Received: 12 September 2021 | Revised: 28 September 2022 | Accepted: 29 October 2022

DOI: 10.1111/opn.12520

International Journal of Older People Nursing

WILEY

REVIEW ARTICLE

Fear of falling from the perspective of affected persons—A systematic review and qualitative meta-summary using Sandelowski and Barroso's method

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Abstract

Background: Fear of falling (FoF) affects a large number of older people, whether they have a history of falls or not. This has an impact on their lives. FoF is a potentially modifiable factor, which has been identified as one of the most important threats to older people's autonomy.

Objectives: To gain a comprehensive understanding of the phenomenon, we conducted a systematic review and meta-summary. The available evidence from qualitative research exploring how people experience FoF and how FoF affects daily living was aggregated.

Methods: We followed the approach by Sandelowski and Barroso (2007) as a method to aggregate knowledge based on an exhaustive literature search. We searched the databases CINAHL, MEDLINE, PsycINFO and SSCI systematically for relevant articles as well as grey literature until September 2020. Out of the included studies, findings were extracted, edited, grouped and abstracted into meta-findings. Finally, the manifest frequency effect size of each abstracted meta-finding was calculated.

Results: Out of 2978 identified studies, 15 met our inclusion criteria, which were published between 1993 and 2017 and included a total of 276 participants. We extracted 578 findings, and the abstraction process resulted in 183 meta-findings. We identified three main topics: 'Triggers and reasons for FoF identified by affected people', 'Consequences attributed to FoF' and 'Strategies to manage FoF in daily life'.

Conclusion: Our findings demonstrate that FoF has a far-reaching impact on the lives of those affected. With the aggregation of the existing qualitative data with the application of the frequency effect size, we were able to identify three areas of particular importance to those affected: (1) controlling the risk, (2) creating a safe environment and (3) staying independent. Implications for practice these three areas of particular importance to those affected should be taken into account when revisiting or creating new interventions to prevent or reduce FoF.

KEYWORDS
accidental falls, activities of daily living, ageing, fear of falling, meta-summary, research aggregation, systematic review

1 | INTRODUCTION

Fear of falling (FoF) is defined as 'a lasting concern about falling that leads to an individual avoiding activities that he/she remains capable of performing' (Tinetti & Powell, 1993). The reported prevalence of FoF in older people varies from around 20 up to more than 70% (MacKay et al., 2021). FoF is more widespread in older people, women and in people with poor perceived general health (Hoang et al., 2017; Lavedán et al., 2018), and it can be related to former experienced falls (Chen et al., 2021) and is also associated with depressive symptoms (MacKay et al., 2021). Nevertheless, not just people with a history of falls show FoF. Also, older adults who have not experienced a fall are afraid to fall (Lavedán et al., 2018; Mendes da Costa et al., 2012). On the contrary, studies indicate that some people stay confident after a fall and report no FoF (Andresen et al., 2006; Jaatinen et al., 2022; Soleimani et al., 2020).

The comparison of people with and without FoF results in the conclusion that FoF leads to changes in physical, functional, psychological and social aspects in older adults (Scheffer et al., 2008). People affected by FoF tend to reduce certain activities or even avoid these activities completely (Mendes da Costa et al., 2012; Schoene et al., 2019). Thirteen to 50% of those affected by FoF report reducing their activities (Schepens et al., 2012). However, this can lead to a reduction of strength and balance which in turn can lead to a higher risk of falling (Deshpande et al., 2008; Scheffer et al., 2008). FoF goes along with disturbed balance and an impaired dual-task performance (Sapmaz & Mujdeci, 2021). Studies also indicate that FoF can negatively affect health-related quality of life (Bjerk et al., 2018; Lach & Parsons, 2013; Schoene et al., 2019) and that there is a correlation between FoF, activity restriction and late life depression (Yao et al., 2021). FoF leads to a more distinct social isolation in older adults (van der Meulen et al., 2014) and can hamper effective geriatric rehabilitation (Denkinger et al., 2010). FoF as a potentially modifiable factor has been identified as one of the most important threats to older people's autonomy (Denkinger et al., 2015). There is a need for a deeper understanding of the way FoF affects people's lives and leads to negative impacts on health, social participation and quality of life.

To date, qualitative reviews have focused on the impact of a fall experience across the life course (Bailey et al., 2014), older people's experiences of falls and the perceived risk of falling (Gardiner et al., 2017), or the perceived risk of falling in combination with the barriers and facilitators to participating in fall prevention programmes (McMahon et al., 2011). However, FoF and its perceived consequences have not been addressed yet in a systematic review of qualitative research.

The aim of our systematic review and meta-summary is to aggregate the available evidence from qualitative research exploring how people experience FoF and how FoF affects daily living. This aggregation of qualitative evidence will help to gain a deeper and comprehensive understanding of the phenomenon. The results have the potential to contribute to the development of new or complementary prevention strategies for FoF and/or interventions. The results will also identify knowledge gaps regarding the experience

Summary statement of implications for practice

What does this research add to existing knowledge in gerontology?

- This systematic review and meta-summary adds to the body of knowledge by bringing together the available qualitative evidence on the experience and management of FoF in older people.
- People affected by FoF fear physical damage from a future fall. Identified, as an important worry was the fear of being restricted in movement or losing one's independence.
- People affected by FoF focus their management of FoF on the following areas: 'controlling the risk', 'creating a safe environment' and 'staying independent'.

What are the implications of this new knowledge for nursing care with older people?

- The results make nurses and other healthcare professionals aware of the relevance of FoF, especially its impact on multiple, if not all, areas of life for those affected.
- The results can help nurses and other healthcare professionals to enhance the understanding of the behaviour of those affected by FoF and the motivation behind their behaviour.
- The knowledge gained can help nurses and other healthcare professionals to better support people affected by FoF in their life situation.

How could the findings be used to influence policy or practice or research or education?

- The far-reaching significance of FoF for those affected must be part of training for nurses and other healthcare professionals.
- The strategies for managing FoF 'controlling the risk', 'creating a safe environment' and 'staying independent' should also be considered when revisiting existing interventions or developing new ones.

