Supplementary File 2: Appendices

Appendix 1: Literature search strategies

Ovid MEDLINE(R) ALL <1946 to Jan 11, 2021>

1 Accidental Falls/
2 (slip* or trip* or stumbl* or tumbl*).tw,kf.
3 (fall* or fell or "fall- related" or "near- fall").tw,kf.
4 or/1-3
5 limit 4 to "all aged (65 and over)"
6 exp Aged/ or geriatrics/
7 (geriatric* or elder* or age* or "of age" or aging or senior* or older adult* or retired or retiree* or elder* or pensioner* or older people or older patient* or gerontology or Sexagenarian* or septuagenarian* or octogenarian or nonagenarian* or centenarian* or sixties or seventies or eighties or nineties).tw,kf.
8 4 and (6 or 7)
9 5 or 8
10 Social Isolation/
11 loneliness/
12 exp social support/
13 (social barrier* or social isolat* or social support* or social car* or psychosocial support* or psycho-social support* or social frailt* or friendship* or "social* connected*" or connectedness or lonely or loneliness or "feel* alone*" or companionship).tw,kf.
14 ((lack or absence or minimi*) adj2 (contact or communication or support*)).tw,kf.
15 or/10-14
16 9 and 15
17 animals/ not humans/
18 16 not 17

PsycINFO <1806 to January Week 2 2021>

1 falls/
2 (slip* or trip* or stumbl* or tumbl*).tw.
3 (fall* or fell or "fall- related" or "near- fall").tw.
4 or/1-3
5 limit 4 to "380 aged <age 65 yrs and older>"
6 (geriatric* or elder* or age* or "of age" or aging or senior* or older adult* or retired or retiree* or elder* or pensioner* or older people or older patient* or gerontology or Sexagenarian* or septuagenarian* or octogenarian or nonagenarian* or centenarian* or sixties or seventies or eighties or nineties).tw.
7 4 and 6
8 5 or 7
9 social isolation/ or loneliness/ or social support/ or friendship/
10 (social barrier* or social isolat* or social support* or social car* or psychosocial support* or psycho-social support* or social frailt* or friendship* or "social* connected*" or connectedness or lonely or loneliness or "feel* alone*" or companionship).tw.
11 ((lack or absence or minimi*) adj2 (contact or communication or support*)).tw.
12 or/9-11
13 8 and 12
14 Limit 13 to human

Embase Classic+Embase <1947 to 2021 January 11>

1 falling/
2 (slip* or trip* or stumbl* or tumbl*).tw.
3 (fall* or fell or "fall- related" or "near- fall").tw.
4 or/1-3
5 limit 4 to aged <65+ years>
6 loneliness/ or social support/ or friendship/
7 exp social isolation/
8 (social barrier* or social isolat* or social support* or social car* or psychosocial support* or psycho-social support* or social frailt* or friendship* or "social* connected*" or connectedness or lonely or loneliness or "feel* alone*" or companionship).tw.
9 ((lack or absence or minimi*) adj2 (contact or communication or support*)).tw.
10 or/6-9
11 5 and 10
12 limit 11 to human

Database: EBM Reviews - Cochrane Database of Systematic Reviews <2005 to January 11, 2021>, EBM Reviews - ACP Journal Club <1991 to January 11, 2021>, EBM Reviews - Cochrane Clinical Answers <January 2021>, EBM Reviews - Database of Abstracts of Reviews of Effects <1st Quarter 2016>

1 (slip* or trip* or stumbl* or tumbl*).mp.
2 (fall* or fell or "fall- related" or "near- fall").mp.

3 1 or 2
4 (geriatric* or elder* or age* or "of age" or aging or senior* or older adult* or retired or retiree* or elder* or pensioner* or older people or older patient* or gerontology or Sexagenarian* or septuagenarian* or octogenarian or nonagenarian* or centenarian* or sixties or seventies or eighties or nineties).mp.
5 3 and 4
6 (social barrier* or social isolat* or social support* or social car* or psychosocial support* or psycho-social support* or social frailt* or friendship* or "social* connected*" or connectedness or lonely or loneliness or "feel* alone*" or companionship).mp.
7 ((lack or absence or minimi*) adj2 (contact or communication or support*)).mp.
8 6 or 7
9 5 and 8

Joanna Briggs Institute EBP Database - <Current to January 11, 2021>
1 (slip* or trip* or stumbl* or tumbl*).mp.
2 (fall* or fell or "fall- related" or "near- fall").mp.
3 1 or 2
4 (geriatric* or elder* or age* or "of age" or aging or senior* or older adult* or retired or retiree* or elder* or pensioner* or older people or older patient* or gerontology or Sexagenarian* or septuagenarian* or octogenarian or nonagenarian* or centenarian* or sixties or seventies or eighties or nineties).mp.
5 3 and 4
6 (social barrier* or social isolation* or social support* or social car* or psychosocial support* or psycho-social support* or social frailt* or friendship* or "social* connected*" or connectedness or lonely or loneliness or "feel* alone*" or companionship).mp.
7 ((lack or absence or minimi*) adj2 (contact or communication or support*)).mp.
8 6 or 7
9 5 and 8

AMED (Allied and Complementary Medicine) <1985 to January 2021>
1 (slip* or trip* or stumbl* or tumbl*).mp.
2 (fall* or fell or "fall- related" or "near- fall").mp.
3 1 or 2
4 (geriatric* or elder* or age* or "of age" or aging or senior* or older adult* or retired or retiree* or elder* or pensioner* or older people or older patient* or gerontology or Sexagenarian* or septuagenarian* or octogenarian or nonagenarian* or centenarian* or sixties or seventies or eighties or nineties).mp.
5 3 and 4
6 (social barrier* or social isolation* or social support* or social car* or psychosocial support* or psycho-social support* or social frailt* or friendship* or "social* connected*" or connectedness or lonely or loneliness or "feel* alone*" or companionship).mp.
7 ((lack or absence or minimi*) adj2 (contact or communication or support*)).mp.
8 6 or 7
9 5 and 8

Appendix 2: Study Characteristics (n=39)

Author, year	**Study title**	**Journal name**	**Country**	**Study design**	**Study duration (months)**
Apikomonkon, 2003[26]	Fear of falling and fall circumstances in Thailand	NA	Thailand	cross-sectional	NA
Chiu, 2011[37]	Psychosocial responses to falling in older Chinese immigrants living in the community	Dissertation Abstracts International Section A: Humanities and Social Sciences	Canada	qualitative	6
Choi, 2015[30]	Characteristics associated with fear of falling and activity restriction in South Korean older adults	Journal of Aging and Health	South Korea	cross-sectional	NA
Curcio, 2009[4]	Activity restriction related to fear of falling among older people in the Colombian Andes Mountain	Journal of Aging and Health	Columbia	cross-sectional	NA
Dias, 2011[5]	Characteristics associated with activity restriction induced by fear of falling in community-dwelling elderly	Revista Brasileira de Fisioterapia	Brazil	cross-sectional	NA
Faes, 2010[36]	Qualitative study on the impact of falling in frail older persons and family caregivers: Foundations for an intervention to prevent falls	Aging & Mental Health	Netherlands	qualitative	NA
Faria, 2020[22]	Elderly residents in the community: gaining knowledge to support a rehabilitation nursing program	Revista Brasileira de Enfermagem	Portugal	cross-sectional	NA
Ferreira, 2018[31]	Aspects of social participation and neighborhood perception: ELSI-Brazil	Revista de saude Publica	Brazil	cross sectional	NA
Finn, 2001[14]	The relationship between falls and fall-related efficacy, depression, and social resources	Dissertation Abstracts International: Section B: The Sciences and Engineering	USA	cross-sectional	NA
Gagnon, 2005[3]	Affective correlates of fear of falling in elderly persons	American Journal of Geriatric Psychiatry	Canada	cross-sectional	NA
Hajek, 2017[20]	The association of falls with loneliness and social exclusion: evidence from the DEAS German Ageing Survey	BMC Geriatrics	Germany	cross-sectional	NA

