Peter A S, Prabhu MM, Tolson D, et al. Effectiveness of interventions to prevent abuse in people living with dementia in community settings: A systematic review. *Dementia*. 2024;0(0). doi:10.1177/14713012241260476

1 # Effectiveness of interventions to prevent abuse in people living with
2 dementia in community settings: a systematic review

3 **Seelia Peter A [a] , Dr M Mukhyaprana Prabhu[b], Professor Dr Debbie Tolson[c], Dr Baby S**
4 **Nayak[d], Dr Rajeshkrishna Bhandary[e], Dr Binil V [f], Dr Elsa Sanatombi Devi [g]***
5

6 *[a] PhD Scholar, Department of Medical Surgical Nursing, Manipal College of Nursing,*
7 *Manipal Academy of Higher Education, Manipal, Karnataka, India.*
8 *https://orcid.org/0000-0002-4803-5013*

9 *[b] Professor, Department of General Medicine, Kasturba Medical College, Manipal*
10 *Academy of Higher Education, Manipal, Karnataka, India. https://orcid.org/0000-*
11 *0003-0679-3323*

12 *[c] Alzheimer's Scotland Professor of Dementia, Director- Alzheimer's Scotland Centre*
13 *for Policy and Practice, Professor- School of Health and Life Sciences, University of*
14 *West of Scotland, UK. https://orcid.org/0000-0001-9660-5490*

15 *[d] Professor, Department of Child Health Nursing, Manipal College of Nursing,*
16 *Manipal Academy of Higher Education, Manipal, Karnataka, India.*
17 *https://orcid.org/0000-0001-9659-9860*

18 *[e]Associate Professor, Department of Psychiatry, Kasturba Medical College, Manipal*
19 *Academy of Higher Education, Manipal, Karnataka, India https://orcid.org/0000-*
20 *0003-3540-8199*

21 *[f]Associate Professor, Department of Psychiatric Nursing, Manipal College of Nursing,*
22 *Manipal Academy of Higher Education, Manipal, Karnataka, India.*
23 *https://orcid.org/0000-0002-5905-5546*

24

25 ***Corresponding Author**

26 [g] Dr Elsa Sanatombi Devi, Professor, Manipal College of Nursing, Manipal Academy
27 of Higher Education, Manipal, Karnataka, India. https://orcid.org/0000-0002-0738-
28 8912

29 Email: elsa.sana@manipal.edu

30

31

32

1 **Abstract**

2 The abuse of older adults is a societal, and legal issue. A person living with dementia
3 is at high risk for abuse due to their physical and cognitive decline.
4 **Objectives:** This review examined the evidence for interventions to prevent the abuse
5 of people living with dementia in the community.
6 **Methods:** The articles were retrieved from 2000 to 2023 from six databases, including
7 MEDLINE via PubMed, CINAHL Plus via EBSCO, EMBASE, ProQuest Medical
8 Library, Web of Science, and Scopus. The research articles that focused on finding
9 the effectiveness of interventions for preventing abuse of people living with dementia
10 in community settings were included in this review. The review included randomized
11 controlled trials and pre-test post-test trials only. The quality appraisal of the eligible
12 studies was done using ROB 2 and ROBINS II. The findings were tabulated and
13 narratively synthesised.
14 **Results:** Out of 1831 articles, only three were included in this review. Only two RCTs
15 were included in this efficacy review. Both the studies showed that the interventions
16 were not effective in reducing abuse. The studies utilised family caregiver
17 interventions like psychological interventions and online supportive education. The
18 review identified psychological interventions with some evidence. Another study was
19 a quasi-experimental study that used dialectical behaviour therapy as an intervention
20 to reduce abuse occurrence. The study showed low evidence and focused only on
21 reporting of elder abuse as an outcome.
22 **Conclusion:** This review found very few studies and was not able to draw a
23 conclusion on the effectiveness of interventions for abuse in people living with
24 dementia. Given the paucity of research, there is a clear need to identify how to
25 overcome the challenges faced in elder abuse research and further refine the
26 development of approaches to reduce elder abuse among people living with dementia
27 in community settings.

28 Key words: elder abuse; people living with dementia; interventions; prevention;
29 community setting, systematic review

30

31

32

1 **Introduction**

2 The abuse of older adults is a significant issue in the fields of public health,
3 criminal justice, and human rights. According to World Health Organization reports,
4 approximately 17% of older adults report having been abused at home (WHO, 2022).
5 A recent estimate of the prevalence of dementia predicts that by 2050, there would be
6 152 million cases globally, up from 57 million cases in 2019 (Nichols et al., 2022).
7 With the growing number of older adults, the coming decades will face an exponential
8 increase in the number of people diagnosed with dementia, and the rates of dementia
9 related abuse is expected to increase (WHO, 2022; Dong et al., 2014; Cooper et al.,
10 2009).

11 The caregiving challenges of a person with dementia progressively increase
12 in intensity and are known to be demanding. When compared to older persons without
13 dementia, those with dementia are more susceptible to abuse (McCausland et al., 2016),
14 owing to a combination of vulnerabilities such as cognitive impairment, social
15 isolation, communication difficulties, and reliance on caregivers (Fang & Yan, 2018;
16 Tronetti, 2014).

17 According to a definition formulated by the United Kingdom's Action on Elder
18 Abuse and recognized by the International Network for the Prevention of Abuse, "Elder
19 abuse is a single, repeated act, or lack of appropriate action, occurring within any
20 relationship where there is an expectation of trust and causing harm or distress to an
21 older person" (WHO, 2008). The subtypes of abuse are classified into psychological or
22 emotional abuse, physical abuse, sexual abuse, financial abuse, and neglect (Hall et al.,
23 2016; WHO, 2022).

24 Elder abuse has a prevalence rate of 15.7% across 28 countries, according to a
25 meta-analysis (Yon et al., 2017). The types of abuse that are most common are

1 psychological abuse (11.65%), financial abuse (6.8%), neglect (4.8%), physical abuse
2 (2.65%), and sexual abuse (Fang & Yan, 2018).

3 The multifactorial risk factors for abuse are related to the characteristics of the
4 caregiver, the person living with dementia, their relationship, and the environment
5 (Wiglesworth et al., 2010). Behavioural and psychological problems in people living
6 with dementia, such as repeated questioning, wandering, agitation, and aggression, can
7 trigger caregiver violence. Various studies have reported that significant perpetrator
8 factors, such as caregiving overload (Lee & Kolomer, 2005; Weerd & Paveza, 2005),
9 functional decline, social isolation, substance abuse, depression, stress, and anxiety
10 (Dong & Simon, 2013; Pillemer et al., 2016), contribute to abusive behaviours. The
11 victim risk factors include functional dependence or disability, physical and mental
12 health problems, age, gender, and ethnicity (Pillemer et al., 2016). One finding that
13 linked abuse in people living with dementia was the quality of the relationship that
14 existed in the past and present between the carer and the patient (Cooney et al., 2006).
15 Ageism is one of the societal risk factors for abuse (Pillemer et al., 2016), which
16 warrants political attention.

17 The abuse of older adults has been a relatively hidden issue and taboo. The
18 perpetuator of abuse among older adults is a person living with them at home in most
19 cases, which includes spouses, adult children, daughter-in-law, paid caregivers, or
20 grandchildren. Even neighbours, friends, relatives, or others who visit older adults at
21 home are also perpetuators of abuse (Acierno et al., 2010; Jackson, 2016).

22 Abuse has detrimental effects on older individuals' mental and physical health,
23 causing increased risk of mortality, morbidity, psychological distress,
24 institutionalization, hospital admission, and financial loss (Dong & Simon, 2013;
25 Yunus et al., 2017). These consequences will be even worse for people living with

dementia due to cognitive deficits and physical dependency (Dong et al., 2014; Kaspiew et al., 2016; Gimeno et al., 2021).

The mechanism to identify abuse in aged people, both with and without dementia is not yet defined, and neither are the interventions. It can be quite difficult to choose and assess preventative strategies, especially for people living with dementia (Pillemer et al., 2016). Several steps are suggested around the world to prevent or stop elder abuse, but there is a lack of empirical evidence on what works best.

At the community level, the interventions that aim at prevention, fall into three categories: primary (avoidance of abuse before it starts, focusing on entire populations), secondary (targeting at-risk individuals to mitigate or prevent abuse from developing further), and tertiary (avoidance of abuse by focusing on known perpetrators) prevention (AbdulRaheem, 2023). The WHO suggests a few of them: public and professional awareness campaigns, measures to combat ageism, screening (at-risk victims and abusers), caregiver support programs, stress management, school-based intergenerational programs, respite care, residential care policies, and caregiver education on dementia as measures for primary prevention adopted predominantly in high-income countries (WHO, 2022). Secondary prevention includes interventions that target mandatory reporting of abuse, emergency shelters, self-help groups, programs to improve the mental health for abusers, helplines to provide information, referrals, and support the caregivers. The abuse of older adults can be decreased through the efforts of interdisciplinary teams, including social welfare, education, and the health sector (WHO, 2022). The strategies for preventing, identifying, and responding to maltreatment of older adults can be targeted at people living with dementia, formal and informal caregivers, perpetrators in general, the public, and other stakeholders at the

1 governmental and policy level. There is currently minimal evidence supporting the
2 effectiveness of most of these interventions (WHO, 2022).

3 An increasing number of systematic reviews focusing on interventions for
4 abuse among older people (Mydin et al., 2021; Shen et al., 2021; Ayalon et al., 2016;
5 Baker et al., 2016; Fearing et al., 2017; Dong, 2015; Ploeg et al., 2009), have been
6 conducted in the literature during the last two decades. Most of the studies clearly state
7 the lack of research evidence for interventions to prevent abuse among older adults. It
8 is noteworthy that none of the reviews were done exclusively for people living with
9 dementia as a beneficiary group, except for one review (Mileski, 2019) that focused on
10 the prevention of abuse in people living with dementia in institutional settings (Mileski,
11 2019).

