SYSTEMATIC REVIEW

Elder abuse: a systematic review of risk factors in community-dwelling elders

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Abstract

Objective: to undertake a systematic literature review of risk factors for abuse in community-dwelling elders, as a first step towards exploring the clinical utility of a risk factor framework.

Search strategy and selection criteria: a search was undertaken using the MEDLINE, CINAHL, EMBASE and PsycINFO databases for articles published in English up to March 2011, to identify original studies with statistically significant risk factors for abuse in community-dwelling elders. Studies concerning self-neglect and persons aged under 55 were excluded.

Results: forty-nine studies met the inclusion criteria, with 13 risk factors being reproducible across a range of settings in high-quality studies. These concerned the elder person (cognitive impairment, behavioural problems, psychiatric illness or psychological problems, functional dependency, poor physical health or frailty, low income or wealth, trauma or past abuse and ethnicity), perpetrator (caregiver burden or stress, and psychiatric illness or psychological problems), relationship (family disharmony, poor or conflictual relationships) and environment (low social support and living with others except for financial abuse).

Conclusions: current evidence supports the multifactorial aetiology of elder abuse involving risk factors within the elder person, perpetrator, relationship and environment.

Keywords: elders, abuse, risk factors, geriatric syndromes, older people

Introduction

Increasingly, elder abuse is emerging as a priority area for governments and health service providers [1]. Despite a variety of definitions, two key concepts are that elder abuse involves an act or omission which results in harm to the older person, and that this occurs within a relationship of trust [1, 2]. Subtypes are described in Box 1.

Overall prevalence studies indicate that 6% of older persons in the community are likely to have experienced significant abuse in the last month [3]. Typically, however, these studies produce widely divergent estimates, influenced by definition, culture and methodological issues.

Theoretical explanations draw on the family violence literature and emphasise caregiver stress in the context of dependency, abuser psychopathology, inter-generational transmission of violence, external stress and social isolation [4,5].

These theories highlight factors associated with the elder person, perpetrator, relationship and environment. Schiamberg and Gans [6, 7] advocate a model synthesising inter-relating factors, focusing on the ageing parent and child within environments ranging from the micro system (relationship) to the macro system (socio-cultural) and reflecting inter-generational dynamics. A modified version of this framework, shown in Figure 1, forms the conceptual basis for this review.

Risk factor screening is central to the medical paradigm and health practitioners are privy to the most intimate details of patients’ lives, placing them in a unique position to identify high-risk situations. Yet, the evidence suggests that they under-detect and under-res pond to abuse [8].

Limited knowledge of risk factors can be expected to contribute to poor detection [9, 10]. Although many elder abuse risk factors have been identified, it is not clear which
ones are the most important, and some studies have produced conflicting results.

The purpose of this review, therefore, is to identify which risk factors are reliably associated with elder abuse, as a first step towards exploring the clinical utility of a risk factor framework.

Search strategy and selection criteria

A search was undertaken using MEDLINE, CINAHL, EMBASE and PsycINFO databases for articles published in English up to March 2011. Using MeSH, the keywords ‘risk factors’, ‘risk assessment’, ‘prevalence’, ‘incidence’, ‘frequency’, ‘screening’, ‘detection’ or ‘prevention’ were combined with ‘elder abuse’. Further details are set out in Supplementary data available in Age and Ageing online, Appendix S1.

Abstracts (and, in some instances, full articles) were reviewed to select original studies with statistically significant risk factors for abuse in community-dwelling elders. Exclusion criteria were:

• Studies which did not meet the selection criteria (i.e. were not original studies, did not involve elder abuse, did not measure risk factors or identify any statistically significant risk factors or included elders in institutional care).
• Studies which did not compare groups of abused and non-abused elders.
• Studies concerning self-neglect, as this is not universally accepted as being encompassed within ‘elder abuse’.
• Studies involving participants under 55 years old—this ‘cut-off’ age was selected to enable the inclusion of relevant studies, while recognising that if the age was set too low, it may skew the analysis.

Fifty-nine articles covering 43 studies met these criteria (some studies were published in more than one article). In addition, hand-searching of references in these articles produced six studies not captured by the original search strategy.

Many studies focused on specific subpopulations, with higher prevalence rates for elders with dementia (up to 75% [11]), and elders requiring assistance with activities of daily living (ADLs) (up to 45% [12]). To more closely analyse risk factors relevant to these subpopulations, studies were stratified (see Figure 2).