Hajek, 2020[13]	What are the psychosocial consequences when fear of falling starts or ends? Evidence from an asymmetric fixed effects analysis based on longitudinal data from the general population	International Journal of Geriatric Psychiatry	Germany	cohort	36
Host, 2011[38]	Older people's perception of and coping with falling, and their motivation for fall-prevention programmes	Scandinavian Journal of Public Health	Denmark	qualitative	2
Howland, 1998[25]	Covariates of fear of falling and associated activity curtailment	The Gerontological Society of America	USA	cross-sectional	NA
Iliffe, 2007[16]	Health risk appraisal in older people 2: the implications for clinicians and commissioners of social isolation risk in older people	British Journal of General Practice	England	cross-sectional	NA
Kara, 2009[28]	Evaluation of home environment and life satisfaction and falling in geriatrics: Examination of its relationship with fear	Physiotherapy Rehabilitation	Turkey	cross-sectional	NA
Mendes da Costa, 2012[29]	Fear of falling and associated activity restriction in older people. results of a cross-sectional study conducted in a Belgian town	Archives of Public Health	Belgium	cross-sectional	NA
Merchant, 2020[7]	Relationship between fear of falling, fear-related activity restriction, frailty, and sarcopenia	Journal of the American Geriatrics Society	Singapore	cross-sectional	NA
Meric, 2007[34]	A qualitative study on the perceptions of old individuals regarding the life of the fall and its effect on their daily lives	Turkish Journal of Geriatrics	Turkey	qualitative	2
Murphy, 2002[1]	Characteristics associated with fear of falling and activity restriction in community-living older Persons	Journal of the American Geriatrics Society	USA	cross-sectional	NA
Nakaya, 2013[6]	The association between self-reported history of physical diseases and psychological distress in a community-dwelling Japanese population: the Ohsaki Cohort 2006 Study	European Journal of Public Health	Japan	cross-sectional	NA
Nicholson, 2005[15]	The relationship between injurious falls, fear of falling, social isolation, and depression	NA	USA	cross-sectional	NA
Petrinec, 2020[32]	Health-related quality of life of older women religious: negative influence of frailty	Western Journal of Nursing Research	USA	cross-sectional	NA
Pin, 2016[11]	Impact of falling on social participation and social support trajectories in a middle-aged and elderly European sample	Social Science and Medicine - Population Health	Denmark, Sweden, Netherlands, Austria, Germany, France, Belgium,	cohort	72

			Switzerland, Italy, Spain		
Quach, 2016[19]	Social determinants of falls: The role of social support and depression among community-dwelling older adults	Dissertation Abstracts International: Section B: The Sciences and Engineering	USA	cohort	36
Robins, 2018[21]	The association between physical activity and social isolation in community-dwelling older adults	Aging & Mental Health	Australia	cross-sectional	NA
Schmid, 2009[35]	Consequences of poststroke falls: activity limitation, increased dependence, and the development of fear of falling	American Journal of Occupational Therapy	USA	qualitative	6
Schnittger, 2012[18]	Risk factors and mediating pathways of loneliness and social support in community-dwelling older adults	Aging & Mental Health	Ireland	cross-sectional	NA
Stel, 2004[2]	Consequences of falling in older men and women and risk factors for health service use and functional decline	Age and Ageing	Netherlands	cross-sectional	NA
Tinetti, 1998[9]	The effect of falls and fall injuries on functioning in community-dwelling older persons	Journal of Gerontology	USA	cohort	36
Tinetti, 1994[24]	Fear of falling and fall-related efficacy in relationship to functioning among community-living elders	Journal of Gerontology	USA	cross-sectional	NA
van der Meulen, 2014[10]	Effect of fall-related concerns on physical, mental, and social function in community-dwelling older adults: A prospective cohort study	Journal of American Geriatrics Society	Netherlands	cohort	14
van Lankveld, 2011[17]	Age-related health hazards in old patients with first-time referral to a rheumatologist: A descriptive study	Arthritis	Netherlands	cross sectional	NA
Vanden Wyngaert, 2020[23]	Associations between the measures of physical function, risk of falls and the quality of life in haemodialysis patients: a cross-sectional study	BMC Nephrology	Belgium		
Vellas, 1987[8]	Prospective study of restriction of activity in old people after falls	Age and Ageing	France	cohort	6
Ward-Griffin, 2004[33]	Falls and fear of falling among community dwelling seniors: the dynamic tension between exercising precaution and striving for independence	Canadian Journal on Aging	Canada	qualitative	NA

Xu, 2019[39]	Developing a falls prevention program for community-dwelling stroke survivors in Singapore: client and caregiver perspectives	Disability and Rehabilitation	Singapore	qualitative	NA
Yu, 2020[12]	Longitudinal Assessment of the relationships between geriatric conditions and loneliness	Journal of the American Medical Directors Association	USA	cohort	96
Zijlstra, 2007[27]	Prevalence and correlates of fear of falling, and associated avoidance of activity in the general population of community-living older people	Age and Ageing	Netherlands	cross-sectional	NA

Appendix 3: Patient Characteristics (n=39)

DEMOGRAPHIC DATA							
Author, year	**Overall sample size**	**Overall age (years)**	**Overall age (type)**	**Overall age variance (value)**	**Overall age variance (type)**	**% female**	**% male**
Apikomonkon, 2003[26]	546	NR	NR	60-94	range	61	39
Chiu, 2011[37]	18	81	mean	71 to 94	range	88.9	11.1
Choi, 2015[30]	4,247	NR	NR	NR	NR	NR	NR
Curcio, 2009[4]	1668	70.9	mean	7.4	SD	54.5	45.5
Dias, 2011[5]	113	74.5	mean	7	SD	85	15
Faes, 2010[36]	10	70-90	range	NR	NR	60	40
Faria, 2020[22]	48	75	mean	6.8	SD	66.67	33.33
Ferreira, 2018[31]	7935	NR	NR	NR	NR	56.9	43.1
Finn, 2001[14]	49	NR	mean	NR	SD	NR	NR
Gagnon, 2005[3]	105	78.2	mean	8.9	SD	86.7	13.3
Hajek, 2017[20]	7808	73.8	mean	5.9	SD	46.2	53.8
Hajek, 2020[13]	8836	65.5	mean	10.7	SD	50.4	49.6
Host, 2011[38]	14	77	mean	68-87	range	64.3	35.7
Howland, 1998[25]	266	76.3	mean	7.9	SD	77	23
Iliffe, 2007[16]	3139	NR	NR	65-75+	range	54.5	45.5
Kara, 2009[28]	47	71.7	mean	5.6	SD	55.3	44.7
Mendes da Costa, 2012[29]	501	NR	NR	65-85+	NR	57.7	42.3
Merchant, 2020[7]	493	73	mean	8	SD	79.3	20.7
Meric, 2007[34]	22	NR	NR	65-83+	range	63.6	36.4
Murphy, 2002[1]	1064	79.6	mean	5.3	SD	73	27
Nakaya, 2013[6]	43487	65+	range	NR	NR	53.9	46.1
Nicholson, 2005[15]	68	78.5	mean	6.3	SD	60.4	39.6
Petrinec, 2020[32]	108	75.6	mean	65–93	range	100	0
Pin, 2016[11]	16583	50-95	range	NR	NR	NR	NR
Quach, 2016[19]	8464	74	mean	7	SD	58.7	41.3
Robins, 2018[21]	245	77	mean	6	SD	60	40
Schmid, 2009[35]	42	67.5	mean	11.93	SD	NR	NR
Schnittger, 2012[18]	579	NR	NR	NR	NR	69.1	30.9
Stel, 2004[2]	204	78.7	mean	6.3	SD	54.9	45.1
Tinetti, 1998[9]	1103	NR	NR	NR	NR	NR	NR
Tinetti, 1994[24]	1103	79.6	mean	5.2	SD	73	27

van der Meulen, 2014[10]	260	77.9	mean	5	SD	72.7	27.3
van Lankveld, 2011[17]	154	79.2	mean	5.1	SD	79	21
Vanden Wyngaert, 2020[23]	113	67.5	mean	16	SD	42.5	57.5
Vellas, 1987[8]	178	65-85+	range	NR	NR	76.4	23.6
Ward-Griffin, 2004[33]	9	81.7	mean	72-92	range	77.7	22.3
Xu, 2019[39]	17	65	mean	7	SD	44.4	55.6
Yu, 2020[12]	4680	74.01	mean	9.69	SD	56.1	43.9
Zijlstra, 2007[27]	4376	77.1	mean	4.9	SD	59.9	40.1

