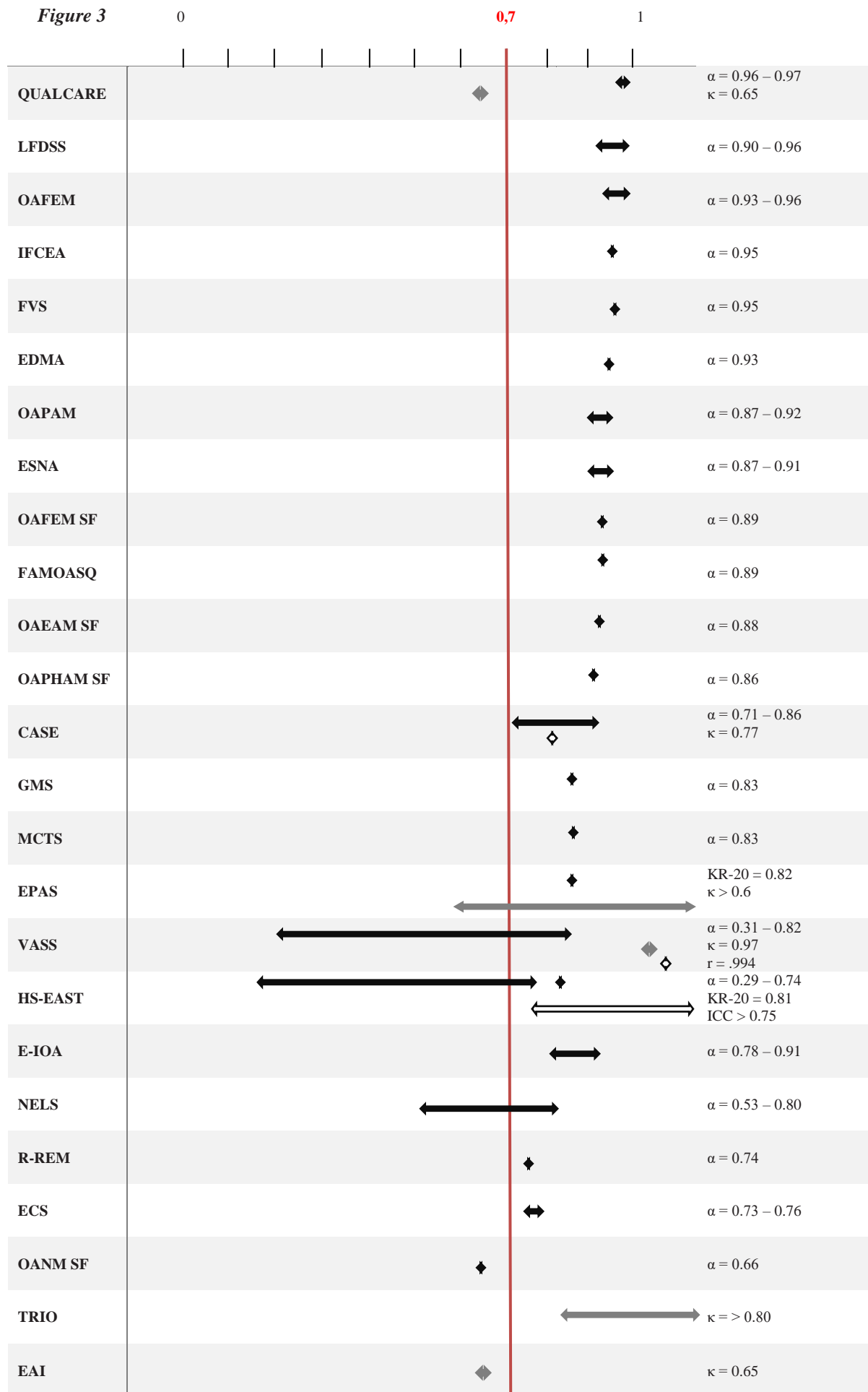
Figure 2: classification according to internal consistency

Scale	Internal consistency (α)	Test retest reliability	Inter rater reliability
Excellent internal consistency ($\alpha \geq .9$)			
Qualcare Scale	0.97		
Qualcare Scale (French version)	0.96		Kp= 0.65
LFDS (dichotomous scoring)	0.96		
OAFEM (79 items)	0.96		
OAFEM (54 items)	0.95		
IFCEA	0.95		
FVS	0.95		
EDMA	0.93		
OAFEM (30 items)	0.93		
OAPAM (31 items)	0.92		
ESNA (62 items)	0.91		
LFDS (ordinal scoring)	0.90		
Acceptable internal consistency ($\alpha = .7- .9$)			
OAFEM short form	0.89		
FAMOASQ	0.89		
OAEAM short form	0.88		
OAPAM (18 items)	0.87		
ESNA (25 items)	0.87		
OAPhAM short form	0.86		
Italian version of the CASE	0.86		
Brazilian version of the CASE	$\rho_{cr} = 0.85$	$\kappa = 0.77$	
Spanish version of the CASE	0.84		
GMS	0.83		
MCTS	0.83		
EPAS	KR-20 = 0.82		Kp > 0.6
Turkish version of the VASS	0.82	$r = .99$	
Turkish version of the HS-EAST (2016)	KR-20 = 0.81		
e-IOA (items)	0.78 - 0.91		
NELS-Ne (South Central and North)	0.78 - 0.80		
NELS-FE (North)	0.75		
VASS (T2 - 2003)	0.74 (Dependence)		
Turkish version of the HS-EAST (2017)	0.74	ICC > 0.75	
R-REM-S	0.74		
ECS	0.73 and 0.76		
CASE	0.71		

Below satisfactory range ($\alpha < .7$)		
Brazilian version of the VASS	KR-20 = 0.69	K ρ = 0.97
HS-EAST (Indian sample)	0.67	
OANM short form	0.66	
VASS (T2 - 2003)	0.31 - 0.45 (3 factors)	
VASS (T1 - 2002)	0.39 - 0.55	
NELS-FE (South Central)	0.53	
HS-EAST (15 items)	0.46	
HS-EAST (9 items)	0.29	
No α results available		
TRIO	Not applicable	K ρ > .80
EAI		K ρ = 0.65
MOARF		Kendall > .486
EDVM (French adaptation of VASS)		
EASI		
sa-EASI		
EASI-LTC		
EASI-Leo		
AVOW		
SMPA		
EAI-R		
VRIP		
LFDRS		
CSNS		
SSS		
COMP		
CHCS		
FVQA		

Then the scales for which reliability data were found, were classified in another table, with the range of internal consistency found in different studies.