Studies were evaluated by the lead author using the criteria in Box 2. These criteria were developed after reviewing the STROBE Statement [13] which sets out a checklist for reporting on studies (rather than a quality assessment tool), the Newcastle-Ottawa Scale [14] which sets out checklists for case–control and cohort studies (but not cross-sectional studies) and guidelines for evaluating prevalence studies [15]. They are intended to provide a simple assessment tool, measuring the main factors affecting study quality, and minimising assessment subjectivity.

Statistically significant risk factors were then extracted from these studies, to evaluate the extent to which they were reproducible in a variety of settings.

Box 1. Elder abuse subtypes

Psychological abuse
Inflicting mental stress via actions and threats that cause fear, violence, isolation, deprivation and feelings of shame and powerlessness. Examples include verbal abuse, intimidation and threats to put the older person into residential care. Social abuse (for instance, preventing contact with friends and family) can be treated as an example of psychological abuse or a separate subtype.

Physical abuse
Non-accidental acts that result in physical pain or injury, or physical coercion.

Sexual abuse
Unwanted sexual acts, including sexual contact, rape, language or exploitative behaviour, where the person’s consent was not obtained or where consent was obtained through coercion.

Financial abuse
The illegal use, improper use or mismanagement of a person’s money, property or financial resources.

Neglect
The failure of a carer or responsible person to provide life necessities, as well as the refusal to permit others to provide appropriate care. Some jurisdictions include self-neglect, but this is not universal.

Source: With respect to age [2].

Figure 1. Conceptual risk factor framework for elder abuse.

Whereas one study found that legal, cultural, and institutional factors may lead to the abuse of older persons, another study found that these factors are not the most important, and some studies have produced conflicting results.

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Statistically significant risk factors were then extracted from these studies, to evaluate the extent to which they were reproducible in a variety of settings.

Results

Appendix S1 (Supplementary data are available in Age and Ageing online) summarises the 49 original studies identified.
in this review, along with a quality assessment and score—27 studies achieved a quality score of 5 or more out of a maximum of 8 ('higher quality studies') and 22 studies achieved a quality score of 4 or less ('lower quality studies').

Across the studies, there were differences in both the definition of elder abuse and the reference period over which prevalence was assessed, as well as the terminology used for particular abuse subtypes and risk factors. The definitions in Box 1 were used to classify abuse subtypes.

Table 1 identifies statistically significant risk factors. Further details about the studies, and odds ratios for higher quality studies (where specified), are set out in Appendix S1 (Supplementary data are available in Age and Ageing online).

Of the 37 statistically significant risk factors identified in the studies, 13 were reproducible in four or more higher quality studies. Using the conceptual framework from Figure 1, these are as follows:

- Elder person: cognitive impairment, behavioural problems, psychiatric illness or psychological problems, functional dependency, poor physical health or frailty, low income or wealth, trauma or past abuse and ethnicity.
- Perpetrator: caregiver burden or stress, and psychiatric illness or psychological problems.
- Relationship: family disharmony, poor or conflictual relationships.
- Environment: low social support, and living with others (except for financial abuse).

The following results are drawn from higher quality studies, unless otherwise stated.

### Elder person risk factors

Cognitive impairment was a risk factor in one general population study, OR 3.0 (1.1–1.7) [44] and in three studies of elders requiring assistance with ADLs, e.g. OR 1.4 (1.3–1.5) [59] and OR 2.88 (1.47–5.69) [64]. In the studies of elders with dementia, greater cognitive impairment was a risk factor in one study, OR 1.2 (1.0–1.4) [72].

Problematic behaviour was a risk factor in three studies of elders requiring assistance with ADLs, e.g. OR 1.56 (1.21–2.00) [57] and OR 2.3 (1.6–3.2) [59], and in four studies of elders with dementia, e.g. OR 38.3 (4.6–326) [72].

Elder person psychiatric illness or psychological problems were a risk factor in five general population studies, e.g. OR 3.26 (1.49–7.10) [25], and in four studies of elders requiring assistance with ADLs, e.g. OR 1.9 (1.3–2.7) [59] and OR 2.39 (1.17–4.89) [64].

Functional dependency (requiring assistance with ADLs) was a risk factor in five general population studies, e.g. OR 1.3 (1.1–1.8) [44] and OR 4.39 (2.44–7.88) [20], and in two studies of elders requiring assistance with ADLs. A lower

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**Box 2. Criteria used to evaluate risk factor studies on elder abuse**

(1) Is the sample representative of the target population?
   (a) Were the inclusion and exclusion criteria clearly defined?
   (b) Did sampling minimise selection bias (for instance, through the use of randomisation or similar technique)?
   (c) Was there a good response rate (i.e. ≥80%)?