12 According to a comprehensive review of community-based strategies for
13 preventing elder abuse, just one study in a systematic review showed evidence that
14 carers of people living with dementia could benefit from psychological intervention
15 (Fearing et al., 2017). This review focused on all interventions for abuse for older adults
16 in general, irrespective of any specific diagnosis or physical disabilities (Fearing et al.,
17 2017). However, the systematic review by Fearing et al. (2017) focused on studies
18 published up to 2017. In order to determine whether the effects of therapies differ
19 depending on cognitive deficiency, the current review was conducted specifically to
20 investigate interventions for abuse in people living with dementia residing in
21 community settings. The current systematic review was undertaken to identify any
22 further developments in the prevention of abuse among people living with dementia as
23 abuse intervention research has gained momentum in last few years.

24 Due to the complexity of the problem and ethical issues in conducting research
25 in this area, research on elder abuse interventions have received little attention (Ploeg

et al., 2009; Jackson & Hafemeister, 2013; Wang et al., 2015; Teresi et al., 2016). The study done on effects of psychological interventions on abuse by caregivers (Cooper et al., 2016) points out that the findings of intervention research on abuse can be influenced by the fact that the researchers may have to report and intervene when significant abuse occurs. Thus, plan of actions to be taken in such situations should be considered in the study methodology (Cooper et al., 2016).

The causes of abuse are multifaceted (Dong et al., 2014; Pillemer et al., 2016; Fang et al., 2019; Storey, 2020; Hancock & Pillemer, 2023) and research attention has focused on understanding the nature of the problem (Pillemer et al., 2016; Storey, 2020) interventional research is in its infancy (Teresi et al., 2016; Rosen et al., 2019; Burnes et al., 2021; Lachs et al., 2021; Bolkan et al., 2023).

It is imperative to understand the amount of work done in this area, especially when the interventions for the abuse of older adults are very diverse. This review was initiated and carried out with the goal of determining what works for the prevention of abuse in people living with dementia in community settings, regardless of geographical boundaries. In this review, interventions in community settings refers to any interventions for abuse that targets home-dwelling people living with dementia. The interventions for abuse that are targeted at cognitively intact older adults are not sufficient to cater to the needs of older adults who are cognitively impaired. This brings out an interest in determining what interventions work, particularly for people living with dementia.

1 **Methods**

2 This efficacy systematic review was guided by Cochrane Handbook of
3 Systematic Review of Interventions and Methodological Expectations of Cochrane
4 Intervention Reviews (MECIR) Standards (Higgins et al., 2023a; Higgins et al.,2023b).
5 The review follows the Preferred Reporting Items for Systematic Reviews and
6 Meta-Analysis (PRISMA) 2020 Checklist (Page et al., 2021). The review protocol was
7 registered and published in PROSPERO (Registration number CRD42021262508)

8 ***Eligibility criteria***

9 The inclusion criteria for eligible studies were as follows: (a) Type of
10 participants: informal caregivers of people living with dementia, such as spouses,
11 family, friends, volunteers, and paid caregivers who are over 18 years old; professionals
12 involved in abuse prevention programs; and people living with Alzheimer's disease
13 and related dementias (ADRD) aged 60 and above. (b) Type of interventions: any
14 interventions for abuse in community settings (see Appendix 1) were included in this
15 review. (c) Type of comparators: comparators were any different intervention, no
16 intervention or standard care. (d) Type of outcomes: Primary outcomes were prevention
17 or reduction in any type of abuse (physical, psychological, sexual, financial, and neglect
18 or abandonment); reduction in the occurrence or reoccurrence of abuse; and reduction
19 in potentially abusive behaviours and the secondary outcomes were psychological
20 outcomes of the caregiver, caregiver burden, quality of life and resilience of the
21 caregivers. Peer-reviewed, quantitative studies published in English that had
22 interventions for abuse for people living with dementia in community settings with
23 abuse as an outcome were included. The review included studies carried out in home
24 or community settings, and no exclusion was made based on geographical location.
25 The exclusion criteria for the study were results of trials in conference proceedings and

abstracts, non RCTs, feasibility studies, studies with unclear abuse outcomes and those with abuse interventions that are not specifically tailored for abuse prevention in people living with dementia.

Information sources and search strategy

The databases MEDLINE via PubMed, CINAHL Plus via EBSCO, EMBASE, ProQuest Medical Library, Web of Science, and SCOPUS were searched to find studies on abuse among people living with dementia using the keywords "elder abuse," "people living with dementia," "interventions," and their synonyms. (see Supplementary material: Appendix 1). The key words were tested for accuracy by all authors and experts in the field. The MeSH headings and database taxonomies were the basis upon which the search strategy was developed, together with the Boolean operators "OR" and "AND." (see Supplementary material: Appendix 2). The search was repeated after adding new phrases based on the synonyms identified by the original searches. Google Scholar was reviewed to obtain an updated list. Again, additional studies were searched based on the reference lists of selected articles, unpublished articles, and grey literature. The grey literature searched included ProQuest dissertations and theses, Open Grey, Google Scholar and websites such as Dementia Australia (http://www.dementia.or.au/), Alzheimer's Association (https://www.alz.org/) and Alzheimer's Disease International (https://www.alzint.org/).

The search was performed from March 2022 to October 2023 in various databases, and the articles retrieved were from the years 2000 to 2023 to determine recent evidence in elder abuse management. Rerun of the searches was performed to identify recent studies that might have been missed in the initial search and found one study (Afshari et al., 2023) which was later added to the review. This review included

studies performed in the last 23 years to determine the developments in elder abuse interventions in the last two decades. Ethical approval was not obtained, as this study did not include primary data collection.

Data collection process and quality assessment

Three subject matter experts (SP, ESD, BV) validated the search technique, and modifications were incorporated while searching all the databases. From the reference lists of the identified papers, a search was performed to find more related articles. The Rayyan Tool for Systematic Literature Reviews was used to screen the articles (Ouzzani et al., 2016). Two separate reviewers (SP, BV) reviewed each paper and abstract independently to ensure that they were appropriate and that any disagreements between the reviewers were settled. When consensus could not be reached, the third reviewer's (ESD) viewpoint was requested to help resolve the situation. After the title and abstract screening, two reviewers independently performed a full-text review of the articles. Discrepancies were discussed and a final consensus was reached in discussion with the third reviewer.

The methodological quality of the randomised controlled trials was assessed using the Cochrane Collaboration Risk of Bias Tool version 2 (Sterne et al., 2019) and the ROBINS I (Higgins et al.,2023b) tool for non-randomised trials. The quality of the articles was evaluated separately by two reviewers (SP, BV), and any discrepancies were resolved through discussion by the third reviewer (ESD).

Data Extraction

Two independent reviewers (SP, BV) collected the pertinent research information from original studies into a validated data extraction form and summary table from the included articles, and then cross-checked the findings. The study details included the name of the first author, year of publication, country, setting,

methodology, target population, demographic characteristics, sample size, intervention type, frequency and duration of the intervention, comparison, instruments used and results. The original author of one study was contacted for clarification. The data were checked for accuracy and consistency.

Data Synthesis

The studies varied greatly in terms of study design, interventions and their duration, frequency, mode of delivery, and outcome variables. Two studies were randomised controlled trials and the other study had a pre-post experimental design. Narrative synthesis was performed as the included studies were only two and highly heterogeneous. The findings from the two studies are discussed in terms of study selection, critical appraisal results, characteristics of included studies, details of the intervention, measurement tools, data collection methods and impact of abuse prevention programmes on people living with dementia.

Results

Study selection

The extraction process of this systematic review is depicted in the PRISMA diagram shown in Figure 1. PRISMA 2020 flow diagram (Page et al.,2021). One thousand eight hundred thirty-one articles were identified after duplicates were removed. Twenty-four papers underwent a full-text review to assess their eligibility in more detail. Twenty-one studies were excluded from this review because they did not meet the inclusion criteria. The study details and the reasons for exclusion are detailed in Table 1.