SETTING DATA				
Author, year	**Setting**	**Streamlined setting description**	**Participants living alone (%)**	**Description of access to caregivers**
Apikomonkon, 2003[26]	Community in 4 provinces of Thailand	Community	9.9	NR
Chiu, 2011[37]	Community in the Greater Toronto Area, Canada	Community	61	Two respondents lived with their children. The rest lived alone or only with their spouse. Only seven of 18 respondents had at least one grown child living in the same city, who might provide assistance when needed.
Choi, 2015[30]	Community setting in Korea	Community	NR	NR
Curcio, 2009[4]	Community in Columbian Andes Mountains	Community	9.5	NR
Dias, 2011[5]	Community setting in Brazil	Community	38	NR
Faes, 2010[36]	Home and outpatient clinic in Netherlands	Community + Medical	10	All participants had access to a caregiver (either child or spouse)
Faria, 2020[22]	Urban health unit in northern Portugal	Medical	NR	NR
Ferreira, 2018[31]	Urban communities in Brazil	Community	NR	NR
Finn, 2001[14]	Two nursing homes in the Chicago Metropolitan Area, USA	Nursing home	0	In general, they have entered a nursing home because of an inability to adequately care for themselves, and they do not have anyone who can ably assist them, or they lack financial resources.
Gagnon, 2005[3]	Medical or orthopedic wards of 3 hospitals in Toronto, Canada	Medical	65.7	NR
Hajek, 2017[20]	Communities in Germany	Community	NR	NR

Hajek, 2020[13]	Community in Germany	Community	28.9	NR
Host, 2011[38]	Copenhagen area in Denmark	Community	64.3	NR
Howland, 1998[25]	Communities in Eastern Massachusetts	Community	87	NR
Iliffe, 2007[16]	Community in London, England	Community	32.8	NR
Kara, 2009[28]	Districts of Narlıdere, Gülbahçe and Mordoğan in Izmir, Turkey	Community	27.7	NR
Mendes da Costa, 2012[29]	Community in Walloon region of Belgium	Community	36.4	NR
Merchant, 2020[7]	Community in northwest region of Singapore	Community	NR	NR
Meric, 2007[34]	Geriatric Outpatient of Gülhane Military Medical Academy in Turkey	Medical	13.6	NR
Murphy, 2002[1]	Community setting in New Haven, Connecticut, USA	Community	70	NR
Nakaya, 2013[6]	Community in Japan	Community	NR	87.3% reported sufficient social support, 12.2% reported lack of social support, 4.2% unknown.
Nicholson, 2005[15]	Community in United States	Community	53.4	NR
Petrinec, 2020[32]	Cleveland Catholic Diocese in USA	Community	100	Participants were not included if they needed caregiver assistance.
Pin, 2016[11]	Communities in 10 European Countries (Denmark, Sweden, The Netherlands, Austria, Germany, France, Belgium, Switzerland, Italy, and Spain)	Community	NR	NR
Quach, 2016[19]	Communities in USA	Community	23.3	One-third did not have the perceived support with basic personal care (eating or dressing) when needed.
Robins, 2018[21]	Communities in Australia	Community	49	NR
Schmid, 2009[35]	Community in United States	Community	NR	All participants had a caregiver.
Schnittger, 2012[18]	Technology Research for Independent Living (TRIL) clinic at St James's Hospital, Dublin.	Medical	NR	NR
Stel, 2004[2]	Community in three regions in the Netherlands	Community	NR	NR

Tinetti, 1998[9]	Community in New Haven, Connecticut, USA	Community	NR	NR
Tinetti, 1994[24]	Community in New Haven, Connecticut, USA	Community	69	NR
van der Meulen, 2014[10]	Community in the Netherlands	Community	53.1	NA
van Lankveld, 2011[17]	Community in the Netherlands	Community	NR	NR
Vanden Wyngaert, 2020[23]	Dialysis centres in Belgium	Medical	NR	NR
Vellas, 1987[8]	Community in Toulouse, France	Community	NR	NR
Ward-Griffin, 2004[33]	Community in Canada (11 senior apartment towers and in the Health Information and Promotion Centre)	Community	77.7	NR
Xu, 2019[39]	Community rehabilitation centers in Singapore	Medical	0	Four family caregivers (two male) and four maids (all female) were interviewed. 33% employed a maid as a main caregiver.
Yu, 2020[12]	Community in USA	Community	NR	NR
Zijlstra, 2007[27]	Community in two urban areas in the Netherlands	Community	44	NR

FALLS AND FRAILTY DATA								
Author, year	**Participants with history of falling (%)**	**List of comorbidities [comorbidity 1 (%), etc.]**	**Participants with frailty (%)**	**Frailty scale**	**Overall frailty score**	**Overall frailty score type**	**Frailty variance value**	**Frailty variance type**
Apikomonkon, 2003[26]	21	NR	NR	NR	NR	NR	NR	NR
Chiu, 2011[37]	100	All participants reported having chronic conditions. The most common physical conditions reported were diabetes and hypertension.	NR	NR	NR	NR	NR	NR
Choi, 2015[30]	NR	NR	NR	NR	NR	NR	NR	NR
Curcio, 2009[4]	31.9	Hypertension (53.0), Osteoarthritis (39.2), heart disease (20.2), COPD	NR	NR	NR	NR	NR	NR

		(16.8), Diabetes Mellitus (13.4), Lower extremities fracture (11.7), Pain in joints (33.1), Dizziness (15.2), Breathlessness (11.4), Hearing impairment (33.0), visual impairment (68.9)						
Dias, 2011[5]	NR	NR	NR	NR	NR	NR	NR	NR
Faes, 2010[36]	100	Cognitive impairment (70%)	NR	NR	NR	NR	NR	NR
Faria, 2020[22]	25	Cardiovascular diseases (76.6), endocrine diseases (56.8), musculoskeletal diseases (45.7), depression (16.3), respiratory diseases (14.3) and cerebrovascular diseases (9.3).	NR	NR	NR	NR	NR	NR
Ferreira, 2018[31]	NR	Overweight (women=65.2%, men=59.0%)	NR	NR	NR	NR	NR	NR
Finn, 2001[14]	51	NR	NR	NR	NR	NR	NR	NR
Gagnon, 2005[3]	100	NR	NR	NR	NR	NR	NR	NR
Hajek, 2017[20]	17.6	NR	NR	NR	NR	NR	NR	NR
Hajek, 2020[13]	NR	Number of physical illnesses is mean = 2.6, SD = 1.9	NR	NR	NR	NR	NR	NR
Host, 2011[38]	100	NR	NR	NR	NR	NR	NR	NR
Howland, 1998[25]	35	Vision problems (26), stroke (11), dizziness (29)	NR	NR	NR	NR	NR	NR
Iliffe, 2007[16]	11.20	Two or more chronic conditions (59.0%), takes 4 or more meds (33.4%)	NR	NR	NR	NR	NR	NR
Kara, 2009[28]	29.9	NR	NR	NR	NR	NR	NR	NR
Mendes da Costa, 2012[29]	31.6	NR	NR	NR	NR	NR	NR	NR
Merchant, 2020[7]	mean = 0.4	NR	51.3	FRAIL scale	NR	NR	NR	NR
Meric, 2007[34]	81	NR	NR	NR	NR	NR	NR	NR
Murphy, 2002[1]	39.70	Chronic dizziness (24.2), 5 or more medications (35.8), vision impairment (40.5)	NR	NR	NR	NR	NR	NR
Nakaya, 2013[6]	17.3	NR	NR	NR	NR	NR	NR	NR
Nicholson, 2005[15]	100	NR	NR	NR	NR	NR	NR	NR