(2) Is the outcome measure reliable?
   (a) Is the outcome well defined?
   (b) Was a valid and reliable instrument used to measure the outcome?

(3) Are risk factors reliable?
   (a) Are risk factors well defined?
   (b) Were valid and reliable instruments used to measure risk factors?
   (c) Was there adjustment for confounding risk factors?
### Table 1. Risk factors for elder abuse

<table>
<thead>
<tr>
<th>Elder person</th>
<th>Total studies with quality score ≥5/8</th>
<th>Total studies with quality score ≤4/8</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
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<tr>
<td>≥75</td>
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<td>⬤四星</td>
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<tr>
<td>&lt;75</td>
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<td>⬤三星</td>
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<tr>
<td>Gender</td>
<td></td>
<td></td>
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<tr>
<td>Female</td>
<td>⬤五星</td>
<td>⬤四星</td>
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<tr>
<td>Male</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>⬤五星</td>
<td>⬤四星</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
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<tr>
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<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Separated, divorced, single</td>
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<td>⬤三星</td>
</tr>
<tr>
<td>Cognitive impairment</td>
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<td>⬤四星</td>
</tr>
<tr>
<td>Behaviour (provocative/aggressive/resists care)</td>
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<td>⬤四星</td>
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<tr>
<td>Functional dependency</td>
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<td>⬤四星</td>
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<tr>
<td>Higher</td>
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<td>⬤四星</td>
</tr>
<tr>
<td>Lower</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Incontinence (bladder/bowel)</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Loneliness</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Psychiatric illness or psychological problems</td>
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<td>⬤四星</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Poor physical health or frailty</td>
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<td>⬤三星</td>
</tr>
<tr>
<td>Education level</td>
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<tr>
<td>Low</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Secondary/higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma or past abuse</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Personality traits</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>No regular doctor</td>
<td></td>
<td></td>
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<tr>
<td>Perpetrator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
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<tr>
<td>Younger caregiver</td>
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<tr>
<td>Gender</td>
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<tr>
<td>Female</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Male</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Ethnicity</td>
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<tr>
<td>Cognitive impairment</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Psychiatric illness or psychological problems</td>
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<td>⬤三星</td>
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<tr>
<td>Drug or alcohol use, or gambling</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Financial difficulties or unemployed</td>
<td>⬤四星</td>
<td>⬤三星</td>
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<tr>
<td>Personality traits</td>
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<td>⬤三星</td>
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<tr>
<td>Caregiver inexperience</td>
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<td>⬤三星</td>
</tr>
<tr>
<td>Caregiving reluctance/giving up work</td>
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<td>⬤三星</td>
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<tr>
<td>Caregiving burden or stress</td>
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<td>⬤三星</td>
</tr>
<tr>
<td>Functional dependency on the elder person</td>
<td>⬤四星</td>
<td>⬤三星</td>
</tr>
<tr>
<td>Trauma or past abuse</td>
<td>⬤四星</td>
<td>⬤三星</td>
</tr>
<tr>
<td>Health problems</td>
<td>⬤四星</td>
<td>⬤三星</td>
</tr>
<tr>
<td>History of violence/behaviour problems</td>
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<td>⬤三星</td>
</tr>
<tr>
<td>Relationship</td>
<td></td>
<td></td>
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<tr>
<td>Family disharmony, poor or conflictual relationships</td>
<td>⬤五星</td>
<td>⬤四星</td>
</tr>
<tr>
<td>Poor understanding/unrealistic expectations</td>
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<td>⬤三星</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td></td>
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<tr>
<td>Low social support</td>
<td>⬤五星</td>
<td>⬤四星</td>
</tr>
<tr>
<td>Living</td>
<td></td>
<td></td>
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<tr>
<td>Alone</td>
<td>⬤四星</td>
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<tr>
<td>With others</td>
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</tr>
<tr>
<td>Residence</td>
<td></td>
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<tr>
<td>Urban</td>
<td>⬤三星</td>
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<tr>
<td>Rural</td>
<td>⬤二星</td>
<td>⬤一星</td>
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</tbody>
</table>

This table is a summary of Supplementary data available in *Age and Ageing* online, Appendix S1.
level of functional impairment was associated with an increased risk of abuse in three studies [51, 56, 74]; however, these were lower quality studies, thereby limiting the significance of this finding.