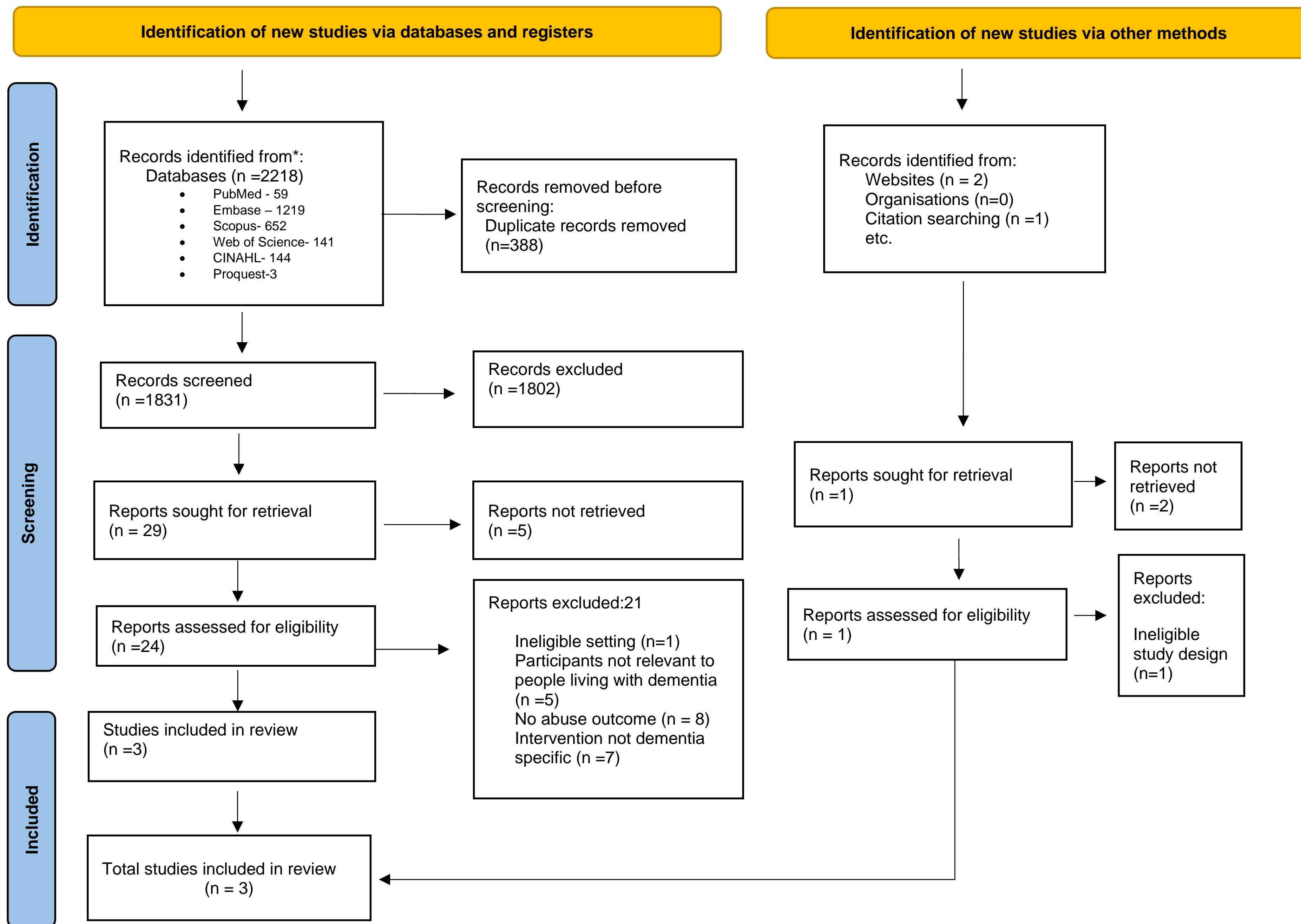

Figure 1: Preferred reporting items for flow diagram. From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/ bmj.n71. For more information, visit: http://www.prisma-statement.org/

Table 1: Excluded studies

Author and Year	Reason for excluding
Rosen et al., 2022	Ineligible study design Ineligible setting. Study samples included older adults with and without dementia. Intervention was not specific for people living with dementia
Maxwell et al., 2022	Study samples included older adults with and without dementia. Intervention was not specific for people living with dementia
Mohd Mydin et al., 2020	Intervention was not specific for people living with dementia No elder abuse outcome
Sirey et al., 2021	People living with dementia were excluded in this study.
Oveisi et al., 2021	Ineligible population
Kim et al., 2021	People living with dementia/neurological deficits were excluded in the study. No abuse related outcomes
Kunik et al., 2020	No abuse related outcomes
de Oliveira et al., 2018	No abuse related outcomes
Livingston et al., 2020	No abuse related outcome
Gustafson et al., 2019	No abuse related outcomes.
Gaugler et al., 2018	No abuse related outcome.
Estebsari et al., 2018	People living with dementia/neurological deficits were excluded in the study.
Hazrati, et al., 2017	People living with dementia were excluded in this study.
Khanlary et al., 2016	The study does not mention whether the samples included caregivers of people living with dementia.
Sirey et al., 2015	Ineligible population Ineligible study design
Huang et al., 2013	No abuse related outcomes
Cooper et al., 2012	Ineligible study design Intervention is not specific for people living with dementia
Phillips, 2008	Ineligible population Intervention is targeted to reduce abuse towards caregivers.
Bartels et al., 2005	Study samples included older adults with and without dementia. Intervention was not specific for people living with dementia
Richardson et al., 2002	Ineligible setting Intervention was not specific for people living with dementia
Thompson et al., 2000	Ineligible population

1

2 Only three studies were included for review as they met all the inclusion criteria. Table 3 shows
3 three citations (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016) for a single
4 study. This indicates three follow up articles (2year follow-up) of a single study. Hereafter
5 mentioned in the text as (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016)
6 where ever applicable.

7 Two of the included articles were randomised controlled trials (Livingston et al., 2013;
8 Livingston et al., 2014; Cooper et al., 2016; Afshari et al., 2023), and the other (Drossel et al.,
9 2011) was a non-randomised controlled trial. This review initially focused on randomized
10 controlled trials, but due to a lack of studies, a non-randomized controlled trial was also included
11 later (a deviation from the registered protocol), which resulted in including one more study in
12 the review.

13 ***Critical Appraisal Results***

14 The three studies included in this review utilized psychological interventions for
15 caregivers of people living with dementia and online supportive education programs for
16 caregivers and reported an abuse outcome. The randomised controlled trial (Livingston et al.,
17 2013; Livingston et al., 2014; Cooper et al., 2016) on "START" showed low risk of bias and
18 another randomised controlled trial (Afshari et al., 2023) that investigated the effect of online
19 dementia education on enhancing resilience and preventing abuse of people living with
20 dementia by family carers showed a high risk of bias.

21 The third study (Drossel et al., 2011) was a pre- post experimental study utilising
22 Dialectical Behaviour Therapy for caregivers which showed very low evidence. The study
23 showed low methodological quality due to its insufficient sample size, lack of control group,
24 and absence of suitable data collection tools to assess abusive behaviours. Table 2 provides the
25 methodological assessment of the included studies.

Table 2: Quality assessment of included studies

a. Quality assessment of RCTs using RoB 2

Study	**Random sequence generation**	**Allocation concealment**	**Blinding participants and personnel**	**Blinding outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Risk of bias**
Livingston et al, 2013 Livingston et al, 2014 Cooper et al, 2016	Low	Low	High	Low	Low	Low	Low
Afshari et al, 2023	Some concerns	Some concerns	High	High	High	Low	High

b. Quality assessment of non-randomised studies-of interventions using ROBINS II

Study reference	**Confounding variables**	**Selection of participants**	**Classification of interventions**	**Deviations from intended interventions**	**Missing data**	**Measurement outcomes**	**Selection of reported results**	**Overall assessment**
Drossel et al. 2011	x	x	+	NI	+	x	+	High risk of bias

Key: *+, low-risk of bias; -, moderate-risk of bias; X, serious-risk of bias; NI, no information provided*

1 ***Characteristics of included studies***

2 The study characteristics are summarized in Table 3. One study was conducted
3 in the United Kingdom (Livingston et al., 2013; Livingston et al., 2014; Cooper et al.,
4 2016), one in Iran (Afshari et al., 2023) and the other in the United States of America
5 (Drossel et al., 2011). The settings of the studies included mental health trust's memory
6 services (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016), community
7 clinic offering dementia services (Drossel et al., 2011) and participants from a list of active
8 cases of dementia maintained by a non-governmental organization involved in the care of
9 people living with dementia (Afshari et al., 2023).

10 A total of 358 caregivers of people living with dementia were recruited in the
11 studies included in this review. The number of participants in the DBT study (Drossel et
12 al., 2011) was only 24, and only 16 caregivers completed the intervention. The mean age
13 of the caregivers ranged from 47.65 years to 62 years. Regarding gender, the majority of
14 the caregivers were females in all the studies.

15 ***Details of the intervention***

16 The interventions adopted by all the three included studies were tailored for family
17 caregivers. Two of the included studies (Livingston et al., 2013; Livingston et al., 2014;
18 Cooper et al., 2016; Drossel et al., 2011) used psychological intervention for caregivers
19 of people living with dementia to reduce abuse occurrence. Another RCT (Afshari et al.,
20 2023) used online supportive education for family caregivers to reduce abuse.

21 The number of sessions for START was eight, delivered in home settings on an
22 individual basis. The sessions comprised psychoeducation, dementia education, handling
23 caregiver stress, caring for a person living with dementia, common problems faced by a
24 caregiver, difficult caregiving situations and ways to tackle them, communication
25 techniques, coping strategies, future needs, legal planning, pleasant activities, and

reinforcing techniques learned in previous sessions (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016).

A study (Afshari et al., 2023) that used online supportive education for caregivers utilized a WhatsApp group to share content on dementia education, respect and dignity of people living with dementia, videos on dementia, vignettes on abuse and neglect and strategies to strengthen resilience among caregivers of people living with dementia. The concerns and challenges faced by caregivers were addressed by one of the research team members and a weekly online consultation by a neurologist was provided (Afshari et al., 2023).

Another study (Drossel et al., 2011), adopted a psychological intervention called Dialectical Behavioural Therapy (DBT). The manual included a step-by-step guide for mindfulness techniques, interpersonal efficiency, ability to tolerate distress, and emotion regulation. DBT was a group therapy that covered four modules delivered over eight weeks. The sessions were delivered by graduate and master's-level doctoral student therapists specializing in clinical psychology who have undergone DBT training and supervision. The caregivers took part in eight 2.5-hour sessions every week. The program was provided at a community clinic, which included telephone booster sessions, a 24-hour helpline, and support services.

Data collection and Measurement tools

A total of 173 caregivers were included in the START intervention, and 87 caregivers were in the "treatment as usual" (TAU) group, which received standard care and the participants were not blinded. The START study was a long-term study with follow-ups at 4 months, 8 months (Livingston et al., 2013), and 12 months and 24 months (Livingston et al., 2014; Cooper et al., 2016). The Modified Conflict Tactic Scale (MCTS) was used in the START study to obtain self-reports of potentially abusive behaviours from

the family caregivers, where the caregivers must rate how often the mentioned ten abusive behaviours occurred in the last 3 months. The financial abuse and sexual abuse components are not assessed using this tool. The other study (Drossel et al., 2011) did not use any structured tools to assess the abusive behaviours of the caregivers at baseline or at follow-up. Only the mandatory report of abuse to Elder Protective Services was recorded and analysed at baseline and soon after the completion of the sessions.

Effectiveness of interventions to prevent abuse in people living with dementia.

The findings are reported as abuse outcomes, mental health outcomes, caregiver burden, caregiver quality of life and caregiver resilience.