Petrinec, 2020[32]	NR	Hypertension (60), Cataracts (60), Thyroid disorders (30), Osteoporosis (17), Diabetes (7)	19	Tilburg Frailty Indicator (TFI)	NR	NR	NR	NR
Pin, 2016[11]	2.8	NR	NR	NR	NR	NR	NR	NR
Quach, 2016[19]	38.0	NR	NR	NR	NR	NR	NR	NR
Robins, 2018[21]	38	Congestive heart failure (4%); Heart disease (33%); stroke (9%); Cancer (25%); diabetes (18%); lung disease (16%); Parkinson's disease (1%)	NR	NR	NR	NR	NR	NR
Schmid, 2009[35]	NR	Stroke (100%)	NR	NR	NR	NR	NR	NR
Schnittger, 2012[18]	NR	NR	NR	NR	NR	NR	NR	NR
Stel, 2004[2]	100	Dizziness (27.9%), visual impairment (23%)	NR	NR	NR	NR	NR	NR
Tinetti, 1998[9]	30.3	NR	NR	NR	NR	NR	NR	NR
Tinetti, 1994[24]	39	One or more chronic conditions (78%)	NR	NR	NR	NR	NR	NR
van der Meulen, 2014[10]	55.5	NA	NR	NA	NA	NA	NA	NA
van Lankveld, 2011[17]	44	Cardiac 36%, hypertension 40%, vascular 25%, respiratory 12%, EENT 21%, upper GI 14%, lower GI 10%, Hepatic 3%, kidney 3%, other GU 16%, neurological 18%, endocrine 21%, psychiatric 8%, Rhuematic disease general (56%), Osteoarthritis (49%), Spondylosis(31%), Rheumatoid arthritis(17%), Arthritis otherwise defined (12%), Gout (6%), Chodrocalcinosis (12%), Osteoporosis (1%), Shoulder problem (6%), Polymyalgia rheumatica (3%), Soft tissue (1%), Carpal tunnel syndrome (2%), Others (6%)	NR	NR	NR	NR	NR	NR
Vanden Wyngaert, 2020[23]	NR	Cardiovascular disease (74.3%) diabetes (46.0%) musculoskeletal complications (44.2%), Neuropathy (28.3), retinopathy (31.9), respiratory complications (24.8), hepatopathy (17.7), pain (27.4%), depression	NR	NR	NR	NR	NR	NR

		(23.9%), fatigue (18.6%), anxiety (15.0%), sleep disturbances (12.4%)						
Vellas, 1987[8]	50	NR	NR	NR	NR	NR	NR	NR
Ward-Griffin, 2004[33]	NR	NR	NR	NR	NR	NR	NR	NR
Xu, 2019[39]	100	Stroke (100%)	NR	NR	NR	NR	NR	NR
Yu, 2020[12]	mean =0.74	The mean number of comorbidities at baseline was 2.24 (SD=1.38)	NR	NR	NR	NR	NR	NR
Zijlstra, 2007[27]	32.6	NR	NR	NR	NR	NR	NR	NR

Appendix 4: Mental health outcomes related to falls, fear of falling, and social isolation (n=6)

Author, Year	Sample	Results	Text description/ interpretation of findings
Murphy, 2002[1]	n=1064	**Variables independently associated with activity restriction in participants with fear of falling** *Depression (CES-D scale)* Adj relative risk: 1.27 (95% CI, 1.00-1.60); p=0.048	"We found that a history of an injurious fall within the past year, slow timed physical performance, two or more chronic conditions, and depressive symptoms were all independently associated with activity restriction."
Stel, 2004[2]	n=204	**Relationship between higher depression score and decline in social activities because of a fall** OR: 2.0 (95% CI: 1.2-3.3); p<0.05	"A decline in functional status, social activities and physical activities was reported more often in respondents with a higher depression score."
Gagnon, 2005[3]	n=105	**Variables associated with fear of falling** (Comparing subjects with no/slight fear and subjects with moderate/severe fear) **Depression** (Structured Clinical Interview for DSM-IV (SCID)) Wald chi-square= 8.76; p=0.03 **Anxiety** (Structured Clinical Interview for DSM-IV (SCID)) Wald chi-square= 5.95; p<0.02	"Not only were depressive disorders and depression severity independently associated with fear of falling, but depression had the strongest association with this fear among all the variables that we measured. Given that this was a cross-sectional study, a causal relationship between depression and fear of falling cannot be inferred. [...] It is possible, therefore, that in some individuals, fear of falling is an anxious manifestation of depression. However, depression could also be a consequence of activity restriction or social isolation resulting from a fear of falling" "Depressive disorders and anxiety disorders were significantly associated with categorical fear of falling, independently of these variables"
Curcio, 2009[4]	n=1668	**Variables associated with activity restriction related to fear of falling** **Depression** OR: 1.76 (95%CI, 1.38-2.24)	"A second model was then constructed with the psychosocial associated factors and other clinical and functional covariates (see Table 4). After adjustment, functional and clinical factors remained independently associated with activity restriction related to fear of falling. Only depression and poor perceived health variables emerged as independent factors."
Dias, 2011[5]	n=113	**Variables associated with activity restriction due to fear of falling** (compared to no FOF or FOF alone)	"The variables that best discriminated the groups were depression, exhaustion and participation in social activities, demonstrated in the diagram (Figure 1). For the grouping obtained through the Chi-square

		Depression Chi-square=15.2, p=0.004	Automatic Interaction Detection (CHAID) method, it may be observed that the first distinctive characteristic was depression, evaluated using GDS. Those with positive symptoms for depression showed 90% chance of restricting activities due to fear of falling. Additionally, the presence of depressive symptoms seems to modulate the factors that are associated with activity restriction due to fear of falling. A greater risk for depression has been associated with inadequate evaluation of coping self-efficacy in stressful events of life. It is worth noting that the participants of the present study who restricted activities by FOF showed lower self-efficacy in relation to the other participants. Thus, it is possible that elders with depressive symptoms perceive them selves less capable of performing certain tasks and, because of that, restrict their activities.
Nakaya, 2013[6]	n=43487	**Relationship between history of falling and psychological distress** Sufficient social support OR, 1.6 (95% CI: 1.3-1.9) p<0.01 Lack of social support OR, 2.0 (95% CI: 1.4-2.8) p<0.01	"We also conducted stratified analyses regarding OR of psychological distress according to differences in social support status. Almost all subjects with a history of physical disease (including those with history of fall/fracture) were at increased risk of psychological distress, regardless of social support."
Merchant, 2020[7]	n=493	**Variables associated with fear of falling alone** **Depression** OR, 4.90 (95% CI, 1.06–22.67) p<0.05 **Variables associated with fear of falling + fear-based activity restriction** **Depression** OR, 5.17 (95% CI, 1.84–14.54)	"In our study, FOF and/or FAR were both significantly associated with **depression** in univariate and multivariate logistics regression model. Those with FOF + FAR were nine times more likely to be depressed than those with no FOF. […] Strong links between depressive symptoms with FOF and/or FAR have been reported in various studies, and their association is believed to be bidirectional, where management of one condition would improve the other."