Poor physical health or frailty was a risk factor in four general population studies and two studies of elders requiring assistance with ADLs. Low income or wealth was a risk factor in four general population studies, e.g. OR 2.86 (1.33–6.16) to 4.13 (2.24–7.63) [27], OR 3.51 (2.02–6.1) [20] and OR 4.84 (3.03–7.75) [34], and in one study of elders requiring assistance with ADLs, OR 1.91 (1.10–3.34) [60]. Trauma or past abuse was a risk factor in two general population studies and two studies of elders requiring assistance with ADLs.

In five studies, ethnicity was a relevant risk factor. In general population studies, being African American increased the risk of financial abuse in two studies (OR: 1.77 [16], 8.57 [16]) and being non-white increased the risk of overall abuse in another study, OR 4.0 (2.2–7.2) [44]. Being a Canadian Aboriginal also increased the risk of physical and sexual abuse [37].

Other elder person risk factors included loneliness, alcohol use, personality traits such as blaming personality style and anti-social personality, incontinence and having no regular doctor. There was no clear trend in age, gender and education as risk factors.

**Perpetrator risk factors**

Caregiver burden or stress was a risk factor in three studies of elders requiring assistance with ADLs, e.g. OR 1.81 (1.19–2.74) [55], and in four studies of elders with dementia, e.g. OR 1.1 (1.0–1.1) [72].

Psychiatric illness or psychological problems were a risk factor in one study of elders requiring assistance with ADLs, and three studies of elders with dementia, e.g. OR 3.12 (1.37–7.12) [78].

Other risk factors included caregiver inexperience and reluctance, drug or alcohol abuse or gambling, financial difficulties, personality traits such as blaming personality style and anti-social personality, ethnicity, cognitive impairment, trauma or past abuse and history of behavioural problems. There was no clear trend in perpetrator gender as a risk factor.

**Relationship risk factors**

Family disharmony, poor or conflictual relationships were a risk factor in two general population studies, OR 5.55 (2.56–12.5) [34] and OR 9.01 (4.84–16.78) [20], in three studies of elders requiring assistance with ADLs, e.g. OR 2.2 (1.5–3.4) [59] and OR 2.28 (1.21–4.28) [64] and in one study of elders with dementia, OR 1.05 (1.02–1.07) [73].

**Environment risk factors**

A low level of social support was a risk factor in four general population studies, with higher levels of social support reducing the risk of elder abuse, e.g. OR 0.41 (0.19–0.90) [24]. In four studies of elders requiring assistance with ADLs, low social support increased the risk of abuse, e.g. OR 3.54 (1.54–8.13) [64] and OR 4.59 (2.37–8.85) [60].

There were mixed results with respect to living arrangements—living with others correlated with overall abuse (in four general population studies and one study of elders with dementia) but not financial abuse. One study recorded the risk factor as ‘living alone or with children’ [20]; it was excluded from the analysis and is not shown in Table 1 as it was difficult to draw conclusions about which aspect was associated with abuse.

**Discussion**

For risk factors to be clinically useful, they should be reproducible in multiple groups and in a wide range of settings, add independent information about the risk, account for a large proportion of the risk, be sensitive and specific with a high predictive value and be measurable [79].

To our knowledge, this is the first systematic review of risk factors for abuse in community-dwelling elders. To identify clinically useful risk factors, this review provides an assessment of reproducibility across 27 higher quality studies. Although the minimum number of studies necessary to demonstrate reproducibility is arbitrary, a relatively low threshold (of four studies) was considered appropriate given that each study measured only a subset of possible risk factors.

In most cases, the risk factors reproducible in four or more higher quality studies were also reproducible in lower quality studies. A notable difference, however, was in relation to perpetrator drug or alcohol use, gambling, and financial difficulties. The majority of studies highlighting these characteristics as risk factors were lower quality studies.

Interestingly, the risk factors with the highest odds ratios are relationship (family disharmony, poor or conflictual relationships) and environmental (low levels of social support), highlighting the importance of the socio-cultural aspects of abuse.

Some risk factors occurred predominantly in the subpopulations of elders requiring assistance with ADLs and elders with dementia—elder person cognitive impairment and behavioural problems, as well as caregiver stress. This may have been influenced by the exclusion of cognitively impaired persons from the sampling frame in general population studies. Furthermore, the impact of these risk factors may have been diluted in general population studies.