Abuse related outcomes

Abuse was the primary outcome in one study (Afshari et al., 2023), and both the other studies (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016; Drossel et al., 2011) measured abuse as a secondary outcome. A study (Afshari et al., 2023), which assessed family carer abuse of people living with dementia, found no statistically significant difference in abuse scores (p=0.447) following the intervention. However, the study reported a noteworthy difference (p=0.022) in the abuse scores of the intervention group pre- and post-interventions.

In the START study (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016), there was a reduction in abusive behaviours, but with no statistical significance. The percentage of family caregivers who reported abusive behaviours was 49.6 at baseline in the START group which was reduced to 28.3% at 8 months. However, at the one-year follow-up, there was an increase in the abuse reports in the START group to 34% and then a reduction to 32.1% by the two-year follow-up. After two years, 25% of carers still reported considerable abuse; however, individuals who had not previously acted abusively

did not become abusive (Cooper et al., 2016). However, this study noted that the median abuse scores decreased over two years in both the intervention and control groups.

The second study (Drossel et al., 2011) also examined the impact of DBT on abuse among caregivers of people living with dementia. During the study period, elder neglect by two of 16 caregivers was reported by the therapists to the authorities. Due to the small sample size, further statistical inferences are not mentioned in the study.

Mental health outcomes

Two included studies had mental health outcomes as the primary outcome. Poor caregiver mental health and caregiver burden are risk factors for the abuse of people living with dementia. The START study (Livingston et al., 2013; Livingston et al., 2014) focused on the psychological well-being of the caregiver. The primary outcomes of the START study were caregiver depression and anxiety. The START intervention could reduce caregiver anxiety and depression (Livingston et al., 2013; Livingston et al., 2014). The depression and anxiety scores adjusted for baseline showed a mean difference (p=0.02) in favour of the START intervention.

The DBT study (Drossel et al., 2011) also had mental health outcomes as the primary outcomes which included caregiver depression, caregiver well-being and coping (Drossel et al., 2011). The study revealed a statistically significant increase in coping ($p < 0.005$), emotional well-being ($p < 0.004$) and energy levels ($p < 0.001$) in the group that received DBT intervention (Drossel et al., 2011).

Caregiver burden and burnout

The caregiver burden is one of the major risk factors for abuse of people living with dementia. Two studies examined the effectiveness of psychological intervention on caregiver burden. The START study (Livingston et al., 2013; Livingston et al., 2014) showed significant improvement in the caregiver burden in the intervention group. In

contrast, the other study (Drossel et al., 2011) showed no significant effect on caregiver burden and burnout.

Quality of life

Caregiver quality of life was assessed in only one study (Drossel et al., 2011) which showed no significant difference in QoL scores before and after the intervention. Another study (Livingston et al., 2013; Livingston et al., 2014;) measured care recipient quality of life and showed no intervention effect.

Resilience

The resilience of caregivers was measured in a study (Afshari et al., 2023) that found no significant difference in the scores of resilience after the intervention.

Table 3: Study Characteristics

Study Author, Year	Country	Setting	Methodology	Target population facing abusive behaviours	Target population for intervention	Demographic characteristics	Sample size	Intervention type	Frequency and duration of the intervention	Comparison condition	Instruments/ measures	Outcome and results
Afshari et al, 2013	Iran	Iran Dementia & Alzheimer's Disease Association (IDAA)	Randomized controlled trial with follow-up immediately after 2 months of intervention Parallel group Open trial	N = 74 people living with dementia.	N = 74 Caregivers of people living with dementia. Allocation **Intervention group:** N = 37 **Control Group** N = 37	**Caregivers** **Intervention group** *Gender* Female:64.7% Male:35.3% *Mean Age:* 47.65±9.42years **Control Group** *Gender* Female:72.4% Male: 27.6.7% *Mean Age* 46.69±10.11years **Mean age of people living with dementia** Intervention group 77±7.83years Control Group 75.46±9.99years	N = 74 caregivers	Online supportive education program on caregiver's resilience and abuse which involved a WhatsApp group to share content on dementia, respect and dignity of people living with dementia, vignettes on abuse, techniques to reinforce resilience among caregivers, online consultation by neurologist, stress reduction measures, information on resources available and mutual support from the caregiver group members	2-month intervention period with weekly support sessions and education	Standard care	Caregiver Abuse Screen (CASE) Walsh Family Resilience Questionnaire (WFRQ)	No significant difference in the scores of abuse (p=0.447) and resilience (p=0.08) after the intervention. A significant difference was found in the abuse scores before and after the study in the intervention group(p=0.022) and not for resilience scores.

Study Author, Year	Country	Setting	Methodology	Target population facing abusive behaviours	Target population for intervention	Demographic characteristics	Sample size	Intervention type	Frequency and duration of the intervention	Comparison condition	Instruments and measures	Outcome and results
Livingston et al, 2013 Livingston et al, 2014 Cooper et al, 2016	UK	London and Essex, United Kingdom Two mental health trusts' memory services	Randomized controlled trial with long-term follow-up at 4 months, 8month, 1yr and 2yr Parallel group single blinded study.	N = 260 people living with dementia.	N = 260 Caregivers of people living with dementia. 2:1 Allocation **START:** N = 173 **TAU** N = 87	**Caregivers** **START** Gender: Female: 67.1% Male:32.9% Mean Age: 62 yrs **TAU:** Gender**:** Female: 71.3% Male: 28.7% Mean Age: 56.1yrs Mean age of people living with dementia START- 79.9yrs TAU- 78.0yrs	N = 260 caregivers	The intervention STrAtegies for RelaTives (START) involved a manual based coping intervention, which consisted of psychoeducation about dementia, carers' stress, emotional support, and behavioural management techniques.	8 manual based individual sessions at home.	Standard care	1. Modified Conflict Tactics Scale 2. The Hospital Anxiety and Depression Scale 3. Zarit Burden Interview	Less abusive behaviour compared TAU group (odds ratio 0.47, 95% confidence interval 0.18 to 1.23) This was not statistically significant. **Follow-up studies** There was no evidence that abusive behaviour levels differed between randomization groups or changed over time. A quarter of carers still reported significant abuse after two years, but those not acting abusively at baseline did not become abusive. **Percentage of participants' abusive behaviour overtime** (see table below) Significant reduction in caregiver burden, decrease in scores on the hospital anxiety and depression scale, at 8,12,24-month follow-up was reported.

Abuse	Baseline	4 months	8 months	12 months	24 months
START group					
No	50.4	65.5	71.7	66.0	67.9
Yes	49.6	34.5	28.3	34.0	32.1
TAU group					
No	60.0	58.9	65.4	58.7	75.0
Yes	40.0	41.1	34.6	41.3	25.0

Note : STrAtegies for RelaTives (START), TAU- Treatment As Usual

Study Author, Year	Country	Setting	Methodology	Target population facing abusive behaviours	Target population for intervention	Demographic characteristics	Sample size	Intervention type	Frequency and duration of the intervention	Comparison condition	Instruments and measures	Outcome and results
Drossel et al. 2011	USA	State funded communit y clinics offering dementia services	Pre–post experimental design	Person with Dementia with co-morbidities and having moderate to severe cognitive deficits	Caregivers were referred to DBT Skills by their individual therapists routine clinical setting offering services to individuals with dementia	Caregivers Mean Age: 59yrs Gender: Men- 21% Women 79%	24 Caregivers of older adults with dementia Only 16 completed the intervention	Manualized Dialectical Behaviour Therapy Group Sessions	Number of sessions: 8 5 hours of direct contact per week	No comparator	Mandatory Reporting of abuse incidents to authorities. No measurement tools to assess abusive behaviours. Center for Epidemiological Studies-Depresssion Scale (CES-D) Caregiver Burden Inventory (CBI), Maslach Burnout Inventory (MBI) Ways of Coping Checklist (WoC-R) Short Form Health Survey (SF-36)	Elder abuse: 2 of 16 caregivers reported elder neglect to authorities. Depression scored improved by 10% among 40% of the samples. No statistically significant reduction in caregiver burden Statistically significant increase in coping. Statistically significant increase in emotional wellbeing and energy level.

1 **Discussion**

2 This review was conducted to find out the available evidence on abuse interventions
3 for people living with dementia. Three studies on community-based strategies to combat abuse
4 in people living with dementia were included in this systematic review. The START study
5 showed a very low risk of bias and reported that psychological interventions for caregivers of
6 people living with dementia could reduce abusive behaviours, but the results were not
7 statistically significant in the initial (Livingston et al., 2013) and all other follow-ups (Cooper
8 et al., 2016). However, the START study reported significant improvement in caregiver mental
9 health outcomes which is a known risk factor for caregiver abuse.

10 This review suggests that the individual caregiver psychological interventions
11 provided as part of routine care may have a potential in reducing abusive behaviours. This can
12 be complemented with additional support strategies that may bring about changes in caregiver
13 behaviour. This needs further exploration.

14 One study with low risk of bias (Livingston et al., 2013; Livingston et al., 2014;
15 Cooper et al., 2016) did not show statistically significant outcomes regarding abuse
16 intervention, while the other two studies (Drossel et al., 2011; Afshari et al., 2023) showed
17 high risk of bias might have compromised the reliability of the results. Due to the limited
18 number of included studies and the mixed quality of their methodologies, current review
19 suggests that a definitive conclusion cannot be drawn regarding the effectiveness of abuse
20 intervention. It underpins the importance of further research with well-designed studies to
21 provide more reliable evidence on the efficacy of interventions aimed at addressing abuse.

22 In the discussion section of the present review, reasons for the very low number of abuse
23 intervention studies, difficulties in conducting abuse intervention research and suggestions to
24 improve the design and research in this area are outlined.