Appendix 5: Findings from included cohort studies (n=6)

Author, Year	**Sample**	**Results**	**Text description/ interpretation of findings**
Vellas, 1987[8]	n=178 Studied two populations: 1) Individuals living in a retirement home (Fall victims = 59; Non-fallers=59) 2) Individuals living at home (Fall victims = 30; Non-fallers=30)	Retirement home (n=118) Among the fall victims there was a tendency towards restriction of activity: 3% walked less indoors, 5% went outside less, 4% had no leisure activity, 7% no longer visited their children and 11% no longer visited their friends. The lack of significance (P>0.05) is linked both to the very low level of activity on day 1 of the aged population living in retirement homes and to our small sample. At home (n=60) On day 1, the fallers and control group had identical levels of activity. Reported a significant difference in the number of participants who maintained the same level of activity after 6 months, with this number being reduced in fall victims compared to non-fallers (p<0.02)	"The interpersonal relationships of the fallers were very poor: 90% did not belong to any group, 54% never visited their children, 40% never visited anybody." "A fall may lead to loss of autonomy. Factors arising as a result of falls have been identified by Isaacs and his co-workers. Our prospective study confirms these findings and demonstrates the restriction of activity following a fall without fracture." "Falls in elderly persons give rise to a decrease in activity and social life. The fear of recurrence often leads to 'institutionalizing' the patient. But, it is difficult to show whether falls are an indication or the cause of the loss of autonomy."
Tinetti, 1998[9]	n=1103 at baseline, 770 at 3 years follow-up	**Effect of having 2 or more non-injurious falls on social functioning** (Social Activity Scale)**:** Regression coefficient = -0.538 (p<0.05)	"While there did not appear to be an increased risk of decline in social functioning among participants experiencing a single noninjurious fall, repetitive fallers experienced a decline in social functioning in both short- and long-term follow-up analyses. The relationship between repetitive falling and decline in social functioning remained after adjusting for each category of covariates. Experiencing a serious fall injury, on the other hand, was only marginally associated with decline in social functioning over the 1-year follow-up, and not at all over the 3-year follow-up. Preferential loss to follow-up of persons experiencing decline in social functioning between the 1- and 3-year follow-up interviews might at least partially explain the lack of relationship between injurious falls and change in social activities."

Van der Meulen, 2014[10]	n=260 Low level of concern about falling (n=127) High level of concern about falling (n=129) Follow-up = 14 months	**Social participation** (Frenchay Activities Index) Low level falling concern: Baseline mean, 39.9 (SD, 7.1) Follow-up mean, 38.8 (SD, 7.6) High level falling concern: Baseline mean, 36.8 (SD, 7) Follow-up mean, 35.7 (SD, 7.7) **p-value = 0.006**	"High and low levels of fall-related concerns predicted significant differences in ADL dysfunction and social participation that were persistent over 14 months of follow-up. […] Accompanying effect size estimations were medium (social participation) to large (ADL dysfunction)."
Pin, 2016[11]	n=16583 Fallers (n=411) Non-fallers (n=14205)	**Effect of falls on social participation** (binary variable based on if they reported performing at least one activity from a prespecifed list of activities) Model 2 adjusted by time, age, sociodemographic variables and health indicators: OR, 0.86 [95% CI, 0.76-0.89] (p<0.001) Model 3 added adjustment for frailty: OR, 0.95 [95% CI, 0.89-1.02] The interaction between initial frailty status and falling was significant (Table 4, Model 7a). Contrast analyses revealed that the probability of social participation was less among frail people than among people who did not meet any of the frailty criteria in both fallers ($\chi 2$ (1)=6.93;p<0.01) and non-fallers ($\chi 2$ (1)=41.21; p<0.001)	"Falling significantly decreased the probability of social participation in each of these activities and of participation in at least one of them, but only before frailty was introduced into the models (Table 3, Models 2 and 3). Frailty is indeed a strong confounder in the relationship between falls and social participation. When it is taken in consideration in multivariate models, the size of the effect for falling decreased and was no longer significant." "Then, we demonstrated the major role of frailty in the relationship between falling and social participation. The construction of the frailty phenotype (Fried et al., 2001; Santos-Eggimann et al., 2009) was based on its physical component. In this manner, frailty and falling were very close constructs. They shared similar risk factors, such as mobility disorders or bone density, and they had similar consequences in terms of disability or mortality. Moreover, we showed that they had similar consequences in terms of social participation. Thus, it may be difficult to distinguish between the two concepts and to identify a specific impact of falling (Nowak & Hubbard, 2009). However, our analyses showed that the continuity in or disengagement from social activities was due to a long-term process that was amplified by health events, rather than by the falls themselves."
Yu, 2020[12]	n=4680	**Relationship between number of falls and loneliness over 3 time-points** (3 item UCLA Loneliness Scale) Regression coefficient = 0.008, SE = 0.04, p =0.048;	"Only the number of falls was significantly correlated with the loneliness score in the next time point, and more frequent loneliness at the previous wave predicts an increased number of falls in 4 years […]The results suggest that a vicious circle relationship exists between loneliness and falls. […] An increased number of falls also predicted more frequent loneliness in 4 years. These findings support evidence reported in cross-

		Wave 1-2: β=0.030, Wave 2-3: β= 0.068	sectional studies that the occurrence of falls was related to social exclusion. […] Older adults who have fallen more frequently might choose to avoid risky activities such as going outside of the home and engaging in social activities. This could lead to a discrepancy in desired and actual social engagement, which in turn results in more frequent experience of loneliness."
Hajek, 2020[13]	n=8836 In total, 669 individuals changed fear of falling (FOF) status from wave 5 to wave 6. More specifically, while the onset of FOF occurred in 431 individuals, the end of FOF occurred in 238 individuals.	**Relationship between fear of falling and loneliness** (Bude and Lantermann scale) **Onset of FOF** β=0.02, SE=0.02, p=NR **End of FOF** β= -0.06, SE=0.03, p<0.05 **Relationship between fear of falling and social isolation** (De Jong Gierveld Loneliness Scale) **Onset of FOF** β=0.06, SE=0.03, p<0.1 **End of FOF** β= 0.01, SE=0.04, p=NR	"The end of FOF was associated with reduced depressive symptoms (β = −1.08, P < .05), decreased loneliness scores (β = −0.06, P < .05), as well as decreased negative affect (β = −0.07, P < .05). We assume that the end of FOF has the potential to mark a decisive turning point in life for individuals who scored high in these adverse conditions (severe depressive symptoms, high loneliness, or frequent negative emotions) when they had FOF." "The end of FOF was associated with decreases in negative psychosocial outcome measures (depressive symptoms, negative affect, and loneliness). However, and in contrast to the other negative psychosocial outcome measures, it is quite puzzling why the end of FOF was not associated with decreases in social isolation. A possible explanation may be that even a major life event, such as the end of FOF, does not have the power to reduce social isolation because feelings of isolation may remain largely stable over the years among middle-aged and older adults with FOF. Thus, individuals developing feelings of social isolation caused by FOF, several years ago, may have difficulties in overcoming these feelings of isolation"

Appendix 6: Cross-sectional studies reporting on falls and social isolation/loneliness (n=11)

Author, Year	Sample	Results	Text description/ interpretation of findings
Finn, 2001[14]	n=49	**Social Resources** (OARS Social Support Scale) Fallers (n=25) Mean: 2.4 (SD, 1) Non-Fallers (n=24) Mean: 2.0 (SD, 0.78) p = 0.59	"The data from the present study supports the conclusion that the social resources of nursing home residents are the same, regardless of a history of falls that does not change their level of previous functioning. Most nursing home residents are already in a position where they have to rely on others to come to them for visits, outings, etc.. Unlike many community-based elderly individuals most nursing home residents do not have the means or capabilities to visit others who are not in their immediate environment. Therefore, regardless of fall-history the social resources available to nursing home residents is dependent on others."
Stel, 2004[2]	n=204	**Relationship between falls inside and decline in social activities because of a fall** OR: 2.6 (95% CI: 1.1-6.5); p<0.05	"A decline in social activities after falling was significantly associated with falls inside. The current study shows that falls could also have consequences on the level of functioning in older people: respondents reported a decline in functional status (35.3%), a decline in social activities outside the house (16.7%) and physical activities (15.2%) as a direct consequence of the last fall."
Nicholson, 2005[15]	n=68	**Relationship between injurious falls and social isolation** (Lubben Social Network Scale) **Social isolation** ρ= -0.4; p<0.05 **Female** ρ= -0.5; p=0.01 **Family Sub Scale of Social Isolation** ρ= -0.2; p=0.12	"Results suggest that there is a strong positive relationship between injurious falls and social isolation. Results from this sample suggest that there is an association between lower scores of the LSNS and higher number of injurious falls, which means that increased injurious falls are related to increased social isolation. In the findings for this sample it appears that there may be some direct link between injurious falls and social isolation. Gender appeared to play a role when examining H4. Males as a group did not show a significant relationship between number of injurious falls and social isolation. The relationship for females as a group was positive and significant. This female sample showed a high Pearson's correlation coefficient (see Table 4). This suggests that injurious falls may trigger some direct link to social isolation in females." "When examining the family subscale of the LSNS, there was no correlation between injurious falls and social isolation (see Table 3). It is possible that as the participant continues to have injurious falls and becomes less likely to leave the house due to a fear of future injurious falls, he/she will eventually become socially isolated. This is not necessarily the case when families are involved."