TABLE 1 Inclusion and exclusion criteria for studies

Inclusion criteria	Exclusion criteria

• Qualitative studies published until September 2020 & grey literature
• Studies investigating Fear of Falling
• Qualitative studies
  ○ Methods: interviews, focus groups, case studies and other methods of qualitative research
  ○ Discrete qualitative part of mixed-method studies
  ○ Primary studies
• Studies from all over the world
• Settings: familiar environment (e.g. community dwelling and long-term care)
• Publication in English and German language
	• Studies with a population restricted to specific chronic medical conditions (e.g. stroke), except medical conditions that primarily result from a fall (e.g. hip fracture)
	• Studies including a sample in acute care, rehabilitation and any other unfamiliar environment (e.g. recent transition to institutional long-term care) and a focus on FoF that goes along with this situation
	• Studies with a paediatric population

of people with FoF, and indicate where further research on the phenomenon and its effects need to be done. The research question was How do people with FoF experience their fear and which impact has FoF on their daily life?

2 | METHODOLOGY

We followed the approach by Sandelowski and Barroso (2007) as a method to aggregate knowledge based on an exhaustive literature search. The qualitative research synthesis consists of two approaches: (1) a qualitative meta-summary and (2) a qualitative meta-synthesis. A qualitative meta-summary is described as 'a quantitative oriented aggregation of qualitative findings' (Sandelowski & Barroso, 2007). The meta-summary contains five steps: (1) extracting and separating findings, (2) editing of findings, (3) grouping of findings under topics, (4) abstracting of findings, and (5) calculating effect sizes. Calculating the frequency effect size helps reviewers organise the available data and identify patterns (Ludvigsen et al., 2016). A narrative statement follows calculating the effect sizes, presenting the answers found to the research questions in the available qualitative research. The endpoint of this study is a qualitative meta-summary.

A research protocol was developed and registered with *PROSPERO—International prospective register of systematic reviews* on 4 April 2019 under the ID CRD42019123705. In line with the systematic review of qualitative research, the ENTREQ statement (Tong et al., 2012) was applied as reporting guideline for this publication.

2.1 | Search strategy

The search strategy was developed by two researchers (MB and AS). Four electronic databases were searched: Cumulative Index to Nursing and Allied Health Literature (CINAHL), MEDLINE via PubMed, PsycINFO and Social Sciences Citation Index (SSCI). Search terms concerning FoF were based on the latest Cochrane Review about the reduction of FoF through exercise in older adults living in the community (Kendrick et al., 2014). In addition, we used database-specific filters to identify qualitative studies. We searched for relevant grey literature using the databases BASE (www.base-search.net) and DART Europe (www.dart-europe.eu). No time limit was applied. For search terms, see Appendix 1.

Reviewers transferred identified studies to the reference management tool EndNote X9 (The EndNote Team, 2013), where duplicates were removed. Two reviewers (MB and AS) conducted the following methodological steps: (1) screening titles and abstracts of the studies independently against the predetermined inclusion criteria (see Table 1 for inclusion and exclusion criteria). The Rayyan software was used for this (Ouzzani et al., 2016). (2) Studies that were obviously ineligible due to the title and abstract were discarded. (3) We included eligible studies and screened those full-texts independently. A third reviewer (ORH) was consulted in cases of disagreement. (4) Studies were included into the review. Additional backward and forward citation tracking of the included studies was conducted.

2.2 | Quality appraisal

Two reviewers (MB and AS) independently appraised the 15 included studies using the 10-item Critical Appraisal Skills Programme (CASP) for qualitative research (2018). It is the most commonly used appraising tool for qualitative evidence synthesis in general (Majid & Vanstone, 2018) and used by Cochrane and the World Health Organisation in guideline processes (Noyes et al., 2018). Following Sandelowski and Barroso, the results of the quality appraisal should be reported, but studies should not be excluded because of their methodological quality (Carroll et al., 2012; Sandelowski & Barroso, 2007). For the results of the quality appraisal, please see Appendix 2.

2.3 | Extraction and editing of findings

The data extraction process was conducted by two reviewers (MB and AS) using an established data extraction form. We extracted findings that answered the research question exclusively from the Results sections of the included studies. We took the individual

statements from the studies and transferred them to the data extraction form. The two reviewers edited every separated finding that it could be understood as an independent statement. When editing the findings, the original statement must be kept as accurate as possible and only minor changes were made, for example to the sentence structure. Consultation of a third reviewer (ORH) was planned in cases of unclear data extraction. The data extraction process revealed 578 edited findings.

2.4 | Classification of findings

Following the typology of qualitative findings by Sandelowski and Barroso (2003, 2007), we classified the findings for every study included. This means placing the findings from the studies on the continuum of the classification system. The continuum shows the degree of transformation of data, that is findings that remain close to data to findings that are many transformative moves away from data. More precisely, authors presenting uninterpreted (raw) data as if they were findings are classified as *no findings*. In *no finding* reports, interview data are reproduced in a reduced form with minimal or no interpretation and are therefore not considered research. These form one end of the continuum. The spectrum continues with *topical survey/thematic survey*. Here, findings are placed that remain close to the data, but contain some interpretation. Finally, there are findings on the continuum that are far removed from the original data due to many transformative moves (*conceptual description/interpretive explanation*). These form the other end of the continuum. Except for *no finding* reports, all other findings are included in the further analysis. As stated, the qualitative appraisal should not lead to the exclusion of a study. Likewise, the classification of the results decides not on the quality of the reports, but on the extent of the transformation of the initial qualitative data. Only reports classified as *no-finding* reports should be excluded, as they do not constitute research, because the data have not been processed (Sandelowski & Barroso, 2007). Hence, the typology does not focus on what methods of analysis and interpretation authors state for their studies. What is relevant in this context is what researchers actually did in their studies as compared to what claims they make of those studies (Sandelowski & Barroso, 2007, p. 133).

2.5 | Grouping findings under topics

In the inductive process of grouping findings under topics, we merged findings under a topic when they dealt with the same subject. Topics can either confirm, complement or contradict each other. If the findings are grouped according to their thematic similarities, it is possible to identify how these findings relate to each other within their group. In this way, the complexity of the study findings can be captured more effectively. We used MAXQDA 2018 (VERBI Software, 2018), a software package to manage qualitative data, for data analysis. The grouping of findings was conducted by two reviewers (MB and AS). Thus, a system of topics was developed, adapted and completed.

2.6 | Abstracting findings and calculating effect sizes

We combined the findings of each topic in a continuous and repeated abstraction process until 183 meta-findings remained as the essence of the 578 findings. This set of meta-findings summarises the essence of all findings regarding our research question of the included studies. The frequency effect size was then calculated by dividing the number of studies that included a meta-finding by the total number of included studies. The meta-findings were presented under headings and subheadings. The results were checked for consistency and plausibility by a third reviewer (ORH), and adjustments were made in a negotiation process jointly agreed upon.