Figure 3



◆ Internal consistency

◆ Inter rater reliability

◆ Test retest reliability

DISCUSSION

In this literature review, screening instruments developed for elder abuse diagnosis were described. Several studies were made with the same goal, but none was found with as many scales. Moreover, some studies omit some aspects of elder abuse as self-neglect or resident to resident mistreatment. The notion of vulnerability was also included in this study, as it is a risk of mistreatment. As the limit between risk factor of elder abuse and vulnerability is very difficult to define, only scales measuring vulnerability for elder abuse diagnosis were included in this study. Thus, for example, the ISAR tool (Identification of Senior At Risk) (83) was not included because it was not specifically designed to measure elder abuse, in contrary of the VRIP or the TRIO. Some scales measuring family violence were included as the FVS or the FVQA as they were meant to detect elder abuse. Two scales measuring quality of care were also included (Qualcare and EVS) for the same reasons. A few scales found in previous studies were not included here for several reasons: validation studies did not meet inclusion criteria (age of elders < 55 for the validation study of the IOA screen “Indicator Of Abuse”) (55); study of the EAQ “Elder Abuse Questionnaire” (84) was not written in a IMRAD format, development or validation studies of the tool were not found (for the BASE “Brief Abuse Screen for Elders” and the CPEAB “Caregiver Psychological Elder Abuse Behavior Scale”).

1) About the scales

In this study, 36 scales were found which are all different by their goal, type of mistreatment they target, setting they are made for, time necessary to complete it, psychometric properties, language adaptation, ... which makes it difficult to compare them. A distinction will be made for the one that do not target a specific kind of mistreatment. Another distinction will be made, as some scales only target the elder, some are made to be answered

by the caregiver only, and some consider the older adult in its environment by questioning both caregiver and care recipient which seems the most suitable.

In order to make it more specific, scales for which reliability data were found with at least two correct psychometric results ($\alpha \geq 0,7$, $\kappa \geq 0,7$ or $ICC \geq 0,7$) will be firstly discussed. Other scales for which only one correct psychometric data was found will be discussed after, and finally the scales with no acceptable psychometric found will briefly be discussed.

By referring to figures 2 and 3, we can see that only a few scales with more than one acceptable reliability data were found.

Scale	Internal consistency (α)	Test retest reliability	Inter rater reliability
Acceptable internal consistency ($\alpha = .7- .9$)			
Brazilian version of the CASE	pcr = 0.85		0.77
Turkish version of the VASS	0.82	0.94	
Turkish version of the HS-EAST (2017)	0.74	0.75	

The three of them are meant for general assessment so they do not target a specific kind of abuse and are linguistic adaptation of well-known scales. The H-S/EAST is one of the most described and tested in the studies since 1986, but never reached acceptable range of internal consistency because of small unrepresentative sample. Same pattern is found for the VASS, which has a promising French version. Their Turkish validated versions should encourage to reconduct larger sample in order to validate them in other languages. The CASE, for which the English version was found consistent too, as the Italian and Spanish version, is a different tool as it targets only the caregiver, which makes it interesting to detect abusive situations, or situations that could become so, for which the caregiver would not be aware of and raise awareness of the problem. It could be used in combination with other tools in order to target the elder too.

Concerning the other tools with only one acceptable psychometric data found, mostly internal consistency, they are some interesting ones.

Scale	Internal consistency (α)	Test retest reliability	Inter rater reliability
Excellent internal consistency ($\alpha \geq .9$)			
Qualcare Scale	0.97		
Qualcare Scale (French version)	0.96		K = 0.65
IFCEA	0.95		
FVS	0.95		
EDMA	0.93		
Acceptable internal consistency ($\alpha = .7- .9$)			
FAMOASQ	0.89		
OAFEM short form (EADSS)	0.89		
OAEAM short form (EADSS)	0.88		
OAPhAM short form (EADSS)	0.86		
GMS	0.83		
MCTS	0.83		
e-IOA (items)	0.78 - 0.91		
ECS	0.73 and 0.76		
MOARF			Kendall > .486

The three reliable scales that consider both caregiver and care recipient are the EDMA, the e-IOA and the Qualcare Scale. They are completed through observation by a third part, so they consider not only the health of the elder, but also the dynamic between the elder and the caregiver. Moreover, they can be used for elders with cognitive difficulties. The length of them makes it difficult to use in general practice, but they could be used in collaboration with trained nurses from social services to detect critical situation and scores of this scale can be compared over time in order to evaluate the impact of sensitization of the caregiver and interventions. The QualCare Scale, which is the most described one, is the only validated for English and French speaking population. The MOARF needs further studies in order to validate it in French speaking population.

Concerning the scales that only target the older adult, the EADSS short forms, the FAMOASQ and the GMS have similar psychometric properties. The FAMOASQ and the GMS have been validated for Spanish speaking population.

For the English-speaking population, the EADSS short forms show good reliability data (except for the neglect subscale) and is easy to administer. As it is recent, it has been validated to be used only by APS investigations, but it offers researchers new options for brief elder abuse assessments.

The ESA FVS can be mentioned here as it assesses family violence and is one of the few scales which acceptability by the older adult has been attested, whereas acceptability of most of the scales have only been approved by professionals. It could be used as a pre-screener or as a support to discuss with the elder about violence situation in their environment, without mentioning abuse in the first place.

Some scales, the MCTS and the IFCEA are made to be used only by the caregiver, like the CASE. The three of them have been validated with good psychometric results. The MCTS is the scale that was the most frequent during the research process and the most used, but it only considers physical and psychological abuse, as the IFCEA. The IFCEA has excellent psychometric results but has to be validated in another ethnic sample. It cannot be used for elder abuse diagnosis, but it could be used in frontline as a support during a meeting with the elder to act or sensitize the caregiver before actual abuse situations.

Some tools, like the EAI and its modified version the EAI-R, for which all the reliability data were not found are still interesting tools. As it has been approved feasible by nurses in the context of emergency, it would be interesting to study it in other emergency departments and validate it in order to widespread its use. The EASI has to be mentioned too because it has been used by the WHO, in collaboration with 8 countries, in order to create a “universal tool”. More studies have to be done with this goal. Moreover, an adaptation of it, the sa-EASI could be interesting for GP practice, because the tool could be left in the waiting room so that the elderly people concerned could answer and discuss it with the general

practitioner. This could be a good way to introduce the subject for old people who do not dare to talk about it.

All these scales are adapted to be used in primary care settings in order to detect abuse at home, but what about elders in long term care facilities, which represent a large part of elders? Only a few scales have been developed for this purpose and they all have different issues and are promising because they all measure a new dimension of mistreatment in institutions. The R-REM (S), the only one with psychometric results, targets the mistreatment and violence between the residents, whereas the EASI-LTC and the CHCS target the mistreatment from the caregiver. It is to be noted that the CHCS is the only tool that report is made anonymously and content positive items; this way of scoring could increase the number of responses to a screening tool because it would not be directed against one particular person.

All the other scales are meant to screen for a single type of abuse and could be used in association with a general assessment scale when one type of abuse is highly suspected in order to increase the screening. If self-neglect is suspected, for an elder who lives alone for example, the short version of the ESNA seems adapted as it is assessed by observation, as the previous SSS but which needs further validation study to be used as a screening tool. For psychological abuse, the OAPAM and EPAS both have acceptable reliability data. The English version of the EAPS has not been validated yet, but the fact that the elder and the caregiver are both interviewed makes it interesting. When financial abuse is suspected, the OAFEM short form is more practical to use for general practice than the LFDSS, as the LFDRS and LFDSS are more likely to be used by justice professionals.

2) Relevance for general practice

Choosing one scale meant to be used in general practice is difficult because it depends on the situation encountered (at home, in GP office, elder with cognitive disease or not) and it is preferable to use them in combination to assess all the aspects of violence described.