On the other hand, risk factors such as elder person functional dependency and poor physical health or frailty occurred in general population studies more so than in studies of elders requiring assistance with ADLs and elders with dementia. Perhaps, this was because both abused and non-abused elders had a degree of disability in these
subpopulations thereby dampening the impact of these risk factors.

Elder person age and gender have not been included within the list of reproducible risk factors. While being female and aged 75 years or older were risk factors in more than four higher quality studies, being male and aged under 75 years were also risk factors in other higher quality studies, casting doubt on the reliability of these characteristics as risk factors.

Reflecting the lack of consistency in current research (see ‘Limitations’), further data are required to test the strength and independence of the 13 reproducible risk factors. Moderately strong risk factors could be then combined to form a practical screening instrument for completion by health practitioners.

Such an instrument would be more suited to clinical practice than lengthier existing instruments such as the Indicators of Abuse Screen (29 items) [65] and the Elder Assessment Instrument (44 items) [80]. Moreover, it could offer advantages over self-report instruments that have been developed for completion by patients such as the Elder Abuse Suspection Index [81] or the Hwalek-Sengstock elder abuse screening test [82] and its derivatives such as the Vulnerability to Abuse Screening Scale [83], which tend to require an established therapeutic relationship to implement successfully due to the sensitive nature of the questions [1], and cannot be administered to persons with moderate-to-severe cognitive impairment.

Additionally, a risk factor framework for elder abuse offers the prospect for ready identification of interventions that can modify particular risk factors. For instance, this may involve the introduction of home-based services and counselling for caregiver stress, or behaviour management interventions to reduce problematic care recipient behaviours.

Viewing elder abuse in this way draws on parallels with geriatric syndromes which emphasise multifactorial causation, with interventions directed towards ameliorating contributing factors [84, 85]. While some have advocated for the treatment of elder abuse as a geriatric syndrome [86, 87], and it has been associated with increased morbidity and mortality [30, 88], this remains an idea to be more fully debated.

Limitations

Several limitations should be noted. First, the majority of studies are cross-sectional studies; hence, risk factors reflect an association rather than causation. Moreover, most studies were retrospective and, therefore, affected by recall bias.

Secondly, prevalence varied markedly across studies and this may have affected whether risk factors achieved statistical significance. Key features influencing prevalence were:

- variations in study outcomes;
- differences in abuse definitions and
- the period over which prevalence was assessed.

For some studies, the outcome was verified abuse, whereas for others the outcome was self-reported abuse, carer-reported abuse, suspected abuse or signs of abuse. While it would have been possible to stratify according to these outcomes, this would have resulted in significant fragmentation making results difficult to interpret.

The differences in abuse definitions were quite marked among the studies. For instance, in some studies, single instances of verbal abuse were sufficient, whereas in other studies, only chronic verbal abuse (>10 instances in 1 year) was sufficient to constitute elder abuse. Similarly, a diverse range of instruments was used to measure abuse. Many studies used validated and reliable instruments such as the Conflict Tactics Scales [89, 90], yet others used instruments developed specifically for the task at hand.

Thirdly, there was a lack of consistency in the definition and measurement of risk factors (especially with respect to concepts such as functional dependency, psychiatric illness or psychological problems). While some studies used valid and reliable instruments, this was not universal. And, in many studies, there was no adjustment for confounders to assess which factors provide an independent measure of risk. To limit the impact of these features, only higher quality studies were used in the analysis.

Finally, the assessment of study quality was undertaken by the lead author rather than a panel, which limited the scope for peer review of the assessment.

Conclusions

Current evidence supports the multifactorial aetiology of elder abuse involving risk factors within the elder person, perpetrator, relationship and environment. The lack of consistency in this field, however, limits the potency of this evidence and further research is required to test the strength and independence of these risk factors. Ultimately, it is hoped that this will lead to the development of a practical screening instrument for health professionals, as well as informing the development of interventions.

Key points

- To explore a risk factor framework for abuse through a systematic literature review of studies in community-dwelling elders.
- Risk factors can be grouped as relating to the elder person, perpetrator, relationship and environment.
- Thirteen statistically significant risk factors were reproducible in a range of settings.
- Current evidence supports the multifactorial aetiology of elder abuse.

Conflict of interest

None declared.
Supplementary data

Supplementary data mentioned in the text is available to subscribers in Age and Ageing online.

References

The very long list of references supporting this review has meant that only the most important are listed here and are represented by bold type throughout the text. The full list of references is available on the Supplementary data in Age and Ageing online, Appendix S1.


Received 17 February 2012; accepted in revised form 28 November 2012