3 | RESULTS

As the result of the search strategy, 2747 identified studies were transferred to the reference management tool, where 1015 duplicates were removed. Reviewers screened 1732 studies of titles and abstracts independently against the predetermined inclusion criteria, and obviously ineligible studies were discarded. We included 45 studies and screened those full-texts independently. Fifteen studies were included into the review. The backward and forward citation tracking of the included studies led to 1246 hits for screening. None of the additionally identified studies met the inclusion criteria. The key characteristics of the included studies are displayed in Table 2. The PRISMA flow diagram presents the entire inclusion and selection process (Figure 1).

Of the 15 studies included, eleven were journal articles, one an unpublished report of a research project, two doctoral theses and one master thesis. Studies were published between 1993 and 2017. The sample size ranged from four to 58 participants with a total of 276 participants across all studies (165 women and 74 men—two studies did not report participants' sex). The mean age of participants ranged from 69 to 84 years, but five studies did not explicitly report the mean age. Three studies reported an age range from 58 to 94 (Trujillo et al., 2014), 81 to 94 (Mahler & Savimäki, 2012) and 67 to 98 (Johnson et al., 2016); two other studies did not present the age of the participants at all (Hatton, 2016; Recanello et al., 2015). Participants of 13 studies lived in the community and of two others in long-term care facilities. Seven studies were conducted in North America (four in Canada and three in the United States of America). Two studies were conducted in Australia and one each in Brazil, Denmark, Slovakia, Sweden, Switzerland and Taiwan. All studies employed qualitative interviews as data collection method. The findings from three of 15 studies were classified as topical and seven thematic surveys, the remaining five as conceptual/thematic description (see Table 2).

TABLE 2 Included studies and their main characteristics

ID	Author (year), country, publication type	Main aim of the study	Sample size; sex (f/m)	Mean age	Setting	Stated method	Type of findings
1	Convey (1993), Canada, master thesis	To describe the meaning of FoF and its impact on the activities of daily living from the perspective of an elderly individual living in the community who has previously fallen	9 (6/3)	84	Community	In-depths interviews/content analysis	Thematic survey
2	Cuttelod and Piot-Ziegler (2010), Switzerland, research project—not published	To create a model grounded in the elderly people's experience allowing the development of an original instrument to evaluate FOF	58 (48/10)	82.1	Community	In-depth interviews with semi-directive interview schedule/ QUAPA (QUAlitative Pattern Analysis)	Conceptual/thematic description
3	Dingová and Králová (2017), Slovakia, journal article	To describe experience with falls, FoF, perceptions of the consequences of falls and how the FoF affects daily life in community-dwelling older adults	6 (5/1)	73.8	Community	Semi-structured interviews/ Colaizzi's method of data analysis	Thematic survey
4	Hatton (2016), Australia, doctoral thesis	To assess the relationships between FoF, depression and anxiety symptoms within an extended care older adult population	12 (11/1)	n.a.	Extended care facilities	Semi-structured interviews/mixed-method approach, thematic analysis	Thematic survey
5	Honaker and Kretschmer (2014), USA, journal article	To evaluate the impact of FoF for the patient and family, and to better understand the support needed to regain balance confidence and reduce FoF for patients and family members after participating in a VBRT programme	14 (9/5)	69.1	Community	Semi-structured interviews/mixed-method approach content analysis	Conceptual/thematic description
6	Huang (2005), Taiwan, journal article	to explore the process of managing FOF from the perspective of community-dwelling elders in Taiwan	25 (18/16)	71.08	Community	In-depth interviews—open-ended interviews/grounded theory, constant comparative method to analyse content	Conceptual/thematic description

(Continues)

TABLE 2 (Continued)

ID	Author (year), country, publication type	Main aim of the study	Sample size; sex (f/m)	Mean age	Setting	Stated method	Type of findings
7	Jellesmark et al. (2012), Denmark, journal article	To explore the experience of FOF and functional ability after a hip fracture among community-dwelling elderly people (qualitative part of the study)	4 (3/1)	84.75	Community	In-depth interview technique with a semi-structured interview guide/sequential explanatory mixed-method study; systematic text condensation (STC)	Thematic survey
8	Johnson et al. (2016), Canada, journal article	(a) To address gaps in our understanding of the health service needs of seniors living in rural communities, and (b) to identify the supports that enable rural seniors to stay independent and remain in their homes and communities longer. This article focuses specifically on those aspects of the study that addressed seniors' experiences with falls and falls-related injuries	42 (24/18)	n.a. (range 67–98)	Community	Semi-structured interviews/data analysis was conducted [...] with codes and categories developed according to the questions in the interview guide	Topical survey
9	Lee et al. (2008), Australia, journal article	To explore the perceptions of older people with a self-reported FoF about their fall experiences	9 (8/1)	77.9	Community	In-depth semi-structured interviews, comprising mostly open-ended question/content analysis was carried out using an inductive approach	Conceptual/thematic description
10	Mahler and Savimäki (2012), Sweden, journal article	To illuminate the experiences and meaning of FoF in a daily-life context for older adults	5 (5/0)	n.a. (range 81–94)	Community	Narrative interviews/qualitative narrative study	Topical survey
11	Parsons (2013), USA, doctoral thesis	To gain insight into the factors associated with FoF and falls self-efficacy in nursing home residents and to gain an in-depth understanding of possible discrepancies between residents' self-reports of FoF and how their caregivers perceive that fear	30 (15/15)	82	Long-term care facilities	In-depth semi-structured interviews/convergent parallel mixed-method design with thematic analysis	Thematic survey

TABLE 2 (Continued)

ID	Author (year), country, publication type	Main aim of the study	Sample size; sex (f/m)	Mean age	Setting	Stated method	Type of findings
12	Recanello et al. (2015), Brazil, journal article	To investigate the repercussions of falls in the lives of elders and their families	15 (not stated)	n.a.	Community	Semi-structured interview/content analysis (thematic analysis technique)	Topical survey
13	Tischler and Hobson (2005), Canada, journal article	To uncover why the participants experienced FoF and to discover which perceived consequences the participants feared the most	7 (6/1)	75.4	Community	Semi-structured interviews/ constant comparative method	Thematic survey
14	Trujillo et al. (2014), USA, journal article	To expand the understanding of the lived experiences of community-dwelling older adults, to ascertain what falls and FOF meant to them, and how each entity influenced their self-efficacy, functional performance and degree of engagement in occupations	31 (less than a quarter male)	n.a. (range 58–94)	Community	In-depth interviews followed a semi-structured interview guide with open-ended questions/ qualitative phenomenological design	Thematic survey
15	Ward-Griffin et al. (2004), Canada, journal article	To explore the everyday experiences of community-dwelling elders, with particular attention to the elders' perceptions of safety, FoF, independence and quality of life	9 (7/2)	81.7	Community	In-depth interviews/interpretive phenomenological design; immersion and crystallisation data analysis strategy as described by Lincoln and Guba (1985)	Conceptual/thematic description

Abbreviations: f/m, female/male; n.a., not available.