		Friend Sub Scale of Social Isolation ρ= -0.43; p<0.05	"On the other hand, in the case of the friends subscale, there was a strong correlation between injurious falls and social isolation, such that a greater number of injurious falls was associated with a greater degree of social isolation. A possible explanation for this may be the opposite of the phenomenon with family and social isolation. The participant who has increasing injurious falls may become more likely to stay in the house thus losing contact with friends. Friends of the participants tend to be around the same age as the participant and are less likely to increase the amount of visits to the participant to make up for the lack of contact the participant suffers as a result of being homebound."
Iliffe, 2007[16]	n=3139	**Falls and social isolation** (Lubben social network scale) Socially isolated (n=368) 13.6% reported multiple falls in the past 12 months Not socially isolated (n=2133) 10.7% reported multiple falls in the past 12 months p=0.11	Multivariate analysis taking into account all statistically significant associations shows a different pattern. The risk of social isolation appears to be associated with depressed mood and living alone, while male sex, memory impairment and perceived poor health may be weakly associated. For the other factors [multiple falls] listed in the second hypothesis, no significant associations in bivariate or multivariate analyses were found.
Van Lankveld, 2011[17]	n=154	**Relationship of falls with loneliness** (De Jong Gierveld Loneliness scale) Correlation coefficient = 0.14 p=not significant	"Health status indicators were unrelated to falls and cognitive functioning, and showed low to moderate relations with the remaining health hazards."
Schnittger, 2012[18]	n=579	**Association between history of falls and pathways of loneliness** **Emotional loneliness** (de Jong-Gierveld Loneliness Scale) Correlation coefficient=0.134 p<0.003 **Social loneliness** (de Jong-Gierveld Loneliness Scale) Correlation coefficient=0.09 p=not significant	"Interestingly, social support was the only outcome in which a biological variable, falls history, emerged in the final model; this may indicate the relative importance of health factors compared to psychosocial factors in the loneliness models"

		Social support (Lubben Social Network Scale) Correlation coefficient= -0.247 p<0.003	
Quach, 2016[19]	n=8464 No falls group (n=5249) One fall group (n=1352) At least two falls group (n=1863)	**Social Relationship Index [mean (SD)]** No falls: 3.34 (1.32) One fall: 3.24 (1.35) At least two falls: 3.08 (1.35) p<0.0001 *Note: this is a cohort study, but the outcomes relevant to our review question are from a cross-sectional survey given to participants at baseline*	"Respondents who fell had a higher prevalence of clinically significant depression symptoms, were more often not married, had fewer good friends living in their neighborhood, were less likely to attend religious services or to be a volunteer, and were less likely to have perceived support from friends or relatives, when needed. The average score of the social relationship index for fallers (3.08 or 3.24 for respondents with at least 2 falls or one fall respectively) tended to be lower than for respondents who did not fall (3.34 score of the index, p<.0001)"
Hajek, 2017[20]	n=7808	**Variables associated with history of falls** **Social exclusion** (Bude and Lantermann scale) β =0.08; SE, -0.02; p<0.001 **Loneliness** (De Jong Gierveld Loneliness Scale) β =0.08; SE, -0.02; p<0.001	Controlling for potential confounders, linear regression analysis showed that reporting a fall in the previous 12 months was associated with higher social exclusion scores (β = .08, p < .001), and higher loneliness scores (β = .08, p < .001). Contrarily, reporting a fall in the preceding 12 months was not associated with the number of important people in regular contact.
Robins, 2018[21]	n=245	**Relationship between falls and social isolation** (Friendship Scale for social isolation) OR 1.03 (95% CI: 0.66-1.62); p=0.9	No statistically significant association reported between experiencing a fall in the past 12 months and social isolation.
Faria, 2020[22]	n=48	**Relationship between falls and loneliness** (UCLA scale) p=0.384	No statistically significant association reported between experiencing a fall in the past 6 months and loneliness

Vanden Wyngaert, 2020[23]	n=113	**Variables associated with risk of falls** **Ability to participate in social roles and activities** (PROMIS questionnaire) R^2=0.11; p=0.01 **Depression** R^2=0.08; p=0.01	"Regarding the PROMIS questionnaire, low associations were found between measures of the risk of falls and the appreciation of participation in social roles and activities on the one hand (R2 = 0.11), and depression on the other (R2 = 0.08)" "Remarkably, the risk of falls on itself was identified as a determinant of difficulties on psycho-social well-being (i.e. depression and social isolation) and of objective health utility […] As such, falls and an increased risk of falls can deter subjects to continue their outdoor social activities, resulting in changes in means and location of social contact to less stimulating activities (e.g. a phone call rather than a rendezvous point), promoting the risk of impairments in mental health and depression"

Appendix 7: Cross-sectional studies reporting on fear of falling and activity restriction due to fear of falling (n= 15)

Author, Year	Sample	Results	Text description/ interpretation of findings
Tinetti, 1994[24]	n=1103	**Fear of falling** (Falls Efficacy Scale – modified so low score corresponds with low confidence or greater fear) Fallers Mean, 79.8 (SD 23.4) Non-fallers Mean, 88.1 (SD 17.9) p < .0001 **Activity restriction because of fear of falling** Fallers = 24% Non-fallers =15% chi-square= 13.1; p < 0.001	In order to examine the impact of recent falls, we also determined the proportion of subjects reporting fear and the mean fall-related efficacy scores separately for subjects who did and did not experience a fall in the year prior to the interview. The proportion of subjects reporting a decrease in activity because of fear of falling was 24% among fallers vs 15% among non-fallers (chi-square= 13.1; p < .001). The mean fall-related efficacy scores were 79.8 (SD 23.4) and 88.1 (SD 17.9) among fallers and non-fallers, respectively (p < .0001).
Howland, 1998[25]	n=266	**Relationship between falls and fear of falling** OR: 2.498 (95% CI: 1.013-6.159); p=0.05 **Relationship between falls and activity curtailment among those afraid of falling** OR: 1.094 (95% CI: 0.376-3.177); p=0.869 **Relationship between social support and activity curtailment among those afraid of falling** (Social Support Scale) OR: 1.574 (95% CI: 1.082-2.290); p=0.018 *Note: Here a higher social support score indicates lower levels of social support*	"The contribution of personal falls experience to fear of falling was apparent. Those who suffered a previous fall were more likely to have a fear of falling." "Surprisingly, neither the degree of fear of falling nor the experience of falls was associated with activity restriction. This finding suggests that activity curtailment is not just associated with extreme levels of fear. The presence of social support was, however, important. Those who could rely on others or talk with friends about falling were least likely to report activity curtailment. Thus, support of family and friends may be an important prerequisite for continuing to remain active even in the face of fear of falling. This support may serve as a buffer to the potentially debilitating consequences of fear of falling. It is possible this support is manifested as encouragement for remaining active." "Those who curtailed activities […] did not differ with respect to social integration but were significantly (p = .024) less likely to be able to rely on friends or relatives in times of crisis (social support)"
Murphy, 2002[1]	n=1064	**Variables independently associated with activity restriction in participants with fear of falling**	"We found that a history of an injurious fall within the past year, slow timed physical performance, two or more chronic conditions, and