In the GP office, a quick tool must be used either by self-report in the waiting room, as the sa-EASI, or by direct questioning with the FAMOASQ (Spanish) or the EADSS short forms (English). In consultation, a general practitioner often deals with the primary caregiver too, if the elder presents cognitive disorder or if help is required. In this situation, the CASE seems to be appropriate as it permits a general quick assessment and is worded in a non-confrontational way.

For a general assessment which considers both caregiver and care receiver, it generally has to be completed at home in order to assess the elder in his environment, which is interesting if the elder has cognitive disease, but which requires a longer time of completion and appropriate training. It could be done by the GP himself or by nurses or APS workers in collaboration with the GP. The Qualcare Scale seems the most suitable for the moment for this purpose but validation of the English version of the e-IOA or the EDMA, should be interesting for future research as they need less time of training to be used.

As it is difficult to introduce the notion of elder abuse, in order to enable the elder to express relationship difficulties or violent situations at home, the FVS could be used which permits to ask questions without mentioning abuse.

(See Appendix 2 for examples of scales and dropbox codes)

3) **Limits and strengths**

The major strength of this study was the number of scales that were found since they were a very few restriction criteria applied. Another strength was that psychometric results were collected, and the scales were classified according to their type and to their reliability data in order to make the distinction between them clearer.

Several selection biases were possible as the selection process, research equation, databases and the language. Nevertheless, thanks to the help of the Brest university library, these should be limited but for languages. For the selection process, only one investigator proceeded to the inclusion which could lead to an information bias. In order to reduce it, all articles bringing back difficulties or questions in inclusion were discussed in a research group.

Concerning the research equation, a limit could be found by the fact that there was only one research equation per database. Nevertheless, it was not specific on purpose, as large number of off topic results were found, to be sure as possible that the topic would be founded. These limits were reduced by involving librarian used to data research in the designing of the search equation and by screening the bibliography of the selected articles.

Furthermore, only 3 databases were questioned so results obtained could not be exhaustive, nevertheless PubMed was used which in one of the most commonly used databases in medicine. Another limit was that only studies written in English and French were included, consequently validation studies of certain scales were not included, or some validated scales used in some countries were not mentioned as the PURFAM scale in Germany for example.

CONCLUSION

The purpose of this study was to propose a review of screening tools, validated or not, that exist to assess elder mistreatment. An overview of 36 scales is presented, which are all different by their screening process, kind of abuse they are meant for, time completion, target population, which makes their comparison difficult, as well as the choice of a single scale. Several of them have been tested, some have demonstrated good reliability data, some have been validated in certain context and need further assessment in order to be used in primary care. Nevertheless, they guarantee an effort to address difficulties in the identification of abused; even if caution must be taken while using these screening tools as they have their own limits. General practitioners, nurses and all health care providers should screen patients routinely. However, even if the Qualcare Scale seems the most efficient for general screening and EADSS short forms for quick screening, it stays impossible to recommend a single tool, since the choice has to be appropriate to the setting and the study population. Thoughtlessness the opportunity to use multiple tools in combination should be taken in consideration, to assess all the aspects of violence

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Appendix I

Type of abuse	Model of screening	Tool and creator of the tool	Variables	Articles related	Participants and study size	Study design	Results and psychometrics	
GENERAL	DIRECT QUESTIONING OR SELF-REPORT TOOL FOR PATIENTS	H-S/EAST (1986) Hwalek and Sengstock USA	15 items over 1000 examined	"Assessing the probability of abuse of the elderly: Toward development of a clinical screening instrument" (Hwalek et al. 1986)	- 5 staff members for creation of the tool - 97 elders from 9 agencies for testing (50 cases of abuse and 47 control cases)		9 items were identified that were 94% accurate in classifying cases into abuse/neglect and control groups	
				Short forms of 9 and 6 items	"Validation of the Hwalek-Sengstock Elder Abuse Screening Test" (Neale et al, 1991)	3 groups of elders (170 reported as abused; 42 non-reported as abused; 47 elders as group control)		Construct validity was demonstrated with a cut off score of 3 or more Weak internal consistency ($\alpha = .29$ for 9 items) False negative = 35.7% for the 9-item form (Similar pattern for the 6 items form) Correctly classified 74.7% of the abused cases
			5 to 10 min to complete	"Assessing abuse among the elderly living in public housing" (Moody et al. 2001)	100 elders living in public housing in Florida	Cross-sectional descriptive study	Additional support for construct validity Low internal consistency ($\alpha = .46$ for the 15-item scale) High rate of false negative (11.76% for the 9-item version and 19.56% for the 6-item version). Correctly classified 71.4% of the abused cases in the 9-item version (similar for the 6-item version)	
				"Elder Abuse Telephone Screen Reliability and Validity" (Buri et al. 2009)	70 elders		No discriminating power for screening	
				"Assessment of Elder Mistreatment in Two American Indian Samples: Psychometric Characteristics of the HS-EAST and the Native Elder Life-Financial Exploitation and -Neglect Measures" (Jervis et al. 2014)	100 American Indian Native elders (50 from the Northern Plains, 50 from the South-Central region)		Moderate internal consistency ($\alpha = .67$ for the Northern Plains sample and .59 for the South-Central group)	
				"Elder abuse among outpatient department attendees in a tertiary care hospital in Sri Lanka" (Edirisinghe et al. 2014)	530 elders over 60 with MMS > 23	Cross sectional descriptive study	Content validity was assessed among 50 elderly	
				"Screening for elder abuse among Turkish older people: Validity of the Hwalek-Sengstock Elder Abuse Screening Test (H-S 'East')" (Ozmete and Megahead. 2016)	465 elders over 60 living in Turkish, at home or with their families		Acceptable internal consistency (KR-20 = .81 for 14 items) Correctly classified 81,5% of elders	
				"Adaptation, reliability, and validity study of the Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST): a Turkish version" (Özçakar et al. 2017)	- 4 translators for adaptation - 252 elders volunteers visiting family health centers. for testing		Consistent scale: ICC > 0.75 Acceptable internal consistency ($\alpha = .74$) Cut-off point of 4 when high sensitivity (97,4%) is desired and cut-off of 6 when high specificity (96,2%) is desired.	
			NELS (2014) Jervis et al. USA	18 and 12 items Developed from the HS/EAST	"Assessment of elder mistreatment in two American Indian samples: psychometric characteristics of the HS-EAST and the Native Elder Life-Financial Exploitation and -Neglect measures" (Jervis et al. 2014)	100 American Indian Native elders (50 from the Northern Plains, 50 from the South-Central region)		NELS-FE: Moderate to low internal consistency ($\alpha = .75$ for the Northern Plains and .53 for South Central region) NELS-neglect: Acceptable internal consistency ($\alpha = .80$ for the Northern plains and .78 for the South-Central region)