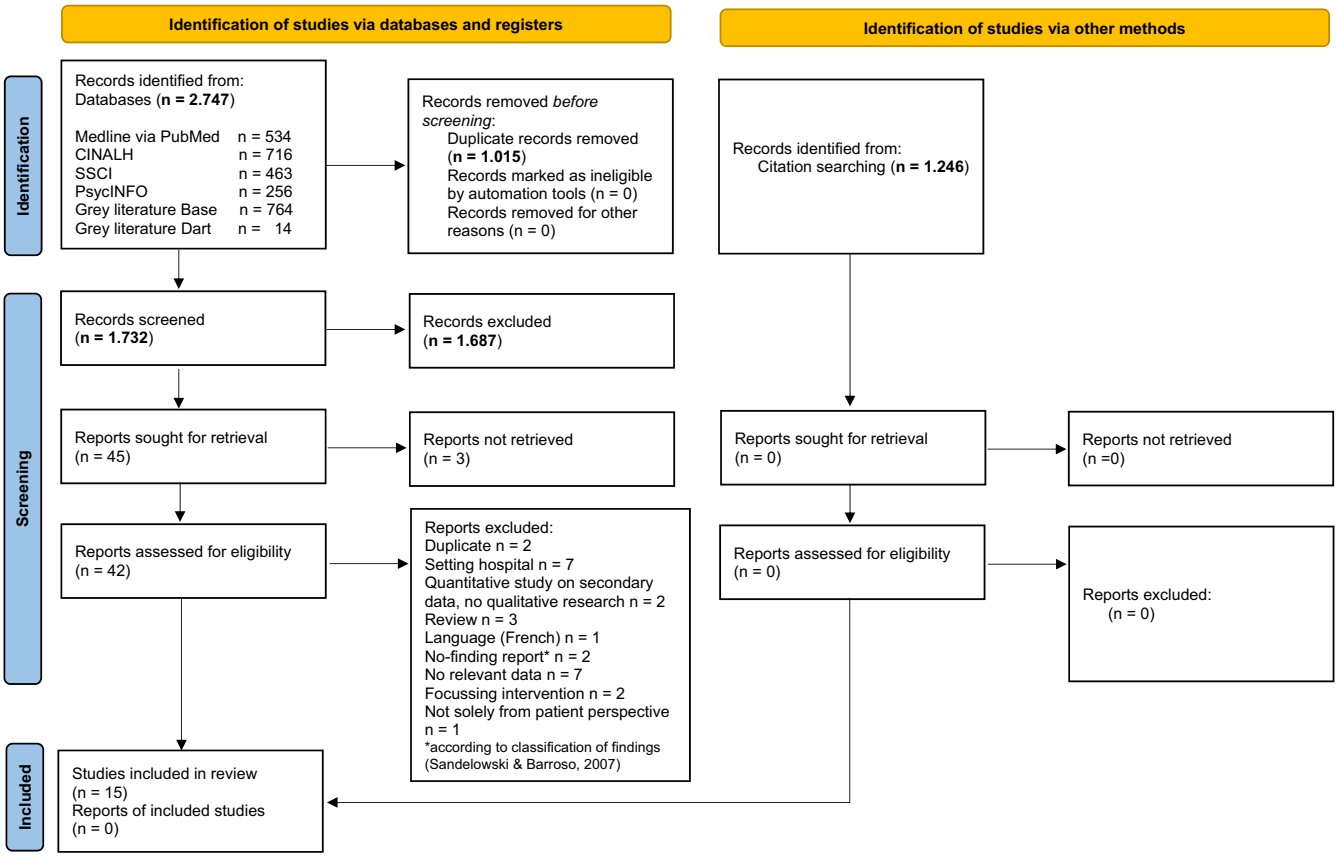

FIGURE 1 PRISMA 2020 flow diagram (Page et al., 2021) for the selection of included studies.

After abstracting the findings, a total of 578 findings resulted in 183 meta-findings, which could be collapsed into three main headings: 3.1. Triggers and reasons for FoF identified by affected people, 3.2. Consequences attributed to FoF and 3.3. Strategies to manage FoF in daily life. Under these headings, six main topics were identified: 1. Reasons cited as the cause for FoF and influences that reduce the extent of FoF, 2. Feared consequences of a fall, 3. Overall impact of FoF, 4. Psychological and social consequences, 5. Physical consequences and 6. Strategies/Management of FoF. Under the last topic the following subtopics were sorted: 6.1 Use of aids, 6.2 Environment/home changes, 6.3 Being attentive/'taking care', 6.4 Cognitive adaptation, 6.5 Activities changed/avoided and 6.6 Help/support by others. For the evaluation of the results, we decided to work with meta-findings that have a frequency effect size of ≥25%. Table 3 shows these 50 meta-findings.

The results are described below under the three main headings: 3.1. Triggers and reasons for FoF identified by affected people, 3.2. Consequences attributed to FoF and 3.3. Strategies to manage FoF in daily life.

3.1 | Triggers and reasons for FoF identified by affected people

The topics belonging to the heading *Triggers and reasons for FoF identified by affected people* includes 11 meta-findings (T1-T11—T stands for 'trigger'). Eight of these are assigned to the topic *Feared consequences of a fall* (T4-T11). People effected by FoF fear physical injuries, like fractures, as a consequence of a fall (T4). They also fear possible restrictions on movement or even bedriddenness resulting from a fall (T10). This can be closely linked to fears that relate to the restriction or loss of one's own independence (T6-T8). The concerns relate to institutionalisation and loss of the home (T6), loss of independency in general (T7) and feeling invalid, being a burden and relying on others (T8). The other feared consequences deal with general negative consequences on life (T5), not being able to get up after a fall (T9) and negative feelings like shame (T11). The remaining meta-findings under this heading deal with the reasons cited as the cause for FoF and (T1, T2) and influences that reduce the extent of FoF (T3). Studies cite a fall (T1) and chronic illness (T2) as a cause of FoF. A familiar environment, on the contrary, can have a minimising effect on FoF (T3).