1 The complexity in conducting abuse research is a reason very few studies are taken up
2 in this area. Abuse research is complex and requires careful planning to carry out because of
3 several factors. Notable ones are, the sensitive nature of the topic, the complexity of abuse
4 types and diverse risk factors, legal issues that arise during the research study, data collection
5 methods, acceptability of the participants, and risk of adverse events. The data collection
6 methods in abuse research should be chosen carefully. The self-reports of abuse by caregivers
7 were assessed in two studies (Cooper et al., 2016; Afshari et al., 2023) whereas mandatory
8 reports of abuse were used in the other study (Drossel et al., 2011). The START study
9 (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016) reported all types of abuse
10 except sexual abuse and financial abuse. The study (Afshari et al., 2023) that used an online
11 support program measured potential physical /psychological abuse, and neglect whereas the
12 DBT study (Drossel et al., 2011) reported only neglect. The Modified Conflicts Tactics Scale
13 is the most widely used tool to assess abusive behaviours of the caregivers towards people
14 living with dementia as the self-reports of a person living with dementia may not be reliable in
15 all stages of the disease due to cognitive impairment. The self-reports of the caregivers on abuse
16 may also be affected by the social desirability factor. The Caregiver Abuse Screen was used in
17 a randomized controlled trial (Afshari et al., 2023) with abuse as an outcome. Studies also show
18 that caregivers are willing to express or openly admit that they initiate abusive behaviour and
19 tend to seek help (Williamson & Shaffer, 2001; Cooper et al., 2010). A combination of self-
20 report and observational tools provides more reliable data on abuse that has occurred and on
21 potentially abusive behaviours. The caregiver self-reports, direct observation of the caregiver-
22 care receiver interaction, supported by a physical examination of the person living with
23 dementia for any signs of abuse and in some cases self-reports of the person living with
24 dementia can be adopted if the person is in the mild stage of disease and found feasible.

1 The included studies (Drossel et al., 2011; Livingston et al., 2013; Livingston et al.,
2 2014; Cooper et al., 2016; Afshari et al., 2023), did not explore the relationship quality within
3 the caregiver-care-receiver dyad. It is noteworthy that pre- and post-diagnosis relationship
4 quality, the aggressive and abusive nature of the care recipient prior to dementia diagnosis,
5 emotional closeness, and rewarding relationships (Williamson & Shaffer, 2001), are factors
6 believed to affect abusive behaviours exhibited by caregivers that need further exploration in
7 future studies that help in planning interventions that improve relationship quality and
8 closeness.

9 Regarding the delivery of the intervention, individual interventions are preferred
10 over group interventions especially for caregivers of people living with dementia. The START
11 intervention used individual format as carers found it difficult to attend group intervention due
12 to caregiving responsibilities at home. Group interventions adopted for DBT (Drossel et al.,
13 2011) had increased dropouts and non-completers as the caregivers found group sessions
14 difficult to attend. Dropout rates can be reduced by having parallel sessions at different times
15 so that caregivers can schedule their work accordingly and provide individual support to
16 barriers that prevent them from attending the sessions (Drossel et al., 2011). It is noteworthy
17 that people living with dementia cannot be left alone at any time of day when carer support
18 interventions are being planned for their welfare (Drossel et al., 2011). Online supportive
19 education (Afshari et al., 2023) was found to have no effect on abuse outcomes.
20 Multicomponent interventions with online and in-person support may help caregivers of people
21 living with dementia.

22 There was no specific session in the START intervention that addressed elder abuse,
23 its causes and risk factors, the behavioural and psychological symptoms of dementia that can
24 lead to abusive behaviours. Additionally, it lacked sessions on anger management, conflict
25 resolution, situations that trigger abuse, and strategies to prevent it. Future interventions can be

made more comprehensive with a special focus on abuse and dementia care throughout the intervention sessions.

The abuse risk varies according to the stage of the disease, as dementia is a progressive disease. This would again affect the credibility of the findings as the groups may become heterogeneous and the results vary widely. A research design and methodology that cater to these considerations would serve better. Stratified block randomization of participants according to the stage of dementia, gender of caregiver, relationship of the caregiver with the person living with dementia and other relevant identified risk of a particular population help improve the rigor of the study. This can be a limitation in all the included studies (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016; Drossel et al., 2011; Afshari et al., 2023).

Elder abuse interventions should be culturally sensitive, as people in different geographical locations and cultures will have different perceptions and understanding about abuse of older adults. The intervention provided by a therapist who belongs to the same cultural background tends to be more acceptable and beneficial than that provided by a therapist from a different culture. Caregivers who belong to the Asian continent may understand the term "abuse" and scenarios that trigger abuse differently when compared to people living in the European region. The meaning of "home," respect for older adults, the culture of living in a joint family, and the practice of not calling elders by their name are all specific to people living in Asian cultures. Understanding this and incorporating culture-specific concerns may increase the acceptability of the intervention and improve the outcomes.

All the studies (Drossel et al., 2011; Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016; Afshari et al., 2023), included in this review, the interventions were directed towards the primary caregiver or a person identified as a caregiver by their therapist. The other family members were not included in the intervention program. The involvement of

other family caregivers in the abuse prevention programs would be beneficial even though the primary caregiver is at more risk of exhibiting abusive behaviours because, at times, they take up the responsibility of caring or even give shared care.

Studies have reported harmful or adverse events such as higher rates of abuse after the implementation of abuse interventions (Davis et al., 2001; Davis & Medina-Ariza, 2001). However, none of the included studies reported any such events. Future elder abuse studies can explore further factors contributing to adverse events and plan elder abuse interventions that are safe for people living with dementia.

The multifactorial nature of elder abuse makes it difficult to understand the link between risk factors and its occurrence (Maxwell et al., 2022). Each type of abuse should be explored separately (Fang et al., 2019; Wang et al., 2015; Jackson & Hafemeister, 2011) as the causal factors vary, and it should be noted that in most instances, different types of abuse co-occur (Hamby et al., 2016; Williams et al., 2017b; Fraga Dominguez et al., 2021). Further studies are required to underpin what initiates abusive behaviour, and the least studied are the personality traits of the caregiver (Fang et al., 2019, Fang et al., 2021) and their past aggressive and abusive nature and childhood trauma (Jackson & Hafemeister, 2011; Johannesen & LoGiudice, 2013, Storey,2020). An in-depth understanding of all the contributing factors is very important in designing and undertaking elder abuse intervention research (Dong, 2015; Day et al., 2017; Burnes et al., 2021) with flawless methodology. A single intervention that focuses only on a few risk factors may not be useful in mitigating the problem of elder maltreatment. This brings out the need to plan multifaceted interventions by multidisciplinary teams (Fearing et al., 2017; Meyer et al., 2019; Lachs et al., 2021; Yan et al., 2022) that target risk reduction. Moreover, interventions for abuse should focus more on primary prevention (prevent abuse from occurring) than secondary (prevent further abuse) or tertiary (manage consequences after abuse has occurred) prevention (Browne & Herbert, 1997; Asay et al.,

2014; Meyer et al., 2019; Burnes et al., 2020) because abuse causes irreversible physical and psychological damage to the lives of people living with dementia.

People living with dementia face many physical and psychological declines and may not be able to report any abuse. However, in the initial stages of dementia, they may be able to do so. The reporting of any act of abuse may not be possible in the moderate and severe stages of the dementia, which often results in silent suffering. An assessment regarding their ability to give self-reports of abuse should be done. In some instances, the reports of abuse by people with dementia can be cross-checked or validated with self-reports of abuse given by caregivers, which increases the reliability of the findings. The methodological clarity in identifying this should be considered in future research. There is a lack of evidence-based data from rigorously controlled designs, and this problem needs to be addressed with utmost importance to cause no harm to the people living with dementia.

Dementia research commonly involves dyadic interventions for the caregiver and the person living with dementia. Dyadic interventions are found to be effective in reducing the behavioural and psychological symptoms of dementia, which are one of the risk factors for caregiver abuse towards the person living with dementia. There has been no intervention research for abuse among people living with dementia targeting patient-caregiver dyads (Livingston et al., 2013; Livingston et al., 2014; Cooper et al., 2016; Afshari et al., 2023) to date. This can be considered a major gap, and studies can be undertaken that directly benefit the dyad (Jackson, 2016).

The meaning of elder abuse differs from country to country in terms of cultural diversities, societal makeup, and legal approaches existing in that country (Ploeg et al., 2009). What is considered abusive in some communities will not be perceived as such in another community (Mercurio & Nyborn, 2007; Tauriac & Scruggs, 2006).

1 The studies on elder abuse interventions are primarily performed in high-income 2 countries, and none were found in low- and middle-income countries (Baker et al., 2016; 3 Fearing et al., 2017). In Asian countries, there are communities with close family ties (Sung & 4 Dunkle, 2009; Yunus, 2021), and older adults take part in family decisions. The legal 5 regulations regarding financial abuse, especially in cognitively impaired individuals, also vary 6 from country to country, which must be taken into consideration when implementing 7 preventive strategies. The abuse interventions that work for people living in low- and middle- 8 income countries are not very well tapped yet (Ayalon et al., 2016; Baker et al., 2016). This 9 calls for future research to be done in low and middle-income countries, considering the cost 10 effectiveness of interventions (Pillemer et al., 2016).

11 One of the abuse intervention outcomes is delayed hospitalization or 12 institutionalization which was not explored in this review. However, none of the studies had 13 assessed this as an outcome of an elder abuse intervention among people living with dementia, 14 which future researchers can explore.

15 The caregivers could decline to participate in a study, due to caregiving 16 responsibilities, lack of time, transportation issues, and lack of respite. The fact that carers are 17 also the abusers themselves may be another factor in their unwillingness to take part in abuse 18 study. This is another area of concern to safeguard people living with dementia. The 19 governmental and policy directives to conduct a home visit, offer carers additional follow-up 20 support, and spot instances of abuse ensure the safety of people living with dementia (Brownell 21 & Wolden, 2002). The social stigma and loss of family name may prevent carers from 22 reporting abuse or from taking part in interventions for abuse. It is very important to name the 23 intervention, advertise it, and present the content and delivery of the intervention for abuse 24 reduction by caregivers in a non-blaming way (Drossel et al., 2011).