VASS (2002) Schofield and Mishra Australia	12 items (10 from the HS/EAST)	"Screening for Vulnerability to Abuse Among Older Women: Women's Health Australia Study" (Schofield et al. 2002)	12,340 Australian women selected from the WHA survey (T1)	Part of a longitudinal study	Moderate <u>internal reliability</u> (α ranged from .39 to .55) <u>Construct validity</u>
	Yes/no questions	"Validity of Self-Report Screening Scale for Elder Abuse: Women's Health Australia Study" (Schofield et al. 2003)	10,421 Australian women (T2)	Part of a longitudinal study	Acceptable <u>internal reliability</u> for dependence ($\alpha = .74$); low for dejection (.44), vulnerability (.45) and coercion (.31) <u>Construct validity</u> <u>Content validity and stability</u> of the 4 factors
	Investigates 4 factors: dependence, dejection, vulnerability and coercion (3 items each)	"Three Year Health Outcomes Among Older Women at Risk of Elder Abuse: Women's Health Australia" (Schofield et al. 2004)	10,421 Australian women who responded to both T1 and T2	Part of a longitudinal study	Validity of the dejection factor in predicting a decline in physical and mental health outcomes over a 3-year period among older Australian women.
		"Evaluation of French version of the Vulnerability to abuse screen scale (VASS), a elder abuse screening tool" (Grenier et al. 2016)	200 elders over 65 recruited in a hospital of Nice	Quantitative forward-looking study	<u>Sensitivity</u> = 90,9% for a cut off score of 1, and 66,7% for a cut off score of 2 <u>Specificity</u> = 49,7% for a cut off score of 1, and 76,2% for a cut off score of 2
		"Psychometric properties of the Vulnerability to Abuse Screening Scale for screening abuse of older adults" (Dantas et al. 2017)	151 elders from a geriatric center in Brazil	Cross sectional study	Validity in the transcultural adaptation process Excellent <u>inter-rater reliability</u> ($K_p = .97$) <u>Internal consistency</u> just below satisfactory range for the full scale, ($KR-20 = .69$), and from low to acceptable for the 4 factors (.31 - .71)
		"Cross-cultural adaptation and psychometric assessment of the Turkish version of the Vulnerability to Abuse Screening Scale" (Duru Asiret et al. 2017)	- 4 translators for adaptation - 140 elders over 65 in geriatrics or internal medicine clinic in Turkish for testing		Strong <u>internal consistency</u> for the full scale ($\alpha = 0.82$) and from low to acceptable for the 4 factors (.48 - .74) <u>Consistent scale</u> : Test retest reliability was assessed through 37 elders at interval of 2-4 weeks ($r = .994$) <u>Criterion validity</u>
EASI (2008) Yaffe et al. Canada	6 items English or French	"Development and Validation of a Tool to Improve Physician Identification of Elder Abuse: The Elder Abuse Suspicion Index (EASI)" (Yaffe et al. 2008)	- 31 experts for development - 663 elders over 65 (MMS ≥ 24) for testing, English or French speaking	Qualitative study for development	<u>Sensitivity</u> = 47% and <u>Specificity</u> = 75% for a cut off score of 1 <u>Content validity</u> assessed in 7 countries
sa-EASI (2011) Yaffe et al. Canada	5 yes/no items 2 to 5 min to complete English or French	"Seniors' Self-Administration of the Elder Abuse Suspicion Index (EASI): A Feasibility Study" (Yaffe et al. 2011)	210 elders (MMS ≥ 24) English or French speaking		Acceptable, feasible and practical Further samples needed for validation and psychometrics
EASI – LTC (2017) Ballard et al. Canada	9 items (6 from the EASI + 3 for psychological abuse and neglect)	"Adapting the Elder Abuse Suspicion Index© for Use in Long-Term Care: A Mixed-Methods Approach" (Ballard et al. 2017)	Professionals working in LTC or involved in the assessment of EA	Mixed-methods (quantitative cross-sectional survey and two qualitative descriptive components)	Development of the tool No psychometric results
EASI – leo (2017) Kurkurina et al. USA		"Detection of elder abuse: Exploring the potential use of the Elder Abuse Suspicion Index© by law enforcement in the field" (Kurkurina et al. 2017)	69 law enforcement officers		93.88% agreed that it looked easy to use, 83.67% said it did not look time consuming to the extent that it would interfere with other police duties, and 79.59% reported they could see themselves using the tool in the field

		GMS (2013) Rodriguez et al. Mexico	22 yes/no items	<i>"Development and psychometric properties of the Geriatric Mistreatment Scale"</i> (Rodriguez et al. 2013)	- experts and health professionals for development - 626 elderly living in Mexico City, over 60 for testing	Quantitative and qualitative methodological strategies	Appropriate <u>internal consistency</u> for the full scale ($\alpha = .83$) Acceptable α by type of mistreatment (from 0.72 to 0.87), except for economic mistreatment (0.55)
		AVOW (2014) Lang et al. Europe	22 items derived from the CTS	<i>"Measuring older adults' abuse: Evaluation of formative indicators to promote brevity"</i> (Lang et al. 2014)	2,880 home-dwelling older women ≥ 60 , from five European Union countries		Compared to the original form, the adapted version of the measurement instrument yields the same reliability and validity. No psychometric results on its own
		FAMOASQ (2017) Ruelas-Gonzalez et al. Mexico	15 items	<i>"Development and validation of a Screening Questionnaire of Family Mistreatment against Older Adults for use in primary care settings in Mexico"</i> (Ruelas-Gonzales et al. 2017)	Phase 1 (research): 63 cognitively intact elders and 100 experts Phase 2 (tool development): 17 experts and 30 elders Phase 3 (tool validation): 253 elders	Mixed method cross-sectional study	Acceptable <u>internal consistency</u> ($\alpha = .89$) <u>Concurrent validity</u> : best results ($K = .76$) with a cut off score of 3 <u>Sensitivity</u> = 86% and <u>Specificity</u> = 90% with a cut off score of 3 Similar patterns for the EAI and the GMS
		EADSS short form (2017) Beach et al. USA	36 items (6 for PhA, 11 for EA, 11 for FE and 8 for neglect)	<i>"Development of short-form measures to assess four types of elder mistreatment: Findings from an evidence-based study of APS elder abuse substantiation decisions"</i> (Beach et al. 2017)	Development of short forms using sensitivity and specificity of long form items		High <u>internal consistency</u> for OAPhAM ($\alpha = .86$), OAEAM ($\alpha = .88$) and OAFEM ($\alpha = .89$) short form. Lower for OANM short form ($\alpha = .66$) High <u>correlation</u> with the long form for the 4 scales ($r = .95$ for PhA, $.98$ for EA, $.96$ for FE and $.83$ for neglect)
		DIRECT QUESTIONING OR SELF-REPORT TOOL FOR CAREGIVERS	CASE (1995) Reis and Nahmiash Canada	8yes/no items	<i>"Validation of the CASE"</i> (Reis, 1995)	139 caregivers: - an abuser case group (44 receiving social service's intervention) - two non-abusers control groups (45 receiving intervention and 50 not receiving any assistance)	
Developed from the PROJECT CARE	<i>"Reassessing the construct validity of a Brazilian version of the instrument Caregiver Abuse Screen (CASE) used to identify risk of domestic violence against the elderly"</i> (Reichenheim et al. 2009)			507 pairs of caregivers/elderly patients in 3 geriatric units	Cross sectional study	Adequate <u>internal consistency</u> ($\rho_{cr} = .85$) <u>Temporal stability</u> ($K = 0.77$) was assessed and found acceptable, with a subsample of 107 CG over a 2 weeks period	
	<i>"Validity and reliability of the Spanish version of Caregiver Abuse Screen (CASE)"</i> (Pérez-Rojo et al. 2015)			211 caregivers of elders with dementia in Madrid and Basque Country, Spain		Strong <u>internal consistency</u> ($\alpha = .84$ for the full scale) <u>Construct validity</u>	
	<i>"Validation of the Italian Version of the Caregiver Abuse Screen among Family Caregivers of Older People with Alzheimer's Disease"</i> (Melchiorre et al. 2017)			438 caregivers of elders with dementia ($10 < MMS < 20$)		Strong <u>internal consistency</u> for the full scale ($\alpha = .86$) <u>Construct validity</u>	