3.2 | Consequences attributed to FoF

Seven meta-findings deal with the consequences attributed to FoF (C1-C7—C stands for 'consequence'). FoF has a varying impact on the lives of those affected and evokes different types of adaptation processes (C1). The consequences of FoF can be physical and psychological (C2). However, by far the majority of those affected report psychological and social consequences of FoF (C3-C6). FoF is associated with negative emotions (C3) and reduced social activities (C4). In

TABLE 3 Meta-findings with a frequency effect size over 25% sorted under the main topics

ID	Topics	Meta-findings [Report ID]	Frequency effect size
I. Triggers and reasons for FoF identified by affected people			
T1	01 Reasons cited as the cause for FoF and influences that reduce the extent of FoF	People affected by FoF discovered their FoF after a fall, some after a fall that required medical or physiotherapy intervention or after multiple falls. [1, 3, 4, 8, 9, 12, 13]	46,7
T2		Participants identified physical reasons like chronical illnesses, poor balance, being unsteady, deteriorating sight, hearing loss or other disabilities as reasons for their FoF. [1, 6, 13, 14]	26,7
T3		People affected by FoF felt safer in their own home and thus in familiar surroundings. [1, 4, 6, 10]	26,7
T4	02 Feared consequences of a fall	People affected by FoF feared physical injury, such as a fracture, as a consequence of a future fall. [1, 3, 4, 5, 7, 9, 11, 12, 13, 15]	66,7
T5		People affected by FoF feared general negative consequences of a potential fall, like affecting their quality of life and life satisfaction. [1, 3, 10, 11, 13]	33,3
T6		People affected by FoF feared institutionalisation and the loss of their home as a consequence of a future fall. [1, 3, 4, 9, 13]	33,3
T7		People affected by FoF feared the loss of independency as a consequence of a future fall. [1, 4, 9, 11, 13]	33,3
T8		As a consequence of a future fall people affected by FoF feared to feel invalid, being a burden and to rely on others. [1, 3, 11, 12, 13]	33,3
T9		Those affected by FoF feared not being able to get up from the ground again as a consequence of a future fall. [3, 4, 7, 13]	26,7
T10		As a consequence of a future fall people affected by FoF feared movement restrictions like not being able to walk anymore or being restricted to bed. [3, 4, 12, 13]	26,7
T11		Those affected by FoF feared negative feelings, such as helplessness, shame and embarrassment, as a consequence of a future fall. [3, 4, 9, 13]	26,7
II. Consequences attributed to FoF			
C1	03 Overall impact of FoF	The overall impact of FoF on the lives of those affected varied and evoked different types of adaptation processes. [1, 3, 6, 11, 13]	33,3
C2		FoF has both negative physical and psychological consequences for those affected. [1, 2, 4, 6, 10]	33,3
C3	04 Psychological and social consequences	Fear of falling is associated with a number of negative psychological consequences and emotions for those affected. [1, 2, 4, 5, 6, 7, 9, 10, 15]	60
C4		FoF affects the social life of those affected, as they change or reduce interaction with others, for example, by making fewer visits or participating less in social events. [1, 2, 5, 6, 7, 9]	40
C5		FoF is accompanied by the feeling of being a burden on others, of dependency and losing the ability to control activities and life in general. This can get along with the resignation, powerlessness and the fear of institutionalisation. [1, 2, 5, 7]	26,7
C6		People affected by FoF describe FoF as a constant companion or threat in their everyday life, which can thus also influence all areas of daily life. [1, 2, 9, 11]	26,7

(Continues)

TABLE 3 (Continued)

ID	Topics	Meta-findings [Report ID]	Frequency effect size
C7	05 Physical consequences	Physical consequences due to FoF or in part to injuries from a fall were modified posture and gait, limited mobility, physical signs of stress (as shaking, sweating, goose bumps, and palpitations) or on a functional level described "as feel the years creeping up on them". As well as sleeping disorders, headaches and appetite disturbance because of heightened awareness of the surroundings and vigilance about behavioural safety. [2, 6, 7, 10]	26,7
III. Strategies to manage FoF in daily life			
S1	06 Strategies/ Management of FoF	Behavioural change or adaptation is usually mentioned as a general strategy for dealing with FoF. [1, 3, 4, 9, 15]	33,3
S2		Despite FoF, some people affected by FoF try to maintain an active and independent lifestyle. [3, 7, 9, 11, 15]	33,3
S3		People affected by FoF usually use several different strategies, which complement each other, to deal with this fear. The chosen strategies may change depending on the situation and/or over time. [1, 9, 11, 15]	26,7
S4		The reasons for developing strategies for dealing with an existing FoF are located differently. The reasons given can be to avoid falls and injuries, to reduce the fear or the risk of falling, to reduce the influence of FoF on one's life, to keep control over one's own life or to preserve one's own identity. [1, 6, 11, 15]	26,7
S5	6.1 use of aids	Those affected by FoF use assistive devices, such as walkers or special footwear to deal with their fear. [1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 15]	73,3
S6		People affected by FoF use assistive devices to reduce their fear and to make them feel more confident. [1, 7, 8, 11]	26,7
S7	6.2 Environment/ home changes	People affected by FoF make changes to their homes/ environment as a strategy to deal with their anxiety. [2, 3, 6, 8, 9, 10, 15]	46,7
S8		People affected by FoF add devices to their environment that might eliminate factors for a fall, like handrails, illumination devices, a shower bench or a raised toilet seat. [2, 3, 6, 7, 9, 15]	40
S9		People affected by FoF see the necessity to make changes in the bathroom or kitchen, modify the location where chores are done or rearrange furniture. [3, 6, 8, 9, 15]	33,3
S10		Those affected by FoF make changes to their environment to reduce the risk of falling. [3, 6, 9, 15]	26,7
S11		People affected by FoF change floor features that might cause a fall, like slippery floor, remove small items from the floor or stairs, remove mats or carpets or use non-skid floor tiles. [3, 6, 9, 15]	26,7
S12	6.3 Being attentive / "taking care"	The need to be more careful and precautious arose after a fall. [1, 2, 4, 7, 11, 14, 15]	46,7
S13		People affected by FoF integrate caution and mindfulness into their daily lives, and this influenced them in performing activities. [2, 8, 6, 9, 11, 15]	40
S14		"Taking care" is a method used by people with FoF to avoid falls. [3, 4, 6, 9, 11, 15]	40
S15		"Being careful" goes hand in hand with adapting activities to ensure safety. [2, 3, 6, 9, 14, 15]	40
S16		People affected by FoF are more attentive when moving about. [1, 2, 6, 11]	26,7
S17		People affected by FoF pay more attention to their environment, especially the ground. [2, 4, 6, 9]	26,7
S18		Relatives or health professionals can amplify the construct of "being careful" by telling the people with FoF to take care. [4, 5, 7, 9]	26,7
S19	6.4 Cognitive adaptation	People affected by FoF use strategies of cognitive adaptation to cope with FoF, such as self-encouragement, comparing themselves to others, assigning blame or minimizing the impact of a fall. [1, 4, 10, 15]	26,7

