Curr Psychiatry Rep
DOI 10.1007/s11920-011-0204-4

Late-life Anxiety Disorders: A Review

Josien Schuurmans · Anton van Balkom

© Springer Science+Business Media, LLC 2011

Abstract Anxiety disorders are a major clinical problem in late life; estimated prevalence rates vary from 6% to 10%, and the disease impact is considerable and equal to that of depression. However, anxiety disorders often remain undetected and untreated in older adults. This discrepancy may be accounted for by a combination of patient variables (eg, a lack of help-seeking behavior and long duration of illness) and variables related to current clinical practice (eg, a lack of knowledge regarding late-life anxiety and ageism). Because anxiety disorders usually have an age at onset earlier in life, patients and mental health professionals may be inclined to attribute the anxiety and avoidance symptoms to personality factors instead of a treatable syndrome. Comorbidity with other psychiatric disorders, such as depressive disorder, may complicate the appropriate diagnosis. Identification may be further obscured because the phenomenology of anxiety disorders in older adults tends to differ from the phenomenology in younger adults. Randomized controlled trials have yielded support for the effectiveness of cognitive-behavioral therapy and serotonergic antidepressants. However, both treatments seem hampered by relatively high dropout rates, and the available data are based primarily on a relatively healthy, well-educated, and "young" older population. The dissemination of knowledge regarding late-life anxiety disorders is vital, as evidence-based treatments are available but are still rarely implemented.

Keywords Anxiety disorders · Anxiety · Aged · Older adults · Late life · Review

Introduction

Until recently, the concept of anxiety in late life had been disregarded in clinical practice and the scientific community. This disregard is still often thought to be justified by the fact that older adults with anxiety disorders rarely present to mental health care settings. In light of these circumstances, it is understandable that clinicians and researchers alike used to believe that anxiety disorders were not very prevalent in late life. However, recent epidemiologic studies have shown that prevalence rates of late-life anxiety disorders are equal to or may even exceed prevalence rates of depressive disorders in late life. Estimates of prevalence rates vary widely due to conceptual and methodologic differences between studies, but most estimates of current (6-month to 1-year) prevalence rates fall within the range of 6% to 10% (Table 1) [1].

When examining prevalence rates for specific types of anxiety disorders, generalized anxiety disorder (GAD) is often referred to as the most common late-life anxiety disorder [2]. When reviewing the literature, one might get the idea that GAD is the only late-life anxiety disorder worthy of discussion. However, a closer look at the available research data shows considerable variation in the prevalence estimates of this disorder, ranging from 1% [3] to 7.3% [2]. Which of these numbers is closer to the truth is a question that has yet to be answered. It has been suggested that due to the diffuse nature of the *DSM-IV*

J. Schuurmans (✉)
Department for Older Adults, GGZinGeest,
Osdorpplein 880,
1068 TD, Amsterdam, The Netherlands
e-mail: j.schuurmans@ggzingeest.nl

A. van Balkom
Academic Department, VU Medical Centre/GGZinGeest and EMGO+Institute,
Amsterdam, The Netherlands
e-mail: t.balkom@ggzingeest.nl

Published online: 03 May 2011

Table 1 The 6-month prevalence of anxiety disorders in mixed-age populations vs older adults

Diagnosis	Mixed-age populations (age <65 years), %	Older adults (age >55 years), %
All anxiety disorders	12.4	6–10
Panic disorder	2.2	1–2
Agoraphobia	0.8–1.6	0.65
Simple phobia	7.1	4
Social phobia	4.8	1.3
Generalized anxiety disorder	1.2	1–7.3
Obsessive–compulsive disorder	0.9	0.6
Post-traumatic stress disorder	0.4	0.9
Hypochondriasis	4.2–6.3	4.2–6.3

Data from Beekman et al. [2], Kessler et al. [18], and Bijl et al. [48]

criteria for GAD, it serves as a convenient miscellaneous category for other more specific anxiety disorders that may simply be overlooked in older adults.

As for other types of anxiety disorders, the current state of knowledge indicates that panic disorder, agoraphobia, hypochondriasis, and obsessive–compulsive disorder are probably equally prevalent in older adults as in the general population of adults younger than 65 years of age. Specific phobias and social phobia appear to be less prevalent in older adults, but as prevalence rates in epidemiologic studies are always an estimate, no firm conclusions can be drawn.

Burden of Disease

Clinical opinion used to proclaim that anxiety disorders in late life were not very serious or incapacitating. In fact, recent studies show that the opposite is true: late-life anxiety has been proven to be just as disabling as late-life depression [4, 5]. Use of somatic health care services (visits to the general practitioner and to medical specialists, hospital admissions) is increased in anxious older adults, while the appropriate use of mental health care services is low [5]. Furthermore, findings from recent studies suggest that anxiety is associated with an increased mortality rate in older men [6] and in frail or chronically ill older adults [7, 8]. Among older adults who have suffered a myocardial infarction, anxiety has been found to be predictive of recurrent cardiac events and increased use of health care services [8, 9]. Anxiety disorders also have been found to be more prevalent in chronically ill older adults [10].