There exists a significant knowledge gap in elder abuse research especially in intervention research. The problem of abuse in older adults has gained much importance in the last two decades, and several research studies have been done, especially on the prevalence (Erlingsson, 2007; Yan et al., 2015; Yon et al., 2017; Sooryanarayana et al., 2013; Williams et al., 2017a), risk factors (Johannesen & LoGiudice, 2013; Dong, 2015; Pillemer et al., 2016; Orfila et al., 2018; Yalçın Gürsoy & Tanriverdi, 2023), and protective factors for abuse (Acierno et al., 2010; Dong, 2015; Bolkan et al., 2023). The systematic reviews performed on elder abuse interventions to date, report a lack of intervention studies of good quality.

Strengths and Limitations

The strength of this systematic review is that, this is the first systematic review to examine the effectiveness of abuse interventions for preventing abuse for people living with dementia in community settings.

This systematic review has a few limitations that should be considered when explaining the findings. Only three studies were included in this review which were highly heterogeneous. This review included only studies that had interventions exclusively for people living with dementia. In this review, two included studies had a high risk of bias due to which no definite conclusions could be made regarding the effectiveness of interventions for abuse among people living with dementia. This review was limited to only six database searches and did not include databases specialized in the field of sociology, psychology, and social work. It is possible that as a result, we may have missed pertinent articles on interventions for abuse and neglect in people living with dementia.

Conclusion

This review aimed to provide evidence on interventions for the abuse of people living with dementia in community settings. This review revealed that only three studies were done

on interventions for abuse in people living with dementia. The scarcity of studies on elder abuse interventions is already established by previous systematic reviews done in this field. The review included only three studies of variable quality. Although psychological interventions for dementia carers have shown some promise, no robust recommendation can be made on this basis to prevent abuse and neglect in patients living with dementia. The future research works of high quality is needed to establish evidence and the interventions must be tailored considering the vulnerability, setting, geographical location, and cultural diversity. It is vital to explore culturally diverse interventions and draw conclusions from what interventions work in different cultural contexts and geographical boundaries, as dementia care is highly culture-specific.

Supplementary materials: https://doi.org/10.6084/m9.figshare.25866292.v1

Declaration of conflicting interests: The author(s) report that there are no potential conflicts of interest with respect to research, authorship, and /or publication of this article.

Funding: The authors received no financial support for the research, authorship, and/or publication of this article.

Data availability statement: The data that support the findings of this study are available from the corresponding author upon request.

Acknowledgments: The authors are grateful to the anonymous referees of the journal for their extremely useful suggestions to improve the quality of the article. The review team acknowledges the authors of the included study for providing clarification regarding study methodology.

Author Contributions

- Ms. Seelia Peter (SP): Conceptualization, Data curation, Data collection, Formal Analysis,Writing the original draft, Review and editing
- Dr. Elsa Sanatombi Devi (ESD): Conceptualization, Methodology Supervision, Writing – original draft, Supervision.
- Dr. Mukhyaprana Prabhu (MP): Methodology, Supervision, and Original Draft Writing
- Prof. Dr. Debbie Tolson (DT): Methodology, Writing – Review and editing.
- Dr. Baby S. Nayak (BN): Methodology, Supervision, Writing – Review and editing.
- Dr. Rajeshkrishna Bhandary (RB): Writing – Review and editing.
- Dr. Binil V (BV): Data collection, Data Curation, Methodology, and Supervision

1 **References**

2 AbdulRaheem, Y. (2023). Unveiling the significance and challenges of integrating prevention
3 levels in healthcare practice. *Journal of Primary Care & Community Health*, *14*,
4 21501319231186500.

5 Acierno, R., Hernandez, M. A., Amstadter, A. B., Resnick, H. S., Steve, K., Muzzy, W., &
6 Kilpatrick, D. G. (2010). Prevalence and correlates of emotional, physical, sexual, and
7 financial abuse and potential neglect in the United States: The National Elder
8 Mistreatment Study. *American Journal of Public Health*, *100*(2), 292-297.

9 Afshari, M., Nayeri, N. D., Hajati, G., Pashaei, A., & Sayadi, L. (2023). Investigation of the
10 Effect of an Online Supportive Education Program on the Family Caregivers'
11 Resilience and Abuse of People with Dementia: A Controlled Randomized Trial.
12 *The Family Journal*, 10664807231198874.

13 Asay, S. M., DeFrain, J., Metzger, M., & Moyer, B. (Eds.). (2013). *Family violence from a*
14 *global perspective: A strengths-based approach*. SAGE Publications.

15 Ayalon, L., Lev, S., Green, O., & Nevo, U. (2016). A systematic review and meta-analysis of
16 interventions designed to prevent or stop elder maltreatment. *Age and Ageing*, *45*(2),
17 216-227.

18 Baker, P. R., Francis, D. P., Hairi, N. N., Othman, S., & Choo, W. Y. (2016). Interventions for
19 preventing abuse in the elderly. *The Cochrane Database of Systematic Reviews*, (8).

20 Bartels, S. J., Miles, K. M., Van Citters, A. D., Forester, B. P., Cohen, M. J., & Xie, H. (2005).
21 Improving mental health assessment and service planning practices for older adults: A
22 controlled comparison study. *Mental Health Services Research*, *7*(4), 213–223.

23 Bolkan, C., Teaster, P. B., & Ramsey-Klawsnik, H. (2023). The context of elder maltreatment:
24 An opportunity for prevention science. *Prevention Science*, *24*(5), 911–925.
25 https://doi.org/10.1007/s11121-022-01470-5

26 Browne, K., & Herbert, M. (1997). *Preventing family violence*. Chichester, UK: Wiley.

27 Brownell, P., & Wolden, A. (2003). Elder abuse intervention strategies: Social service or
28 criminal justice? *Journal of Gerontological Social Work*, *40*(1-2), 83-100.

29 Burnes, D., Elman, A., Feir, B. M., Rizzo, V., Chalfy, A., Courtney, E., Breckman, R., Lachs,
30 M. S., & Rosen, T. (2020). Exploring risk of elder abuse revictimization: Development
31 of a model to inform community response interventions. *Journal of Applied*
32 *Gerontology*, *40*(10), 1226–1230.

33

1 Burnes, D., MacNeil, A., Nowaczynski, A., Sheppard, C., Trevors, L., Lenton, E., Lachs, M.
2 S., & Pillemer, K. (2021). A scoping review of outcomes in elder abuse intervention
3 research: The current landscape and where to go next. *Aggression and Violent*
4 *Behavior*, *57*, 101476.
5 Cooney, C., Howard, R., & Lawlor, B. (2006). Abuse of vulnerable people with dementia by
6 their carers: can we identify those most at risk? *International Journal of Geriatric*
7 *Psychiatry: A journal of the psychiatry of late life and allied sciences*, *21*(6), 564-571.
8 Cooper, C., Barber, J., Griffin, M., Rapaport, P., & Livingston, G. (2016). Effectiveness of
9 START psychological intervention in reducing abuse by dementia family carers:
10 randomized controlled trial. *International Psychogeriatrics*, *28*(6), 881–887.
11 Cooper, C., Blanchard, M., Selwood, A., Walker, Z., & Livingston, G. (2010). Family carers'
12 distress and abusive behaviour: longitudinal study. *The British Journal of*
13 *Psychiatry*, *196*(6), 480-485.
14 Cooper, C., Huzzey, L., & Livingston, G. (2012). The effect of an educational intervention on
15 junior doctors' knowledge and practice in detecting and managing elder
16 abuse. *International Psychogeriatrics, 24*(9), 1447-1453.
17 Cooper, C., Selwood, A., Blanchard, M., Walker, Z., Blizard, R., & Livingston, G. (2010). The
18 determinants of family carers' abusive behaviour to people with dementia: Results of
19 the CARD study. *Journal of Affective Disorders*, *121*(1-2), 136–142.
20 Cooper, C., Selwood, A., Blanchard, M., Walker, Z., Blizard, R., & Livingston, G. (2009).
21 Abuse of people with dementia by family carers: representative cross sectional
22 survey. *BMJ*, *338*.
23 Davis, R. C., Medina, J., & Avitabile, N. (2001). Reducing repeat incidents of elder abuse:
24 Results of a randomized experiment: Final report. *New York, NY: US Department of*
25 *Justice*.
26 Davis, R. C., & Medina-Ariza, J. (2001). *Results from an elder abuse prevention experiment*
27 *in New York City*. Washington, DC: US Department of Justice, Office of Justice
28 Programs, National Institute of Justice.
29 Day, A., Boni, N., Evert, H., & Knight, T. (2017). An assessment of interventions that target
30 risk factors for elder abuse. *Health & Social Care in the Community*, *25*(5), 1532-1541.
31 de Oliveira, A. M., Radanovic, M., Homem de Mello, P. C., Buchain, P. C., Dias Vizzotto, A.,
32 Harder, J., ... & Forlenza, O. V. (2019). An intervention to reduce neuropsychiatric
33 symptoms and caregiver burden in dementia: Preliminary results from a randomized