		Injurious fall Adjusted relative risk (ARR): 1.36 (95% CI, 1.11-1.66); p=0.003 *Two or more chronic conditions* ARR: 1.34 (95% CI, 1.08-1.65); p=0.007 *Slow-timed physical performance* ARR: 1.44 (95% CI, 1.18-1.75); p=0.0004	depressive symptoms were all independently associated with activity restriction."
Apikomonkon, 2003[26]	n=546	**Relationship between falls and activity restriction** Chi-square=5.49, p<0.05 **Relationship between fear of falling and activity restriction** Chi-square=23.27, p<0.001	"Compared with non-fallers, the older persons with falls experiences were more likely to have activity restriction (25% vs 16%). The Chi-square test indicated that fall history was associated with activity restriction measured by dichotomous question." "Older people with FOF were more likely to have activity restriction (26% vs 10%). The FOF using the SAFE Thai version was significantly associated with activity restriction as measured by dichotomous question."
Gagnon, 2005[3]	n=105	**Variables associated with fear of falling** (Comparing subjects with no/slight fear and subjects with moderate/severe fear) **Social support** (confiding-relationships component of the Bedford Life Events and Difficulties Schedule modified for elderly subjects) Wald chi-square= 3.77; p=0.05	"The following secondary independent variables were significantly associated with categorical fear of falling: dizziness (Wald chi-square 6.58; p 0.01), total number of medications (Wald chi-square 5.40; p 0.02), and social support (Wald chi-square 3.77; p 0.05). (Note: Higher scores mean less support.)"
Zijlstra, 2007[27]	n=4376	**Variables significantly associated with avoidance of activity due to fear of falling** **Multiple falls in past 6 months** OR: 1.97 (95% CI, 1.52-2.54)	"When fear of falling was added as an additional variable (model 3; Table 3), odds ratios of all variables that showed significance in model 2 decreased. Nevertheless, the association for the highest age group (≥80 years), fair and poor perceived general health and multiple falls with avoidance of activities remained statistically significant. Our findings regarding avoidance of activity remained fairly similar when fear of falling was entered into the logistic model. Although sometimes, often and very often experiencing fear of falling were

		Aged 80 years or older OR: 1.56 (95% CI, 1.24-1.95) **Fair perceived general health** OR: 2.92 (95% CI, 2.43-3.52) **Poor perceived general health** OR: 5.7 (95% CI, 3.57-9.12)	strongly associated with avoidance of activity, higher age (≥80 years), fair and poor perceived health and multiple falls remained independently associated with avoidance of activity in community-living older people. This implies that interventions aimed at reducing avoidance of activity should not focus on fear of falling alone, but on other modifiable factors, like falls, as well"
Iliffe, 2007[16]	n=3139	**Relationship between fear of falling and social isolation** (Lubben Social Network Scale) OR: 1.21 (95%CI, 0.88-1.65)	Multivariate analysis taking into account all statistically significant associations shows a different pattern. The risk of social isolation appears to be associated with depressed mood and living alone, while male sex, memory impairment and perceived poor health may be weakly associated. For the other factors [(fear of falling)] listed in the second hypothesis, no significant associations in bivariate or multivariate analyses were found.
Curcio, 2009[4]	n=1668	**Variables associated with activity restriction related to fear of falling** **At least 1 fall in past year** OR: 1.48 (95%CI, 1.18-1.86); p=0.001 **Low social participation** OR: 1.52 (95%CI, 1.20-1.92); p<0.01 **Poor perceived health** OR: 1.38 (95%CI, 1.06-1.79) **Difficulties in activities of daily living** OR: 1.65 (95%CI, 1.16-2.32) **Decreased physical activity** OR: 1.35 (95%CI, 1.06-1.70)	"Those who had activity restriction related to fear of falling were significantly more likely to have had a fall within the past year, with a trend to suffer recurrent falls and injurious falls" "Table 3 shows the bivariate relationships between activity restriction related to fear of falling and psychosocial factors. Activity restriction related to fear of falling had a strong bivariate association with poor perceived health, depression, low social participation, and poor life satisfaction." "A second model was then constructed with the psychosocial associated factors and other clinical and functional covariates (see Table 4). After adjustment, functional and clinical factors remained independently associated with activity restriction related to fear of falling. Only depression and poor perceived health variables emerged as independent factors." "logistic regression analyses for activity restriction related to fear of falling. In the first model, 19 demographic, functional, and health-related variables with p values less than .05 derived from the bivariate analysis were entered into the logistic regression as independent variables. Difficulties in ADL, decreased physical activity, polypharmacy, and

		Polypharmacy OR: 1.56 (95%CI, 1.14-2.14) **Below poverty level** OR: 1.32 (95%CI, 1.05-1.65)	extreme poverty were independently associated with activity restriction related to fear of falling. A second model was then constructed with the psychosocial associated factors and other clinical and functional covariates (see Table 4). After adjustment, functional and clinical factors remained independently associated with activity restriction related to fear of falling."
Kara, 2009[28]	n=47	**Relationship between fear of falling and loneliness** (Philadelphia Geriatric Center Morale Scale) ρ= 0.258; p=Not significant	When the correlation between the fear of falling and the subscales of the Philadelphia Geriatric Center Morale Scale is examined, no correlations were found (Table 5).
Dias, 2011[5]	n=113	**Variables associated with activity restriction due to fear of falling** (compared to no FOF or FOF alone) **Fear of falling intensity** Mean 3.4 (SD, 0.9); p<0.0 **Depression** Chi-square=15.2, p=0.004 **Exhaustion** Chi-square=9.2, p=0.01 **Participation in social activities** Chi-square=10.4, p=0.016	"The three groups were statistically different in relation to FOF evaluated using the question about fear intensity. The group that reported FOF and activity restriction demonstrated higher levels of fear when compared with the other groups" "The variables that best discriminated the groups were depression, exhaustion and participation in social activities, demonstrated in the diagram (Figure 1). For the grouping obtained through the Chi-square Automatic Interaction Detection (CHAID) method, it may be observed that the first distinctive characteristic was depression, evaluated using GDS. Those with positive symptoms for depression showed 90% chance of restricting activities due to fear of falling. Additionally, the presence of depressive symptoms seems to modulate the factors that are associated with activity restriction due to fear of falling. A greater risk for depression has been associated with inadequate evaluation of coping self-efficacy in stressful events of life. It is worth noting that the participants of the present study who restricted activities by FOF showed lower self-efficacy in relation to the other participants. Thus, it is possible that elders with depressive symptoms perceive them selves less capable of performing certain tasks and, because of that, restrict their activities. Out of the elders that did not have depressive symptoms, those who had positive result for exhaustion of the frailty phenotype had 78% chance of restricting activities due to fear of falling." "Out of the ones who did not show positive result for exhaustion, the other distinctive characteristic was participation in social activities. Those who stopped performing activities had 73% chance of restricting activities due to fear of falling.