SIGNS OF ABUSE TOOL	EAI (1984) Fulmer et al. USA	44 items Emergency department (E.D)	"Elder neglect assessment in the emergency department" (Fulmer et al. 2000)	180 elders over 70, with MMS \geq 18, presenting in the E.D 36 patients for EAI evaluation		<u>Sensitivity = 71%; Specificity = 93%</u> "Almost perfect" <u>inter rater agreement</u> : 88,9% and Kp = .65 It is feasible for ED nurses to conduct accurate screening protocols for elder neglect in the context of their busy practice.
	SMPA (2015) Nakamura et al. Switzerland	41 items French adaptation of the EAI	"Translation and cultural adaptation of a screening tool for signs of elder abuse» (Nakamura et al. 2015)	<u>Step 1</u> : 2 experts for translation and 6 for back-translation <u>Step 2</u> : 30 nurses for testing		90 % of the nurses found it useful and applicable to their professional practice in home care
	EAI – R (2012) Fulmer et al. USA	51 items	"Screening for elder mistreatment in dental and medical clinics" (Fulmer et al. 2012)	102 elders over 60 with MMS \geq 18	Cross sectional study	Feasibility of screening for EM in busy clinics. No psychometrics available
INDICATOR OF RISK OF ABUSE	e-IOA (2006) Cohen et al. Israel	21 items 2 hours to complete by trained professional Cut off score = 1.70	"Development of a Screening Tool for Identifying Elderly People at Risk of Abuse by Their Caregivers" (Cohen et al. 2006)	<u>Step 1</u> : n = 108 cognitively intact elders hospitalized in 2 hospitals of Jerusalem, screened with their main caregiver		Acceptable to excellent <u>internal consistency</u> (α -.78 to .91 for different items) <u>High agreement</u> of 93% between interviewers <u>Construct and content validity</u> It correctly classified 92.9% of the probably abused and 97.9% of the probably not abused
			"Elder Abuse: Disparities Between Older People's Disclosure of Abuse, Evident Signs of Abuse, and High Risk of Abuse" (Cohen et al. 2007)	<u>Step 2</u> : 730 cognitively intact elders over 70 hospitalized in 2 hospitals of Jerusalem	Cross-sectional study	The optimal cutoff point of the risk score was 1.7
	MOARF (2012) Lindenbach et al. Canada	95 sub-indicators Adaptation of the e-IOA in English	"Older adult mistreatment risk screening: contribution to the validation of a screening tool in a domestic setting" (Lindenbach et al. 2012)	<u>Phase 1</u> : 10 case studies from a resource guide (ONPEA) <u>Phase 2</u> : 6 home visiting nurses in Ontario	Qualitative (Delphi method); and quantitative	<u>Content validity</u> Acceptable <u>intrater reliability</u> for 90 of the 95 sub-indicators (Kendall's W > .486) Further sample needed to refine psychometrics properties
	EDMA (2004) Touza et al. Spain	54 items	"Detection scales for the risk of domestic abuse and self-negligent behavior in elderly persons (EDMA)" (Touza et al. 2012)	278 elders in Majorca interviewed by 46 professionals (T= 0 and T = 1 month)		Excellent <u>internal consistency</u> (α = .93 for both scales) Satisfactory <u>construct validity</u> Instrument of <u>stability</u> <u>Sensibility and specificity</u> = 92% for both scales
	VRIP (2014) Dong et al. USA	9 items Part of the CHAP study	"Vulnerability Risk Index Profile for Elder Abuse in Community-Dwelling Population" (Dong et Simon, 2014)	213 elders from a larger longitudinal study of 8157 elders (the CHAP study)	Prospective epidemiological study	Demonstrated value for identifying individuals at risk for elder abuse. Additional studies are needed for validation.
	TRIO (2014) Sommerfeld et al. USA	56 risk indicator items, 16 intervention items and 19 outcome items	"Multidimensional Measurement Within Adult Protective Services: Design and Initial Testing of the Tool for Risk, Interventions, and Outcomes" (Sommerfeld et al. 2014)	- APS workers for field utility (n=12) and reliability (n=9) - 589 self-neglectors or financial abused elders \geq 60 for validation study		<u>Field utility</u> was agreed from 75 to 100% "Almost perfect" <u>inter rater agreement</u> (Kp > .80) Promising <u>validity</u> (Traditional measures of scale reliability or internal consistency were not applicable)