1 trial of the tailored activity program–outpatient version. *International Journal of*
2 *Geriatric Psychiatry*, *34*(9), 1301-1307.
3 Dong, X. Q. (2015). Elder abuse: Systematic review and implications for practice. *Journal of*
4 *the American Geriatrics Society*, *63*(6), 1214–1238.
5 Dong, X., Chen, R., & Simon, M. A. (2014). Elder abuse and dementia: a review of the research
6 and health policy. *Health Affairs*, *33*(4), 642-649.
7 Dong, X., Simon, M., Beck, T., & Evans, D. (2014). Decline in cognitive function and elder
8 mistreatment: findings from the Chicago Health and Aging Project. *The American*
9 *Journal of Geriatric Psychiatry: official journal of the American Association for*
10 *Geriatric Psychiatry*, *22*(6), 598–605.
11 Dong, X., & Simon, M. A. (2013). Elder abuse as a risk factor for hospitalization in older
12 persons. *JAMA Internal Medicine*, *173*(10), 911–917.
13 Drossel, C., Fisher, J. E., & Mercer, V. (2011). A DBT skills training group for family
14 caregivers of persons with dementia. *Behavior Therapy*, *42*(1), 109-119.
15 Erlingsson, C. L. (2007). Searching for elder abuse: A systematic review of database citations.
16 *Journal of Elder Abuse & Neglect*, *19*(3–4), 59–78.
17 Estebsari, F., Dastoorpoor, M., Mostafaei, D., Khanjani, N., Khalifehkandi, Z. R., Foroushani,
18 A. R., Aghababaeian, H., & Taghdisi, M. H. (2018). Design and implementation of an
19 empowerment model to prevent elder abuse: a randomized controlled trial. *Clinical*
20 *Interventions in Aging*, *13*, 669–679.
21 Fang, B., & Yan, E. (2018). abuse of older persons with Dementia: A Review of the Literature.
22 *Trauma, Violence & Abuse*, *19*(2), 127–147.
23 Fang, B., Yan, E., & Lai, D. W. L. (2019). Risk and protective factors associated with domestic
24 abuse among older Chinese in the People's Republic of China. *Archives of Gerontology*
25 *and Geriatrics*, *82*, 120–127.
26 Fang, B., Yan, E., Yang, X., & Pei, Y. (2021). Association between caregiver neurotic
27 personality trait and elder abuse: Investigating the moderating role of change in the
28 level of caregiver perceived burden. *Gerontology*, *67*(2), 243–254.
29 Fearing, G., Sheppard, C. L., McDonald, L., Beaulieu, M., & Hitzig, S. L. (2017). A systematic
30 review on community-based interventions for elder abuse and neglect. *Journal of Elder*
31 *Abuse and Neglect*, *29*(2–3), 102–133.

1 Fraga Dominguez, S., Ozguler, B., Storey, J. E., & Rogers, M. (2021). Elder abuse vulnerability
2 and risk factors: Is financial abuse different from other subtypes? *Journal of Applied*
3 *Gerontology*, *41*(4), 928–939.
4 Gaugler, J. E., Reese, M., & Mittelman, M. S. (2018). The effects of a comprehensive
5 psychosocial intervention on secondary stressors and social support for adult child
6 caregivers of persons with dementia. *Innovation in Aging*, *2*(2), igy015.
7 Gimeno, I., Val, S., & Cardoso Moreno, M. J. (2021). Relation among Caregivers' Burden,
8 Abuse and Behavioural Disorder in People with Dementia. *International Journal of*
9 *Environmental Research and Public Health*, *18*(3), 1263.
10 Gustafson Jr, D. H., Gustafson Sr, D. H., Cody, O. J., Chih, M. Y., Johnston, D. C., & Asthana,
11 S. (2019). Pilot test of a computer-based system to help family caregivers of dementia
12 patients. *Journal of Alzheimer's Disease*, *70*(2), 541-552.
13 Hall, J. E., Karch, D. L., & Crosby, A. (2016). Uniform definitions and recommended core data
14 elements for use in elder abuse surveillance. Version 1.0.
15 Hamby, S., Smith, A., Mitchell, K., & Turner, H. (2016). Poly-victimization and resilience
16 portfolios: Trends in violence research that can enhance the understanding and
17 prevention of elder abuse. *Journal of Elder Abuse & Neglect*, *28*(4–5), 217–234.
18 Hancock, D., & Pillemer, K. (2023). Global Review of Elder Mistreatment
19 Research. *GeroPsych*. 36(3), 127-134
20 Hazrati, M., Hamid, T. A., Ibrahim, R., Hassan, S. A., Sharif, F., & Bagheri, Z. (2017). The
21 effect of emotional focused intervention on spousal emotional abuse and marital
22 satisfaction among elderly married couples: A randomized controlled
23 trial. *International Journal of Community Based Nursing and Midwifery*, *5*(4), 329.
24 Higgins JPT., Lasserson T., Thomas J., Flemyng E. & Churchill R. (2023a). *Methodological*
25 *Expectations of Cochrane Intervention Reviews.* Version August 2023. Cochrane.
26 Higgins JPT., Thomas J., Chandler J., Cumpston M., Li T., Page MJ & Welch VA. (Eds.)
27 (2023b). *Cochrane Handbook for Systematic Reviews of Interventions* version
28 6.4 (updated August 2023). Cochrane. Available from
29 www.training.cochrane.org/handbook
30 Huang, H. L., Kuo, L. M., Chen, Y. S., Liang, J., Huang, H. L., Chiu, Y. C., ... & Shyu, Y. I.
31 L. (2013). A home-based training program improves caregivers' skills and dementia
32 patients' aggressive behaviors: a randomized controlled trial. *The American Journal of*
33 *Geriatric Psychiatry*, *21*(11), 1060-1070.

1 Jackson, S. L. (2016). All elder abuse perpetrators are not alike: The heterogeneity of elder
2 abuse perpetrators and implications for intervention. *International Journal of Offender*
3 *Therapy and Comparative Criminology*, *60*(3), 265-285.
4 Jackson, S. L., & Hafemeister, T. L. (2011). Risk factors associated with elder abuse: The
5 importance of differentiating by type of elder maltreatment. *Violence and*
6 *Victims*, *26*(6), 738-757.
7 Jackson, S.L., & Hafemeister, T. L. (2013). Understanding elder abuse: New directions for
8 developing theories of elder abuse occurring in domestic settings. *Research in Brief,*
9 *National Institute of Justice*.
10 Johannesen, M., & LoGiudice, D. (2013). Elder abuse: A systematic review of risk factors in
11 community-dwelling elders. *Age and Ageing*, *42*(3), 292–298.
12 Kaspiew, R., Carson, R., & Rhoades, H. (2016). *Elder abuse: Understanding issues,*
13 *Frameworks and Responses*. Australian Institute of Family Studies.
14 Khanlary, Z., Maarefvand, M., Biglarian, A., & Heravi-Karimooi, M. (2016). The effect of a
15 family-based intervention with a cognitive-behavioral approach on elder abuse. *Journal*
16 *of Elder Abuse & Neglect*, *28*(2), 114-126.
17 Kim, S., Richardson, A., Werner, P., & Anstey, K. J. (2021). Dementia stigma reduction
18 (DESeRvE) through education and virtual contact in the general public: A multi-arm
19 factorial randomised controlled trial. *Dementia*, *20*(6), 2152-2169.
20 Kunik, M. E., Stanley, M. A., Shrestha, S., Ramsey, D., Richey, S., Snow, L., ... & Amspoker,
21 A. B. (2020). Aggression prevention training for individuals with dementia and their
22 caregivers: A randomized controlled trial. *The American Journal of Geriatric*
23 *Psychiatry*, *28*(6), 662-672.
24 Lachs, M., Mosqueda, L., Rosen, T., & Pillemer, K. (2021). Bringing advances in elder abuse
25 research methodology and theory to evaluation of interventions. *Journal of Applied*
26 *Gerontology*, *40*(11), 1437-1446.
27 Lee, M., & Kolomer, S. R. (2005). Caregiver burden, dementia, and elder abuse in South
28 Korea. *Journal of Elder Abuse & Neglect*, *17*(1), 61–74.
29 Livingston, G., Barber, J., Rapaport, P., Knapp, M., Griffin, M., King, D., ... & Cooper, C.
30 (2013). Clinical effectiveness of a manual based coping strategy programme (START,
31 STrAtegies for RelaTives) in promoting the mental health of carers of family members
32 with dementia: pragmatic randomised controlled trial. *BMJ*, *347*.

1 Livingston, G., Barber, J., Rapaport, P., Knapp, M., Griffin, M., King, D., Romeo, R.,
2 Livingston, D., Mummery, C., Walker, Z., Hoe, J., & Cooper, C. (2014). Long-term
3 clinical and cost-effectiveness of psychological intervention for family carers of people
4 with dementia: A single-blind, randomised, controlled trial. *The Lancet Psychiatry*,
5 *1*(7), 539–548.
6 Livingston, G., Manela, M., O'Keeffe, A., Rapaport, P., Cooper, C., Knapp, M., ... & Barber,
7 J. (2020). Clinical effectiveness of the START (STrAtegies for RelaTives)
8 psychological intervention for family carers and the effects on the cost of care for
9 people with dementia: 6-year follow-up of a randomised controlled trial. *The British*
10 *Journal of Psychiatry*, *216*(1), 35-42.
11 McCausland, B., Knight, L., Page, L., & Trevillion, K. (2016). A systematic review of the
12 prevalence and odds of domestic abuse victimization among people with
13 dementia. *International Review of Psychiatry*, *28*(5), 475-484.
14 Maxwell, C. D., Almanza, K. R., & Pickering, C. E. (2022). Coordinated community response
15 to prevent elder abuse, neglect, and financial exploitation: randomized control
16 trial. *Journal of Experimental Criminology*, 1-17.
17 Mercurio, A. E., & Nyborn, J. (2007). Cultural definitions of elder maltreatment in Portugal.
18 *Journal of Elder Abuse and Neglect*, 18(2–3), 51–65.
19 Meyer, K., Yonashiro-Cho, J., Gassoumis, Z. D., Mosqueda, L., Han, S. D., & Wilber, K. H.
20 (2019). What can elder mistreatment researchers learn about primary prevention from
21 family violence intervention models?. *The Gerontologist*, 59(4), 601-609.
22 Mileski, M., Lee, K., Bourquard, C., Cavazos, B., Dusek, K., Kimbrough, K., ... & McClay, R.
23 (2019). Preventing the abuse of residents with dementia or Alzheimer’s disease in the
24 long-term care setting: A systematic review. *Clinical Interventions in Aging*, 14, 1797.
25 Mohd Mydin, F. H., Wan Yuen, C., Othman, S., Mohd Hairi, N. N., Mohd Hairi, F., Ali, Z., &
26 Abdul Aziz, S. (2022). Evaluating the Effectiveness of I-NEED Program: Improving
27 Nurses’ Detection and Management of Elder Abuse and Neglect—A 6-Month
28 Prospective Study. *Journal of Interpersonal Violence*, 37(1-2), NP719-NP741.
29 Mydin, F. H. M., Yuen, C. W., & Othman, S. (2021). The Effectiveness of Educational
30 Intervention in Improving Primary Health-Care Service Providers’ Knowledge,
31 Identification, and Management of Elder Abuse and Neglect: A Systematic Review.
32 *Trauma, Violence, and Abuse*, *22*(4), 944–960.