			Participation in social activities was the last discriminatory factor for the studied sample; however this variable did not show association with activity restriction in the bivariate analysis. It is possible that this difference in relation to the participation in social activities only occurs for a subgroup and not for the whole sample"
Mendes da Costa, 2012[29]	n=501	**Relationship between activity restriction due to fear of falling and number of falls in past 12 months** 2 or more falls OR, 3.04 (95% CI, 1.70-5.42) 1 fall OR, 1.33 (95% CI, 0.66-2.68)	"activity restriction was increased significantly with age and with the number of falls within the past 12 months, affecting however one quarter of the subjects who did not fall. In the logistic regression model, these associations remained significant"
Choi, 2015[30]	n=4247	**Relationship between falls and fear-induced activity restriction** <u>Previous fall experiences</u> OR, 2.12 [95% CI, 0.96-4.67] p=0.062 <u>Injurious falls</u> OR, 3.03 [95% CI, 1.21-7.54] p=0.008	Characteristics independently associated with fear-induced activity restriction were low socioeconomic status, cognitive impairment, difficulty with activities of daily living, and a history of injurious falls.
Ferreira, 2018[31]	n=7935	**Relationship between fear of falling because of sidewalk defects and social participation** OR 1.01 (95% CI: 0.99-1.04)	"As in the univariate analysis, the fear of falling because of defects in sidewalks and the perception of violence in the neighborhood were not associated with social participation."
Petrinec, 2020[32]	n=108	**Relationship between fear of falling and social functioning** (Medical Outcomes Study 36-item Short-Form General Health Survey) β= -0.29	"Fear of falls was an independent predictor for role physical, physical functioning, and social functioning."
Merchant, 2020[7]	n=493	**Variables associated with fear of falling alone** **Number of falls**	"The multivariate logistics regression in Table 2 shows that female sex (OR = 3.54; 95% CI = 1.82–6.90), number of medications (OR = 1.28; 95% CI = 1.03–13.60), prefrail or frail (OR = 2.17; 95% CI = 1.26–3.73), depression (OR = 4.90; 95% CI = 1.06–22.67), and number of falls in the

		OR, 2.13 (95% CI, 1.20–3.78) p<0.05 **Social isolation** OR, 0.99 (95% CI, 0.51–1.89) p=not significant **Variables associated with fear of falling + fear-based activity restriction** **Number of falls** OR, 1.4 (95% CI, 0.94–2.20) p=not significant **Social isolation** OR, 1.7 (95% CI, 0.82–3.55) p=not significant **Sarcopenia** OR, 8.13 (95% CI, 1.52–43.41)	past 12 months (OR = 2.13; 95% CI = 1.20–3.78) were significantly associated with FOF. Only sarcopenia (OR = 8.13; 95% CI = 1.52–43.41) and depression (OR = 5.17; 95% CI = 1.84–14.54) were significantly associated with FOF + FAR." "**History of falling** is a well-known risk factor for FOF and/or FAR as persons who have experienced falls are more likely to develop fear. However, three-quarters of those with FOF and two-thirds of those with FOF + FAR had never experienced a fall in our study" "**Social isolation** is another factor that is poorly studied. In our study, one in three older adults with FOF + FAR were at risk of social isolation compared with one in five with no FOF" "Prefrailty, frailty, and **sarcopenia** have significant association with FOF and/or FAR in both univariate and multivariate analysis."

Appendix 8: Relevant findings from qualitative studies (n=7)

Author, Year	**Qualitative analysis approach, and sample size**	**Results**
Ward-Griffin, 2004[33]	Phenomenological approach n=9	"***Restricting activities was a second strategy identified by the participants, which involved avoiding certain social activities or/and physical environments. Participants used this strategy when they wanted to "play it safe" in times of inclement weather or in situations where ambulation might be difficult***. Precarious weather conditions seemed to heighten their awareness and fear of falling. As Sarah explained, "I do not fear falling, except around steps. They terrify me to death [along with] scaffolding around the town—that bothers me. Little kids on bicycles on the sidewalk— that bothers me. And I am restricted to the house when there's fresh snow on the ground." Similarly Wilfred stated, "When it's really, really icy, and I don't have to go out, I don't drive the car. I don't go out either." "
Meric, 2007[34]	Analysis approach not reported n=22	"***After having a falling experience, elderly individuals had behavioral changes, which decreased the competency of achieving daily life activities, such as staying away from the crowded environments, not going outside alone***, ***acting very slowly, not able to do daily activities alone***: "... I can't go out anymore. I haven't been out alone for 2 years, there are always people next to me." (75; woman). "… I take my man's arm on the street, I can't get out much in case I fall into the street" (77; woman)." "
Schmid, 2009[35]	Latent content analysis n=42	"***Quotes regarding the subsequent consequences of poststroke falls categorized into the following three themes: (1) limiting activity and participation, (2) increasing dependence, and (3) developing a fear of falling***" "*Limiting activity: Because falling became common for some participants, talk about strategies for the prevention of future falls was common and emerged naturally during interviews.* ***A significant consequence was the choice to limit everyday life activities at home and in the community to help manage and prevent falls***" "Increasing dependence: Participants discussed their dependence on assistive devices such as walkers, canes, and wheelchairs to reduce falls and feel secure in their environment. Some participants indicated use of the furniture, walls, or people as alternative assistive devices. Many discussed dependence on caregivers for maintaining balance and preventing falls. ***Participants easily became isolated because they were fearful to leave their home, and some were even fearful to move about their own home, becoming increasingly dependent***." "Developing fear of falling: This initial experience of falling with stroke onset was a traumatic event that consequently resulted in participants expressing fear that future falls would mean having another stroke. They also discussed the ***subsequent development of fear of falling and the fear of being left on the floor for hours at a time***. ***Participants described genuine fear of falling and fear about being hurt as well as the subsequent impact on function and independence. Some participants discussed falls becoming a frequent event and a common and pervasive concern; fear, worry, and concern became a daily consequence of poststroke falls. Some participants were fearful that they would fall while out in the community and addressed the embarrassment of a public fall. They were concerned about how they looked while walking around and seemed to be worried about the stigma related to falls and decreased mobility.*** Managing falls and fear of falling in everyday life became an important aspect of poststroke adjustment."

Faes, 2010[36]	Grounded theory approach n=10	"***Patients described social withdrawal and attributed this to their fear of falling and the loss of physical capabilities after falling. Patients recognised that they became (more) dependent on their caregiver after falling. One patient experienced social benefits from her fall, since she now receives more attention from her children***" "P#1 I can't travel anymore because of my limited mobility. I injured my leg in a fall. P#4 I stay at home more often and don't visit my friends anymore. I am afraid to fall when I go out. P#5 My grandson is almost one year old. I still haven't seen his room. His room is upstairs; I am too anxious to fall when climbing the stairs." "Furthermore, ***our findings confirmed the consequences of falls in cognitively unimpaired older persons that are mentioned in the literature; these include a fear of falling and social withdrawal due to the fear of falling and physical limitations***"
Chiu, 2011[37]	Focussed ethnographic approach n=18	"Following their initial fall, it appeared that changes occurred in individuals' independent living and use of informal support networks. While activities of daily living are continued either independently, or with help from ―hourly maids during the rehabilitation period or for longer, ***recreational activities usually were a second priority and were soon discontinued***. Mah-Jong, one of the most popular tile games among Chinese was mentioned by 12 respondents as a favourite pass time. Other social activities mentioned included Cantonese opera, volunteering within their communities, and dim sum with friends. ***After a fall, these activities were interrupted for two main reasons: 1) lack of transportation means and 2) lower mobility capabilities. Feelings of loneliness arose as the respondents felt that they were cut off from their friends***." "Intuitive changes included modifications made to personal behaviours. ***Avoidance behaviour was reported as an intuitive change. Specifically, fallers would avoid outdoor activities***. Other intuitive changes include being more careful ("taking care") when walking and slowing down."
Host, 2011[38]	Phenomenographic approach n=14	"Others ***stopped doing certain activities to avoid falling and they did not choose activities that made them scared and nervous and caused bodily pain. They thus perceived that physical activity was not good and therefore stopped the activity***. The families and the general practitioner (GP) supported their choices. Conversely, some felt that it was a loss if they had to stop activities they had enjoyed because it increased their risk of falling." "***Fall accidents had implications for older people's identity and autonomy, and they could lead to social isolation.***" "Conversely, social interaction in the context of participation in fall-prevention activities was not always welcomed because it placed the respondents in a context in which they did not like to see themselves." "For others, ***support from professionals was important in how they coped with falls*** and their prevention. The GP was a good support when they needed knowledge about appropriate and applicable preventive activities."
Xu, 2019[39]	Thematic analysis n=17	Identified theme of restricted mobility and social participation.

		"***Stroke participants felt that they were restricted after the fall, particularly around having reduced balance, and this affected their mobility functions and degree of social participation***: I am getting worse, especially my balance. I used to walk for a short distance outside, but now I can't. (S7) There was a big difference … I used to walk with walking stick. But I have not been able to walk since that fall. (S8) Last time I could take public transport, go to [central area] and take a walk, now it's too difficult for me. (S1)"

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