PSYCHOLOGICAL AND PHYSICAL	DIRECT QUESTIONING OR SELF-REPORT TOOL FOR CAREGIVERS	MCTS (2005) Beach et al. UK	10 items (5 psycho – logical and 5 physical)	<p>“Screening for elder abuse in dementia in the LASER-AD study: prevalence, correlates and validation of instruments” (Cooper et al. 2008)</p> <p>“The sensitivity and specificity of the Modified Conflict Tactics Scale for detecting clinically significant elder abuse” (Cooper et al. 2009)</p>	86 elders with Alzheimer’s disease and their caregivers 220 caregivers of people with dementia	Part of a longitudinal study	<p><u>Convergent and discriminant validity.</u> Acceptable <u>internal consistency</u> ($\alpha = .83$)</p> <p><u>Sensitivity</u> = 100% and <u>Specificity</u> = 67% for a cut off score of 2 (with a higher cut off score, specificity was increased but sensitivity was decreased)</p>
		IFCEA (2007) Lee et al. South Korea	10 items (5 emotional and 5 physical)	“Design of an Assessment of Caregivers' Impulsive Feelings to Commit Elder Abuse” (Lee et al. 2007)	387 South Korean family caregivers of elders with disabilities		<p>Excellent <u>internal consistency</u> for the full scale ($\alpha = .95$), for emotional subscale ($\alpha = .91$) and physical subscale ($\alpha = .94$)</p> <p><u>Convergent and construct validity</u></p>
		OAPAM (2011) Conrad et al. USA	31 items Short form of 18 items MMSE > 17	“Self-report measure of psychological abuse of older adults” (Conrad et al. 2011)	226 subjects reported to Social Services with MMSE > 17		Excellent <u>internal consistency</u> for the 31-item form ($\alpha = .92$) and acceptable for the 18-item form ($\alpha = .87$)
PSYCHOLOGICAL	DIRECT QUESTIONING TOOL FOR PATIENT AND CAREGIVER	EPAS (2007) Wang et al. Taiwan	32 yes/no items, and observation Cut off point 10 5 to 10 min to complete	“Development and testing of screening indicators for psychological abuse of older people” (Wang et al. 2007)	195 elders in Taiwan over 60		<p><u>Construct and content validity</u></p> <p>Acceptable <u>internal consistency</u> (K-R20 = .82); Percentage of <u>agreement</u> (79% to 100%); <u>Inter rater reliability</u> K > 0.6 over a 2-week period show an instrument of <u>stability</u></p> <p>Further sample is needed to validate the English version of the test and validate a more sensitive cut off score</p>
		OAFEM (2010) Conrad et al. USA	79 items Short forms of 54 and 30 items	<p>“Self-report measure of financial exploitation of older adults” (Conrad et al. 2010)</p> <p>“Piloting the older adult financial exploitation measure in adult safeguarding services” (Phelan et al. 2017)</p>	227 elders who already suffered from one type of abuse, with MMSE>17 52 community dwelling older people in Ireland cognitively intact		<p><u>Construct validity</u></p> <p>Excellent <u>internal consistency</u> ($\alpha > .93$ for the 3 versions)</p> <p>Development of a 25-item form.</p> <p>Further research with a greater sample size is required to develop a 6-item form.</p>
FINANCIAL	INDICATOR OF RISK OF ABUSE	LFDRS (2015) Lichtenberg et al. USA	61 items Multiple choice questions By trained professionals	<p>“A Person-Centered Approach to Financial Capacity Assessment: Preliminary Development of a New Rating Scale” (Lichtenberg et al. 2015a)</p> <p>“Financial decision-making abilities and financial exploitation in older African Americans: Preliminary validity evidence for the Lichtenberg Financial Decision Rating Scale (LFDRS)” (Lichtenberg et al. 2015b)</p>	- 2 groups of experts to develop the LFDRS - 5 older adults for pilot study by videotaping 69 Older urban African Americans over 60		<p>Acceptable to excellent <u>inter-rater agreement</u> (80 to 100% agreement)</p> <p>Further heterogeneous sample needed</p> <p>Preliminary evidence for the <u>validity</u> of the LFDRS</p> <p>Further larger sample needed</p>
		LFDRS (2015) Lichtenberg et al. USA	61 items Multiple choice questions By trained professionals	“A Person-Centered Approach to Financial Capacity Assessment: Preliminary Development of a New Rating Scale” (Lichtenberg et al. 2015a)	- 2 groups of experts to develop the LFDRS - 5 older adults for pilot study by videotaping		Acceptable to excellent <u>inter-rater agreement</u> (80 to 100% agreement)
		LFDRS (2015) Lichtenberg et al. USA	61 items Multiple choice questions By trained professionals	“A Person-Centered Approach to Financial Capacity Assessment: Preliminary Development of a New Rating Scale” (Lichtenberg et al. 2015a)	- 2 groups of experts to develop the LFDRS - 5 older adults for pilot study by videotaping		Acceptable to excellent <u>inter-rater agreement</u> (80 to 100% agreement)
		LFSS (2016) Lichtenberg et al. USA	10 items 2 ways of scoring: - yes/no - multiple choice method	“The Lichtenberg Financial Decision Screening Scale (LFSS): A new tool for assessing financial decision making and preventing financial exploitation” (Lichtenberg et al. 2016)	2 groups of elders over 60 who had made in the past 6 months a financial decision: - 29 older adults seen by APS workers - 79 seen by other professionals.		Preliminary evidence for <u>construct validity</u>

				<p><i>"Reliability and Validity of the Lichtenberg Financial Decision Screening Scale"</i> (Lichtenberg et al. 2017)</p>	213 elders over 60 who had made in the past 6 months a significant financial decision		<p><u>Criterion validity</u> Excellent <u>internal consistency</u> ($\alpha = .96$ for dichotomous variable and .90 for ordinal variables)</p> <p>Cut of off 1 is recommended for the dichotomous variables ($Se = .88$ and $Sp = .89$) and 5 for the ordinal variable scale ($Se = .91$ and $Sp = .88$)</p>
				<p><i>"Item response theory analysis of the Lichtenberg Financial Decision Screening Scale"</i> (Teresi et al. 2017)</p>	213 elders over 60 who had made in the past 6 months a significant financial decision		<p>10 ordinal and binary items evidenced a slightly higher reliability estimate (0.85) than other versions</p> <p>Further analyses needed for shorter versions</p>
NEGLECT	SIGNS OF ABUSE TOOL	<p>CSNS (2017)</p> <p>Friedman et al.</p> <p>USA</p>	Pre-screener integrated into electronic health record systems	<p><i>"Using clinical signs of neglect to identify elder neglect cases"</i> (Friedman et al. 2017)</p>	<ul style="list-style-type: none"> - Consensus group of 11 experts - 78 patients records reviewed by 2 geriatricians for statistics - 201 Illinois hospitals for feasibility 	<p>Qualitative with Delphi process.</p> <p>Part of a larger cohort study.</p>	<p>Demonstrated feasibility as a pre-screener</p> <p>As the cutoff was increased from 3 to 10, the sensitivity decreased, and the specificity increased for the 3 ways of scoring.</p>
SELF - NEGLECT	SIGNS OF ABUSE TOOL	<p>SSS (2008)</p> <p>Dyer et al.</p> <p>USA</p>	37 items	<p><i>"The Making-off a Self-neglect Severity Scale"</i> (Dyer et al. 2008)</p>	<p>Interview of 25 APS specialists in Houston for development.</p> <p>Field testing with 10 self-neglectors</p>		<p>Promising measure for rapidly differentiating those who self-neglect from those who do not.</p> <p>Further sample for validation and psychometrics is needed.</p>
		<p>ESNA (2010)</p> <p>Iris et al.</p> <p>USA</p>	73 indicators	<p><i>"The development of a conceptual model for understanding elder self-neglect"</i> (Iris et al. 2010)</p>	50 experts in the field of elder abuse/neglect and social workers		Development of the tool
		<p>ESNA (2010)</p> <p>Iris et al.</p> <p>USA</p>	62 items 25 items short form	<p><i>"Observational Measure of Elder Self-Neglect"</i> (Iris et al. 2014)</p>	79 staff members completed the ESNA for 215 clients over 60 who were believed to be self-neglectors		<p>Acceptable to excellent <u>internal consistency</u> ($\alpha = .87$ for the 25-item form and .91 for the 62-item form)</p> <p>Further sample with a more heterogeneous sample is needed.</p>
	<p>COMP (2006)</p> <p>Naik et al.</p> <p>USA</p>	4 items	<p><i>"Assessing Capacity in the Setting of Self-Neglect"</i> (Naik et al. 2006)</p>	100 elders reported as self-neglectors by APS and 100 elders recruited from the geriatric's clinic as comparison group	Cross sectional study	Findings did not support validity of the COMP Screen as a screening tool for decision-making capacity in the setting of self-neglect.	
IN HOME CARE	DIRECT QUESTIONING FOR PATIENT AND CAREGIVER	<p>R-REM (2013)</p> <p>Ramirez et al.</p> <p>USA</p>	22 items Must be used with the staff version	<p><i>"Using qualitative methods to develop a measure of resident-to-resident elder mistreatment in nursing homes"</i> (Ramirez et al. 2013)</p>	<ul style="list-style-type: none"> - 16 focus group in nursing home 1 to develop the tool - Pilot test on 81 elders of nursing home 2 with mild-moderate to no cognitive issue 	Qualitative (panel of experts, focus groups, and in-depth cognitive interviews)	<p>Development of the tool</p> <p>No psychometric results</p>
		<p>R-REM-S (2014)</p> <p>Teresi et al.</p> <p>USA</p>	22 items Must be used with the R-REM	<p><i>"Development of an instrument to measure staff-reported resident-to-resident elder mistreatment (R-REM) using item response theory and other latent variable models"</i> (Teresi et al. 2014)</p>	<p>6 nursing homes</p> <p>1,812 residents whose behavior was evaluated by the staff</p>	Prevalent cohort study	<p>Psychometrics available for a final analytic set of 11 items from the initial R-REM</p> <p>Moderate <u>internal consistency</u> ($\alpha = .74$)</p>