1 Nichols, E., Steinmetz, J. D., Vollset, S. E., Fukutaki, K., Chalek, J., Abd-Allah, F., ... & Liu,
2 X. (2022). Estimation of the global prevalence of dementia in 2019 and forecasted
3 prevalence in 2050: an analysis for the Global Burden of Disease Study 2019. *The*
4 *Lancet Public Health*, *7*(2), e105-e125.
5 Orfila, F., Coma-Solé, M., Cabanas, M., Cegri-Lombardo, F., Moleras-Serra, A., & Pujol-
6 Ribera, E. (2018). Family caregiver mistreatment of the elderly: prevalence of risk and
7 associated factors. *BMC Public Health*, *18*, 1-14.
8 Ouzzani M., Hammady H., Fedorowicz Z., Elmagarmid A. (2016). Rayyan—a web and mobile
9 app for systematic reviews. *Systematic Reviews*, 5, 210–310.
10 Oveisi, S., Stein, L., Olfati, F., & Jahed, S. (2021). Program development using intervention
11 mapping in primary healthcare settings to address elder abuse: A randomized controlled
12 pilot study. *Brain and Behavior*, *11*(6), e02153.
13 Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ...
14 & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting
15 systematic reviews. *International Journal of Surgery*, *88*, 105906.
16 Phillips, L. R. (2008). Abuse of aging caregivers: Test of a nursing intervention. *Advances in*
17 *Nursing Science*, *31*(2), 164-181.
18 Pillemer, K., Burnes, D., Riffin, C., & Lachs, M. S. (2016). Elder abuse: Global situation, Risk
19 factors, and prevention strategies. *The Gerontologist*. 56(2).
20 Ploeg, J., Fear, J., Hutchison, B., MacMillan, H., & Bolan, G. (2009). A systematic review of
21 interventions for elder abuse. *Journal of Elder Abuse and Neglect*, *21*(3), 187–210.
22 Richardson, B., Kitchen, G., & Livingston, G. (2002). The effect of education on knowledge
23 and management of elder abuse: a randomized controlled trial. *Age and ageing*, *31*(5),
24 335-341.
25 Rosen, T., Elman, A., Dion, S., Delgado, D., Demetres, M., Breckman, R., ... & National
26 Collaboratory to Address Elder Mistreatment Project Team. (2019). Review of
27 programs to combat elder mistreatment: Focus on hospitals and level of resources
28 needed. *Journal of the American Geriatrics Society*, *67*(6), 1286-1294.
29 Rosen, T., Elman, A., Clark, S., Gogia, K., Stern, M. E., Mulcare, M. R., ... & Lachs, M. S.
30 (2022). Vulnerable Elder Protection Team: Initial experience of an emergency
31 department-based interdisciplinary elder abuse program. *Journal of the American*
32 *Geriatrics Society*, *70*(11), 3260-3272.

Shen, Y., Sun, F., Zhang, A., & Wang, K. (2021). The effectiveness of psychosocial interventions for elder abuse in community settings: a systematic review and meta-analysis. *Frontiers in Psychology*, *12*, 679541.
Sirey, J. A., Berman, J., Salamone, A., DePasquale, A., Halkett, A., Raeifar, E., ... & Raue, P. J. (2015). Feasibility of integrating mental health screening and services into routine elder abuse practice to improve client outcomes. *Journal of Elder Abuse & Neglect*, *27*(3), 254-269.
Sirey, J. A., Solomonov, N., Guillod, A., Zanotti, P., Lee, J., Soliman, M., & Alexopoulos, G. S. (2021). PROTECT: a novel psychotherapy for late-life depression in elder abuse victims. *International Psychogeriatrics*, *33*(5), 521-525.
Sooryanarayana, R., Choo, W.-Y., & Hairi, N. N. (2013). A review on the prevalence and measurement of elder abuse in the community. *Trauma, Violence, & Abuse*, *14*(4), 316–325.
Sterne, J. A. C., Savović, J., Page, M. J., Elbers, R. G., Blencowe, N. S., Boutron, I., Cates, C. J., Cheng, H. Y., Corbett, M. S., Eldridge, S. M., Emberson, J. R., Hernán, M. A., Hopewell, S., Hróbjartsson, A., Junqueira, D. R., Jüni, P., Kirkham, J. J., Lasserson, T., Li, T., McAleenan, A., … Higgins, J. P. T. (2019). RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ (Clinical research ed.)*, *366*, l4898.
Storey, J. E. (2020). Risk factors for elder abuse and neglect: A review of the literature. *Aggression and Violent Behavior*, *50*, 101339.
Sung, K.-T., & Dunkle, R. (2009). Roots of elder respect: Ideals and practices in East Asia. *Journal of Aging, Humanities, and the Arts*, 3(1), 6–24.
Tauriac, J. J., & Scruggs, N. (2006). Elder abuse among African Americans. *Educational Gerontology*, *32*(1), 37–48.
Teresi, J. A., Burnes, D., Skowron, E. A., Dutton, M. A., Mosqueda, L., Lachs, M. S., & Pillemer, K. (2016). State of the science on prevention of elder abuse and lessons learned from child abuse and domestic violence prevention: Toward a conceptual framework for research. *Journal of Elder Abuse & Neglect*, *28*(4-5), 263–300.
Thompson, R. S., Rivara, F. P., Thompson, D. C., Barlow, W. E., Sugg, N. K., Maiuro, R. D., & Rubanowice, D. M. (2000). Identification and management of domestic violence: a randomized trial. *American Journal of Preventive Medicine*, *19*(4), 253-263.
Tronetti, P. (2014). Evaluating abuse in the patient with dementia. *Clinics in Geriatric Medicine*, *30*(4), 825-838.

1 Wang, X. M., Brisbin, S., Loo, T., & Straus, S. (2015). Elder abuse: an approach to
2 identification, assessment, and intervention. *CMAJ: Canadian Medical Association*
3 *Journal = journal de l'Association medicale canadienne*, *187*(8), 575–581.
4 Weerd, C. V., & Paveza, G. J. (2005). Verbal mistreatment in older adults: a look at persons
5 with Alzheimer's disease and their caregivers in the state of Florida. *Journal of Elder*
6 *Abuse & Neglect*, *17*(4), 11-30.
7 Wiglesworth, A., Mosqueda, L., Mulnard, R., Liao, S., Gibbs, L., & Fitzgerald, W. (2010).
8 Screening for abuse and neglect of people with dementia. *Journal of the American*
9 *Geriatrics Society*, *58*(3), 493–500.
10 Williams, J. L., Davis, M., & Acierno, R. (2017a). Global prevalence of elder abuse in the
11 community. *Elder abuse: research, practice and policy*, 45-65.
12 Williams, J. L., Racette, E. H., Hernandez-Tejada, M. A., & Acierno, R. (2017b). Prevalence
13 of elder polyvictimization in the United States: Data from the National Elder
14 Mistreatment Study. *Journal of Interpersonal Violence*, *35*(21–22), 4517–4532.
15 Williamson, G. M., & Shaffer, D. R. (2001). Relationship quality and potentially harmful
16 behaviors by spousal caregivers: How we were then, how we are now. *Psychology and*
17 *Aging*, *16*(2), 217–226.
18 World Health Organization (2022, 13 June). Abuse of older people. In *WHO Newsroom*.
19 Retrieved December 20, 2022, from https://www.who.int/news-room/fact-
20 sheets/detail/abuse-of-older-people
21 World Health Organization. (2008). WHO Ageing, Life Course Unit, & Université de Genève.
22 Centre interfacultaire de gérontologie.: *A global response to elder abuse and neglect:*
23 *building primary health care capacity to deal with the problem worldwide: main report*.
24 World Health Organization. (2022, June 15). *Tackling abuse of older people: Five priorities*
25 *for the United Nations Decade of healthy ageing (2021–2030)*. Retrieved May 6, 2023,
26 from https://www.who.int/publications/i/item/9789240052550
27 Yalçın Gürsoy, M., & Tanriverdi, G. (2023). Elder Abuse Prevalence and Related Risk Factors
28 in Turkey: a Systematic Review. *Ageing International*, 48(2), 656-668.
29 Yan, E., To, L., Wan, D., Xie, X., Wong, F., & Shum, D. (2022). Strategies to build more
30 effective interventions for elder abuse: a focus group study of nursing and social work
31 professionals in Hong Kong. *BMC Geriatrics*, 22(1), 978.
32 Yan, E., Chan, K. L., & Tiwari, A. (2015). A systematic review of prevalence and risk factors
33 for elder abuse in Asia. *Trauma, Violence & Abuse*, *16*(2), 199–219.

1 Yon, Y., Mikton, C. R., Gassoumis, Z. D., & Wilber, K. H. (2017). Elder abuse prevalence in
2 community settings: a systematic review and meta-analysis. *The Lancet. Global*
3 *health,* 5(2), e147–e156.
4 Yunus, R. M., Hairi, N. N., & Choo, W. Y. (2017). Consequences of elder abuse and neglect:
5 A systematic review of Observational Studies. *Trauma, Violence, & Abuse*, *20*(2), 197–
6 213.
7 Yunus, R. M. (2021). The under-reporting of elder abuse and neglect: A Malaysian perspective.
8 *Journal of Elder Abuse &Neglect*, *33*(2), 145–150.
9