Comorbidity with Depression

Anxiety in late life has been thought to be comorbid with depression or a symptom of mixed anxiety/depression. Indeed, comorbidity between anxiety and depression is high in mixed-age and older populations. However, recent findings indicate that most older adults (74%) with an anxiety disorder do not suffer from comorbid depression, while depression without comorbid anxiety is much less common in late life [11]. Furthermore, mixed anxiety/depression seems to be less prevalent in late life than major depression or anxiety disorders [12]. Comorbidity between anxiety and depression appears to be higher among older adults living in residential care facilities [13]. This study reported a prevalence rate of 4.8% for pure anxiety disorders without comorbid depression, 17.1% for pure depression without comorbid anxiety, and 5.1% for comorbid anxiety disorders with depression. The higher incidence of depression in this group may be explained by several factors, including adaptation to a new residential environment and experiences of loss, which are more common in very old adults and frail older adults (eg, loss of loved ones, loss of control of bodily functions, loss of autonomy).

Anxiety and Dementia in Late Life

Anxiety symptoms, especially late-onset anxiety disorders, often have been labeled as a prelude to or a sign of dementia. This is a seemingly plausible hypothesis, but anxiety disorders and symptoms do not seem to be predictive of cognitive decline in longitudinal studies [14]. Although symptoms of agitation and anxiety frequently accompany dementia, the prevalence of anxiety disorders among individuals with dementia is comparable to the prevalence of anxiety disorders in the general older adult population [15]. In a report on the comorbidity of anxiety disorders in older adults in The Netherlands, no significant association was found between the presence of an anxiety disorder and the presence of cognitive impairment [16]. A recent study of the association between dementia and anxiety even reported that symptoms of generalized anxiety are less common in older adults suffering from dementia

[17]. On a different note, one may wonder whether it is appropriate to diagnose anxiety disorders according to the *DSM-IV* criteria in those who have passed the initial stages of a dementia process. To put it differently, the symptoms accompanying or preceding the onset of dementia are presumably very different in nature than anxiety disorders classified according to the *DSM-IV* criteria. When trying to establish whether anxiety symptoms could be a sign of cognitive decline, it is important to investigate closely the etiology of the anxiety symptoms. Most anxiety disorders in late life have an onset in early or middle adulthood [18], which makes it highly unlikely that there is any connection with dementia.

Age at Onset

There has been some debate over age at onset in late-life anxiety disorders. In some studies, GAD in late life is presumed to have a bimodal distribution, with equal rates of early onset (before age 50 years) and late onset (after age 50 years) [19, 20]. However, these studies established age at onset in patients who participated in intervention studies of late-life anxiety. Those with a shorter duration of anxiety symptoms are probably more inclined to seek help, and these data may not be representative of late-life anxiety disorders in general. In a recent large-scale epidemiologic survey, a late onset of anxiety was found to be much less common [18]. Seventy-five percent of all anxiety disorders are said to have an onset before the age of 21 years, and 95% of all anxiety disorders have an onset before age 51 years. Late onset does appear to be more common for GAD than for other anxiety disorders, with 10% of GAD cases commencing after age 58 years.

Identification of and Referral for Late-life Anxiety Disorders

In light of the high prevalence of anxiety in late life, it is puzzling that only a very small minority of older adults who are referred to mental health care settings are diagnosed with an anxiety disorder. Several factors may contribute to the fact that anxiety disorders are not easily identified in older adults.

One factor that may contribute to the lack of appropriate identification and referral is a lack of help-seeking behavior in older anxiety patients. Because most anxiety disorders appear to have an onset before the age of 21 years [18], one may conclude that most patients have been struggling with anxiety symptoms for decades. Because effective treatments for anxiety have only been developed in the past 20 to 30 years, it is understandable that older adults with a long duration of symptoms who have never been (adequately) treated may not be suddenly inclined to start demanding treatment for their ailment. This is particularly relevant because older adults are probably less informed on the existence of appropriate treatments.

Anxiety in late life also may go unnoticed through effective avoidance behavior. It is probably easier for older adults to avoid certain activities because they have fewer obligations than younger adults, and society readily accepts that older adults may be incapable of physical exercise or of doing their own shopping. People surrounding an older individual (eg, children, neighbors) are probably more likely to relieve the older adult of the burden of certain tasks than they would be when confronted with a younger adult with similar problems. Although it may be well-intended, this helpfulness may contribute to the onset and persistence of avoidance behavior and the camouflaging of anxiety symptoms.