	DIRECT QUESTIONING TOOL FOR CAREGIVER	CHCS (2013) Cooper et al. UK	16 items Anonymous report	"Care workers' abusive behavior to residents in care homes: a qualitative study of types of abuse, barriers, and facilitators to good care and development of an instrument for reporting of abuse anonymously" (Cooper et al. 2013)	36 care workers employed to give direct care to people with dementia, from 4 London care homes	Qualitative (focus groups)	<u>Content validity</u> Further sample is needed to test its wider acceptability and psychometric properties
QUALITY OF CARE	SIGNS OF ABUSE TOOL	QualCare Scale (1990) Philips et al. USA	53 items across 6 subscales, reduced to 40 items	"The QUALCARE Scale: testing of a measurement instrument for clinical practice" (Philips et al. 1990b)	249 elders-caregivers in their home setting	Descriptive correlational study	Evidence of <u>interrater reliability</u> (agreement = 82% for the full scale), and <u>internal consistency</u> ($\alpha = .97$ for the full scale) <u>Criterion and construct validity</u>
				"Further validation of the Qualcare Scale" (Bravo et al. 1996)	Professionals for French translation and 40 elder/caregiver dyads for testing		Excellent <u>internal consistency</u> ($\alpha = .96$ for the full scale) <u>ICC</u> = 0.51 Acceptable level of <u>inter-rater reliability</u> with a longer training (82% of agreement and $\kappa = 0.65$)
				"Identifying elder abuse & neglect among family caregiving dyads: A cross sectional study of psychometric properties of the QualCare scale" (Pickering et al. 2017)	80 scenarios assessed by 36 nurses and social workers	Cross sectional study	Each of the 6 subscales were tested and had high <u>sensitivity</u> ($\geq 81\%$) but a wide range for <u>specificity</u> (16,7%-100%)
	SELF REPORT TOOL FOR PATIENT AND CAREGIVER	ECS (2007) Dooley et al. USA	11 items 2 factors: Provide and Respect	"Informal Care Can Be Better Than Adequate: Development and Evaluation of the Exemplary Care Scale" (Dooley et al. 2007)	310 informal caregivers and 283 of their elderly care recipients	Longitudinal study	Acceptable <u>internal consistency</u> for the 2 subscales (.73 for Provide and .76 for Respect) Solid support for the <u>construct validity</u>
FAMILY VIOLENCE	DIRECT QUESTIONING TOOL FOR PATIENT	ESA - FVS (2014) Préville et al. Québec	21 items	"Family violence among older adult patients consulting in primary care clinics: results from the ESA (Enquête sur la santé des aînés) services study on mental health and aging" (Préville et al. 2014)	1765 elders over 65 with MMS ≥ 23 interviewed by 245 GPs	Cross-sectional survey	High <u>internal consistency</u> of .95, suggesting adequate reproducibility of the results obtained with the general FVS
	SIGNS OF ABUSE TOOL	FVQA (2007) Zink and Fischer USA	111 items divided into 9 categories	"Family violence quality assessment tool for primary care offices" (Zink and Fisher, 2007)	19 experts for development and 32 primary care offices for testing	Qualitative (Delphi method) for development and then	No psychometrics available

- EADSS short forms

	Yes	Some indication	No	Don't know or N/A	Refused
P1. In the past twelve months, has ____ attempted or caused you any physical injuries?					
P2. Bruises or welts?					
P3. Have you been a victim of an attempted or completed physical attack (completed or attempted)?					
P4. Hit, kicked, punched or slapped?					
P5. Handled roughly, pushed, shoved, grabbed, or shaken?					
P6. Physically injured in some other way not listed?					

E1. Has ____ manipulated or tried to control you?					
E2. Have you been uncomfortable with ____?					
E3. Has ____ called you unkind names or put you down?					
E4. Has ____ kept things from you or lied about things that you should know about?					
E5. Has ____ used nonverbal behavior such as shaking a fist or other threatening gestures?					
E6. Have you ever been afraid of ____?					
E7. Has ____ failed to support or back you up when you needed it?					
E8. Has ____ made you feel small, such as treating you as a child?					
E9. Has ____ talked about you as if you were not there?					
E10. Has ____ not let you speak for yourself?					
E11. Other indicator(s) of emotional abuse? (For example, threatened to not let you see grandchildren) Describe					

F1. Has ____ borrowed money from you and not paid it back?					
F2. Has ____ felt entitled to use your money for himself/herself?					
F3. Has ____ used your money on their own behalf instead of for your benefit?					
F4. Have there been unexplained disappearances of your money or possessions?					
F5. Has ____ lied about how they were spending your money?					
F6. Did ____ take advantage of you to get a hold of your resources such as a house, car, or money?					
F7. Has ____ lived with you, but refused to pay their share of expenses?					
F8. Has ____ refused to give you an accounting of how your money was spent?					
F9. Have there been unusual activities in your bank accounts, for example, large withdrawals, frequent transfers of funds?					
F10. Has ____ promised care for you but then did not provide it?					
F11. Other indicator(s) of financial exploitation?					

N1. Does this person have poor personal hygiene as evidenced by a noticeable odor, long and dirty fingernails, etc.?					
N2. Does the AA fail to follow through with preventive or diagnostic testing or prescribed treatment related to the health conditions of this person?					
N3. Does this person lack needed medications or medical equipment (including eyeglasses, hearing aids, dentures, walkers, etc.)?					
N4. Does this person's home or yard appear unsafe or unsanitary?					
N5. Are there odors in this person's home that raise concerns (urine, feces, garbage)?					
N6. Does this person show signs of malnourishment or dehydration?					
N7. Is this person left alone without adequate supervision?					
N8. Other indicator(s) of neglect?					