TABLE 3 (Continued)

ID	Topics	Meta-findings [Report ID]	Frequency effect size
S20	6.5 Activities changed/avoided	Due to FoF affected people restrict or modify activities. They do this with different activities and to varying degrees. Some give up certain activities temporarily or completely. [1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 14, 15]	86,7
S21		People affected by FoF avoid leaving their homes altogether or restrict this to varying degrees. [1, 3, 6, 7, 9, 10, 11]	46,7
S22		People affected by FoF focused on activities that were considered low risk and excluded those that could lead to a fall. [1, 3, 6, 9, 11, 15]	40
S23		People affected change their mobility habits due to FoF. They restrict them to varying degrees and in different ways. [1, 2, 3, 9, 11]	33,3
S24		Some people affected by FoF say that they do not let FoF interfere with their activities. However, they sometimes make adjustments to their activities. [4, 8, 11, 13]	26,7
S25		Some people affected by FoF had an exercise routine. Some changed it or even stopped it because of FoF. [4, 6, 9, 12]	26,7
S26		Some people affected by FoF developed consistent routines in their daily lives and planned their days carefully to reduce the risk of falling and thus FoF. [1, 3, 10, 11]	26,7
S27		One consequence of FoF for those affected is a reduction in social contacts and activities. [1, 2, 5, 6]	26,7
S28	6.6 Help/support by others	Some people affected by FoF report a level of dependency to perform some of the tasks of daily living. [1, 2, 3, 5, 6, 7, 10, 11, 15]	60
S29		Family and friends are an often mentioned source of support for people affected by FoF. [1, 2, 3, 5, 4, 6, 8, 9, 15]	60
S30		For those affected, FoF meant a loss of independence and thus dependence on other people (social environment/professional support systems). [1, 2, 4, 5, 7, 10, 11]	46,7
S31		Help from others is accepted in order to maintain one's own independence to a certain degree despite FoF. [1, 2, 3, 8, 15]	33,3
S32		The ability to accept help varies among those affected by FoF. [1, 3, 9, 11]	26,7

addition, feelings towards others can be affected. For example, FoF can make people feel like a burden to others and create a sense of dependency (C5). For some people affected by FoF, the fear can be perceived as a constant burden, affecting all areas of life (C6). In addition to all the psychological and social consequences mentioned above, those affected also mentioned physical consequences of FoF (C7).

3.3 | Strategies to manage FoF in daily life

Thirty-two meta-findings deal with the strategies to manage FoF in daily life (S1-S32—S stands for 'strategy'). People affected by FoF develop strategies to deal with their fear in everyday life. They give different reasons for this, such as avoiding a fall, reducing the fear or maintaining control over their own life (S4). Affected persons change their previous behaviour (S1) and use complementary interventions to deal with fear (S3). Some of those affected by FoF try to continue to lead active and independent lives despite their fear (S2).

As a strategy to deal with FoF, affected people use assistive devices close to their body, such as walking aids or special shoes (S5, S6), or they make specific changes to their environment (S7-S11). They add devices such as sources of light or handrails (S8), change the floor conditions (S11) or the arrangement of certain rooms in their house/apartment (S9). One reason given for these measures is to reduce the risk of falling (S10).

Besides that, they try to achieve a cognitive adaptation, for example through self-encouragement or comparing themselves to others (S19). Furthermore, the strategy of 'taking care' or being attentive plays a role in dealing with FoF (S12-S18). The need to be careful arose after a fall (S12) and is used as a method to avoid further falls (S14). Relatives or health professionals can influence the strategy of 'taking care' when they ask older people to be careful (S18). The need to be careful accompanies the affected person permanently and influences their everyday behaviour (S13, S15). They are careful when moving about (S16) and pay more attention to their environment (S17).

Due to FoF, affected people change, limit or avoid activities temporarily or permanently (S20-S27). They focus on activities that seem to have a low risk and avoid other activities (S22). For example, they avoid leaving the house (S21), change their mobility habits (S23) or exercise routine (S25) and reduce their social contacts and activities (S27). Some affected persons also try to counteract FoF with consistent routines in everyday life (S26). Even if affected people do not want FoF to influence their activities, they do adjust them (S24).

Help and support from others is another frequently mentioned strategy to deal with FoF (S28-32). On the one hand, help is accepted in order to be able to continue carrying out everyday tasks (S28) and thus to be able to maintain one's own independence despite FoF (S31). On the other hand, the loss of independence is mentioned and thus a dependence on others (social environment/professional support system) (S30). Family and friends are the most frequently named source of support (S29), although the ability to accept help varies (S32).

4 | DISCUSSION

This systematic review and qualitative meta-summary aimed at aggregating the available qualitative findings about peoples' experience with FoF and the effects on everyday life of those affected. Based on 578 findings, we were able to develop 50 meta-findings with a frequency effect size ≥25%, which reflect the main findings of the included studies. The 50 meta-findings could be collapsed into three main headings I. Triggers and reasons for FoF identified by affected people, II. Consequences attributed to FoF and III. Strategies to manage FoF in daily life. The last group, with 32 meta-findings, is the most comprehensive. In the results presented above, three aspects emerged that seem to be of particular relevance to those affected by FoF: 'controlling the risk', 'creating a safe environment' and 'staying independent' (see Figure 2). As can be seen, these aspects are mentioned repeatedly and in different contexts in the included studies. These are discussed in the following and should be taken

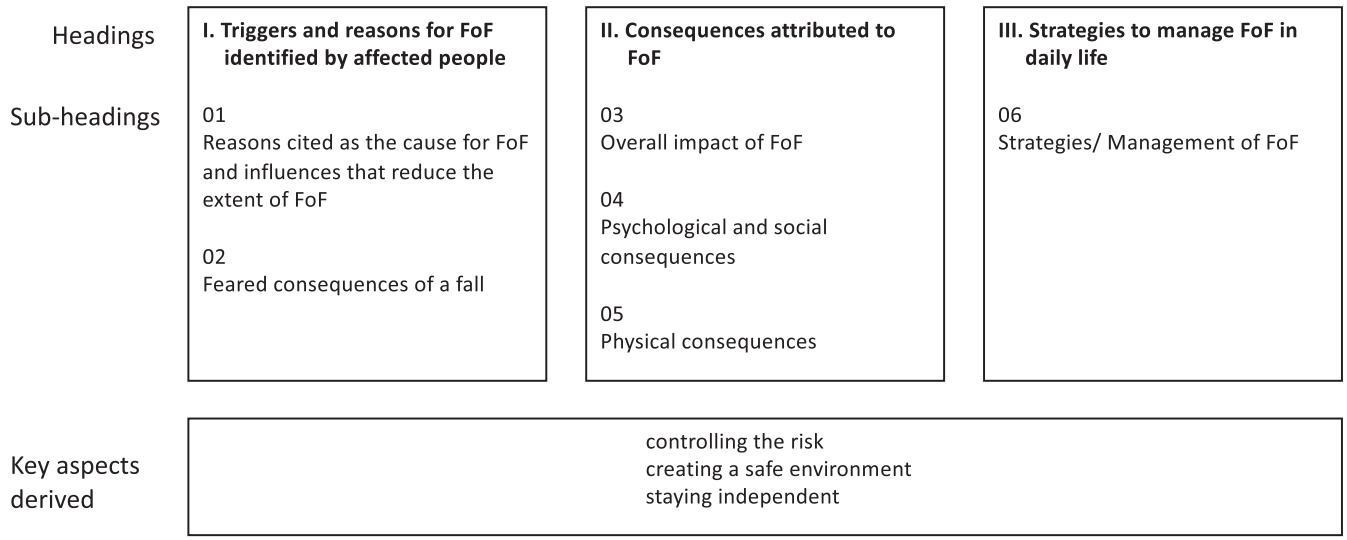

FIGURE 2 Results overview: System of headings, sub-headings and the key aspects derived.

into account in the development or adaptation of interventions to overcome FoF. The implications for interventions are also considered below.

'Controlling the risk' is important for the actions of those affected by FoF. Our findings support previous research that older people affected by FoF make adjustments in their lives (Deshpande et al., 2008; Mendes da Costa et al., 2012; Merchant et al., 2020; Schepens et al., 2012). The change or avoidance of certain activities should be emphasised. It became clear in our work that those affected continue to carry out activities, which, from their perspective, carry a lower risk of falling and reduce or exclude other activities (S22). For fear of possibly falling, people have decided not to leave their homes (S21). Avoiding activities has negative physical and psychological consequences for those affected. It can cause a reduction in physical abilities and lead to depression. A reduction in health-related quality of life goes hand in hand with this (Schoene et al., 2019). 'Taking care' is generally a behaviour that those affected consciously mention and that seems to play a significant role for them and their everyday life (S12-S18). Also older people who are at risk of falling use 'being careful' as a fall prevention strategy and they change their behaviour and therefore sometimes live more isolated (Berlin Hallrup et al., 2009), and here, too, it can happen that the strategy applied turns into FoF and thus limit the independence of those affected (Gardiner et al., 2017).

The aim of 'creating a safe environment' is also important for the actions of those affected by FoF. They try to manage FoF and maintain control over their lives by creating a safe close environment (S5-S11). This can be achieved by the use of aids (S5, S6) or changes to their homes, like adding devices including handrails or removing objects with risk potential for falls like loose or unsecure carpets (S7-S11). Research shows that changes in the close environment can have a positive impact on FoF (Tölking et al., 2020), primarily in combination with other interventions (Bastami & Azadi, 2020; Chase et al., 2012; van Haastregt et al., 2013). However, not all studies show positive effects of home modification on older peoples' FoF (Carlsson et al., 2017; Pighills et al., 2011). On the contrary, there is evidence that home modifications have positive effects on activities of daily living (ADL), quality of life and social participation (Lim et al., 2020) and also on the risk and rate of falls (Stark et al., 2017). In addition to home modifications, people affected by FoF also accept help of others to be able to continue carrying out certain activities (S28-S32). This can contribute to a safe environment. Friends and family are often mentioned as a source of help to cope with everyday life (S29).

'Staying independent' is another driving force for the behaviour of people affected by FoF. People affected by FoF give the following reasons why they try to manage their FoF: to avoid falls and injuries, to reduce the fear or the risk of falling, to reduce the influence of FoF on one's life, to keep control over one's own life or to preserve one's own identity (S4). Those affected state that they fear physical damage as a consequence of a possible future fall (T4). On the contrary, consequences that affect the independence seem to be very present for those affected (T6-T8). Hospitalisation and institutionalisation are to be avoided with the help of various support structures that are adopted in one's own home. Remaining independent, in the sense of living in one's own home, seems to be the driving force for many affected persons for behaviours to avoid falls. Similar results are also found in a review on the experience of falls and perceived risk of falls in the community (Gardiner et al., 2017). People at risk of falling, like people affected by FoF, are also influenced in their actions by the desire to maintain their independence. This occurs in combination with the will to use the support of other people as little as possible (Gardiner et al., 2017; Robson et al., 2018). Maintaining or increasing independence can also be a motivator for older people to continue fall prevention exercises (Finnegan et al., 2019).