- The FAMOASQ (non-validated English version)

Num.	Question	Answer to consider mistreatment
1	Do you feel abandoned?	Yes
2	Have you been left alone for long periods of time? (a long time)	Yes
3	Does your family visit you? (frequently, all the time)	No
4	Do they help you with your personal activities? (to go shopping or to the bank)	No
5	When you are sick or do not feel well, does someone accompany you?	No
6	Do they help you with your medication?	No
7	Do you trust the person you live with?	No
8	Do you go out for pleasure or entertainment with your family?	No
9	Is your family usually angry at you? (all the time, regularly)	Yes
10	Have you been emotionally hurt?	Yes
11	Are you always afraid of something?	Yes
12	Do you feel you are threatened?	Yes
13	Do you feel you are the cause of problems? (some kind of burden)	Yes
14	Do you feel you are not respected?	Yes
15	Does the person you live with ignore you? (Does not pay attention to you, does not consider you)	Yes

The sa-EASI

EASI-sa Questions: Over the Last 12 Months	Circle One Answer for Each Question	
1. Have you relied on people for any of the following: bathing, dressing, shopping, banking, or meals?	Yes	No
2. Has anyone prevented you from getting food, clothes, medication glasses, hearing aides or medical care, or from being with people you wanted to be with?	Yes	No
3. Have you been upset because someone talked to you in a way that made you feel shamed or threatened?	Yes	No
4. Has anyone tried to force you to sign papers or to use your money against your will?	Yes	No
5. Has anyone made you afraid, touched you in ways that you did not want, or hurt you physically?	Yes	No

- The CASE

Please answer the following questions as a helper or caregiver:

	YES	NO
1. Do you sometimes have trouble making (___) control his/her temper or aggression?	___	___
2. Do you often feel you are being forced to act out of character or do things you feel bad about?	___	___
3. Do you find it difficult to manage (___'s) behaviour?	___	___
4. Do you sometimes feel that you are forced to be rough with (___)?	___	___
5. Do you sometimes feel you can't do what is really necessary or what should be done for (___)?	___	___
6. Do you often feel you have to reject or ignore (___)?	___	___
7. Do you often feel so tired and exhausted that you cannot meet (___'s) needs?	___	___
8. Do you often feel you have to yell at (___)?	___	___

- The Qualcare Scale

Environmental subscale

1. Sleeping space is clean and adequate for need
2. Sleeping space is comfortable
3. Elder's room is well maintained
4. Sensitivity for safety is evidenced in elder's room
5. Elder's room reflects sensitivity for elder's comfort
6. Elder's personal storage space is adequate
7. Elder's room is clean
8. Residence is safe from burglary
9. Residence is well maintained
10. Residence is designed for comfort & mobility of elder in view of disabilities
11. Residence is free of potential hazards
12. Residence is clean
13. Facilities related to personal hygiene are clean and well kept
14. Caregiver insures that items related to basic needs are available, clean and well kept

Physical subscale

1. Caregiver regularly attends to elder's personal hygiene needs
2. Caregiver provides regular attention to elder's need for exercise and movement
3. Caregiver acts to ensure that elder's dress (including footwear is adequate for environment and activity)
4. Caregiver provides regularly for elder's oral hygiene
5. Caregiver's attention to hydration is adequate
6. Caregiver attends to elder's skin care
7. Caregiver's attention to elder's nutrition is adequate

Medical maintenance subscale

1. Needed prostheses are present and accessible
2. Evidence indicates that appropriate urgent or emergency care is provided
3. Evidence that health care accessories are used appropriately
4. No untreated symptomatology or injuries are present

Financial subscale

1. Evidence that elder's resources are used or managed as elder prefers
2. Elder receives a fair distribution of family resources

Psychosocial subscale

1. Caregiver's actions reflect sensitivity for elder's socialization needs at home
2. Provisions are made for elder to meet needs for touching or intimacy
3. Provisions are made for elder to fulfill useful roles
4. Overall, appreciation for elder's history, experience and expertise is conveyed
5. Overall, sensitivity to elder's self-esteem is evidenced
6. Elder is given opportunity to express feelings
7. Emotional support is regularly provided
8. Elder's need for safety and security is respected
9. Elder's preferences for recreation, stimulation and play are respected

Human rights subscale

1. Elder's right to autonomy is protected (human rights subscale)
2. Elder's right to freedom from discomfort, harm and threats is protected
3. Elder's right to respect is protected
4. Elder's right to self-expression is respected

SERMENT D'HIPPOCRATE

« Au moment d'être admise à exercer la médecine, je promets et je jure d'être fidèle aux lois de l'honneur et de la probité.

Mon premier souci sera de rétablir, de préserver ou de promouvoir la santé dans tous ses éléments, physiques et mentaux, individuels et sociaux.

Je respecterai toutes les personnes, leur autonomie et leur volonté, sans aucune discrimination selon leur état ou leurs convictions. J'interviendrai pour les protéger si elles sont affaiblies, vulnérables ou menacées dans leur intégrité ou leur dignité. Même sous la contrainte, je ne ferai pas usage de mes connaissances contre les lois de l'humanité.

J'informerai les patients des décisions envisagées, de leurs raisons et de leurs conséquences. Je ne tromperai jamais leur confiance et n'exploiterai pas le pouvoir hérité des circonstances pour forcer les consciences.

Je donnerai mes soins à l'indigent et à quiconque me le demandera. Je ne me laisserai pas influencer par la soif du gain ou la recherche de la gloire.

Admis dans l'intimité des personnes, je tairai les secrets qui me seront confiés. Reçu à l'intérieur des maisons, je respecterai les secrets des foyers et ma conduite ne servira pas à corrompre les mœurs.

Je ferai tout pour soulager les souffrances. Je ne prolongerai pas abusivement les agonies. Je ne provoquerai jamais la mort délibérément.

Je préserverai l'indépendance nécessaire à l'accomplissement de ma mission. Je n'entreprendrai rien qui dépasse mes compétences. Je les entretiendrai et les perfectionnerai pour assurer au mieux les services qui me seront demandés.

J'apporterai mon aide à mes consœurs et confrères ainsi qu'à leurs familles dans l'adversité.

Que les hommes et mes confrères m'accordent leur estime si je suis fidèle à mes promesses ; que je sois déshonorée et méprisée si j'y manque. »

TRANCHEVENT (Maud) – A literature review of screening scales used for the diagnosis of elder abuse.

Th.: Méd. : Brest 2018

ABSTRACT:

Background: Elder abuse is a public health problem. However, its prevalence is largely underestimated as, according to the WHO, only 1 case out of 24 would be detected. One of the reasons is the lack of a standardized screening tool, even though several screening scales have been developed since the 1980s.

Aim: The purpose of this study was to identify, describe and classify the scales according to their reliability data in order to find the most appropriate one for general practice.

Method: A systematic review questioning PubMed, PsycINFO and BDSF databases was undertaken on April 2018. It included articles with screening scales used for diagnosis of elder abuse, validated or not. A second search was achieved using the bibliography of the included articles.

Results: Of the 1041 articles found, 61 were included of which 6 were included thanks to the study of the bibliography of included articles. 36 screening scales were classified by type of maltreatment and screening method, and then by their reliability data.

Conclusion: The scales had different reliability results, some had excellent psychometric data, some needed additional studies with other samples, others did not yet have validity data but were promising tools. They also differed by their purpose, their target, their place of setting, the type of abuse and their language version, hence the difficulty of comparing them and recommend a single tool. The possibility of using multiple tools combined should be considered in order to evaluate all aspects of violence.

KEYWORDS:

ELDER ABUSE;

SCREENING SCALES;

JURY :

Président : M. Le Professeur Le Reste Jean-Yves

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Dr Chiron Benoît

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DATE DE SOUTENANCE :

Jeudi 13 Décembre 2018

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