4.1 | Interventions preventing or reducing FoF

Based on the presented results, our work can contribute to sharpening the focus of interventions against FoF specifically to the needs of those affected. Due to the proven multiple negative effects of FoF, there are many different approaches to reduce FoF. The systematic reviews by Zijlstra et al. (2007), Kendrick et al. (2014), Whipple et al. (2018) and Liu et al. (2018) show a variety of interventions and their respective effectiveness. The focus of the listed systematic reviews was on community-dwelling older adults. No interventions for older people in long-term care facilities were included. Cognitive behavioural therapy (CBT) interventions have a small effect on the reduction of FoF immediately after the intervention and after 12 months (Liu et al., 2018). The authors of just one of the studies included in the CBT review examined the avoidance of activities because of FoF. Exercise interventions like Tai Chi or balance training probably also show a small effect on the reduction of FoF directly after the intervention. Whether there are also positive effects after the end of the intervention is unclear and the effect on activity restriction or reduction is not considered in any of the included studies (Kendrick et al., 2014). The results of the systematic reviews (Kendrick et al., 2014; Liu et al., 2018) cannot present a clear strategy for reducing FoF based on the available evidence. Although there are conflicting results, it appears that a combination of psychotherapeutic elements and physical exercises probably shows the best impact (Whipple et al., 2018). We identify the need for security and the preservation of one's own independence as important aspects of managing FoF. These aspects should play an important role both in the motivation to participate in an intervention and when developing the components of the intervention itself. How exactly these goals can be implemented, should be the subject of further research. For example, based on the issues identified, an interview guide could be developed to help identify the individual support needs of older people with FoF. This could be used as a basis for individualised interventions that mitigate the effects of FoF and meet the needs for security and independence of those affected. In addition, it would be important to look at the impact of the interventions on activity restriction caused by FoF. As has been shown in previous research and confirmed in our

work (S20-S27), this is an important aspect when it comes to the impact of FoF. Our results suggest that there is no difference in the experience and management of FoF among older people living in long-term care facilities and of community-dwelling older adults (Hatton, 2016; Parsons, 2013). Again, we find two of the three important outcomes: 'controlling the risk' and 'staying independent'. What is not mentioned in the two studies (Hatton, 2016; Parsons, 2013) is the adaptation of one's own environment ('creating a safe environment') to reduce FoF (S7-S11). This could be based on the equipment in the respective facilities. A focus of interventions on older people in long-term care facilities would have to take this into account. However, further research would also be beneficial here. Nursing staff play an important role in this setting due to their constant presence and their proximity to the patients or residents in long-term care. Their possible influence on the management and reduction of FoF must therefore be more clearly addressed. The fact that people in long-term care facilities are less active in everyday life must also be taken into account (den Ouden et al., 2015).

4.2 | Quantification of qualitative data

Calculating the frequency effect sizes of the meta-findings is a special feature of the approach of Sandelowski and Barroso (2007) when aggregating qualitative data. Using the approach for this qualitative meta-summary helped us to aggregate knowledge based on an exhaustive literature search in a structured and comprehensible manner and to identify patterns (Ludvigsen et al., 2016). The calculation of the frequency effect size also contributed to this and helped to weight the meta-findings in the given context. Calculating effect sizes brought together the characteristics of qualitative and quantitative research, and this makes it possible to gain more meaning from the findings (Sandelowski & Barroso, 2007). According to Sandelowski and Barroso (2007), we used a threshold for the frequency effect size. In a process of discussion between three reviewers (MB, ORH and AS), we decided to work with all meta-findings with a frequency effect size ≥25%. Therefore, a finding can be identified in at least four of the 15 included studies. The 50 meta-findings thus selected represent a set of feasible findings. These provide a comprehensive essence of the significant results of the 15 included studies. However, it is important not to value or devalue a meta-finding because of the given effect size (Herber et al., 2017). Keeping this in mind is essential, when using the quantification of qualitative data. The use of the quantitative transformation of qualitative data in qualitative research, including the frequency effect size, is controversial. The advantages and disadvantages of using frequency effect sizes for quantitative data are discussed (Maxwell, 2010), not least because different approaches are used that do not yet reveal a general consensus (van Grootel et al., 2020). For our study, the use of the effect size could effectively support the analysis of the given qualitative data by 'extracting more meaning from those data and verifying the presence of a pattern or theme.' (Sandelowski & Barroso, 2007, 160).

4.3 | Limitations

We limited the included studies to English or German language. With the exception of four studies, the included studies were located in North America (n = 7) and Europe (n = 4). Only one study from Brazil and one from Taiwan deviated from this and two studies from Australia. There were no studies from other countries that met our inclusion criteria. Only four of the included studies gave an indication of the ethnicity of the participants. It can therefore be assumed that a predominantly western perspective is represented. We excluded studies with a population restricted to specific chronic medical conditions (e.g. stroke), except medical conditions that primarily result from a fall (e.g. hip fracture). We cannot make any statements about how FoF is experienced specifically in the context of certain chronic diseases. Rather, we wanted to show the experience of FoF in older people who are not in special situations (e.g. new environment) or impaired by a specific disease such as stroke. In addition, it is clear from the included studies that only two of the 15 studies focused on people living in long-term care facilities. Consequently, a clear preponderance of community-dwelling participants can be identified, though, as described above, the experiences with FoF are very similar.

5 | CONCLUSION

Findings of this systematic review and qualitative meta-summary highlight that people with FoF feel a far-reaching impact in many, if not all, areas of their lives. Calculating the frequency effect size of the aggregated meta-findings supported the process of analysing the given data. It helped us to identify themes and patterns in the set of meta-findings. FoF is associated with incarcerations that have physical and social as well as psychological consequences. This work contributes to the body of qualitative evidence, as it is the first that brings together the qualitative findings concerning the experience, fears and management strategies of older people in dealing with FoF. It identified themes and relationships that are important when trying to understand people affected by FoF and creating or revisiting interventions against FoF. Nurses and other healthcare professionals need to consider when dealing with older people that they may be affected by FoF. In this work, it has been shown that (1) controlling the risk, (2) creating a safe environment and (3) staying independent are strategies used by people affected by FoF to cope with it in everyday life. Understanding the motivation for the behaviour of older adults with FoF is the prerequisite for providing them with the appropriate and necessary support. For this, it is essential that healthcare professionals are sensitised to the topic of FoF and that its relevance is already reflected in the training of nurses and other healthcare professionals. Interventions that combine psychological components, physical exercise (Whipple et al., 2018) and home modification seem to be the most effective based on current evidence. For future research, it seems to be important to also focus more on people living in long-term care facilities as well as on the effects of the interventions on activity

restriction. This applies to the qualitative studies we examined, but also to the systematic reviews carried out on the interventions.

ACKNOWLEDGEMENT

Open Access funding enabled and organized by Projekt DEAL.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Baltes, M., Herber, O. R., Meyer, G., & Stephan, A. (2023). Fear of falling from the perspective of affected persons—A systematic review and qualitative meta-summary using Sandelowski and Barroso's method. *International Journal of Older People Nursing*, *18*, e12520. https://doi.org/10.1111/opn.12520