Another related factor contributing to the lack of appropriate identification of and referral for anxiety in late life lies within the (mental) health care profession rather than within the anxious older adult. Ageism is probably involved in the fact that anxiety and avoidance behavior in late life is often interpreted as "normal" or "realistic" and therefore deemed untreatable [21]. For example, when an older person's mobility is affected by arthritis or other age-related ailments, or when an older person trips and falls in the street, it is often considered an appropriate response for that person to be too anxious to leave the house or to travel by bus, train, or tram. On the same note, when we are confronted with an older person who obsesses over the possibility of becoming seriously ill or cognitively impaired, our own fears of what might happen when we grow old may hinder the correct appraisal of such obsessive thoughts as symptoms of an anxiety disorder. Physical conditions and symptoms often play a role in the etiology or worsening of anxiety symptoms in older adults. Because medical comorbidity is more common in late life, the physician is inclined to assign a high priority to the appropriate diagnosis of possible somatic disorders. However, after excluding a somatic condition, the diagnostic enquiry often stops.

Furthermore, the phenomenology of anxiety in late life may be different from that of anxiety in early adulthood: older adults may fear different stimuli or situations or may have a different reason for fearing certain stimuli or situations than younger adults [22]. For example, older adults may show agoraphobic avoidance behavior that is driven by the fear of falling. Similarly, avoidance of social situations may arise from the fear that other people will label one's forgetfulness as a symptom of dementia. Current diagnostic instruments and the *DSM-IV* classification system may not be cut out to identify the specific age-related content of late-life anxiety disorders.

Feasibility and Effectiveness of Treatment

Psychological Interventions

Despite the prevalence and impact of anxiety in late life, the belief that it is not sensible or feasible to undertake a psychological intervention in anxious older adults is still common among general practitioners and mental health care professionals. This belief dates back to the early days of psychoanalytic theory. Freud proclaimed that psychotherapy would not be feasible for an older individual because an individual's psychological flexibility was supposed to diminish through the years, and the amount of material that had to be addressed in the analysis would have become too expansive [23].

In response to this reluctance to treat anxious older adults, a counter movement has been set in motion that holds that the same treatments that have been found to be effective in younger adults can and should be applied to older adults. Research efforts that stem from this counter movement have focused on establishing the effectiveness of cognitive-behavioral therapy (CBT) for late-life anxiety, as empiric evidence suggests that CBT is the most effective form of psychotherapy for anxiety disorders in mixed-age populations [24]. Several studies and several meta-analyses have been published, and they all provide modest support for the effectiveness of CBT for late-life anxiety [25, 26].

However, a few comments must be made. Although late-life anxiety is more often the topic of scientific study in recent years, most available randomized controlled trials (RCTs) still focus on late-life GAD, and very few studies have included other anxiety disorders [27•, 28, 29]. Effect sizes tend to be somewhat smaller than those found in mixed-age populations, but due to the focus on GAD, which is not as responsive to treatment as some of the other anxiety disorders, these results are difficult to interpret. A recent RCT of late-life panic disorder reports similar effect sizes as those reported in mixed-age populations [27•]. However, this is just one small study that needs to be replicated.

Another major point of concern is that intervention studies to date are primarily based on relatively healthy, cognitively unimpaired, and "young" older adults who live independently in their own homes. Therefore, results cannot be extrapolated to the frail, cognitively impaired, and "older" old. Some exceptions exist. Mohlman and Gorman [30] have done some pioneering and successful work in the area of adapting CBT to (mildly) cognitively impaired older adults. Stanley et al. [31•] have adapted CBT for use in primary care facilities to render it more accessible to a wider range of older adults. Veer-Tazelaar and colleagues [32••] have achieved amazing success in implementing and testing a stepped-care model to prevent anxiety and depression in adults older than 75 years of age.

Another point of concern regards the fact that late-life anxiety intervention studies are characterized by an arduous recruitment process and a relatively high early dropout rate. This phenomenon is only partially explained by a lack of appropriate referrals. Treatment refusal and dropout are both important in evaluating the feasibility and effectiveness of a certain type of treatment [33], and the fact that dropout and refusal rates tend to be high suggests that a large proportion of anxious older adults are not readily motivated for treatment at a specialized mental health care facility. Recent intervention studies focus on providing care closer to home—in primary care or in the home environment—with the hope of resolving this issue.

Apart from reflecting on the feasibility of treatment, high dropout rates may lead to a bias in research findings, as dropouts have been found to differ from those who complete treatment in several studies [34]. Finally, because older adults do not readily apply for referral to a mental health care setting, recruitment for late-life anxiety treatment studies is primarily accomplished through media announcements [35, 36]. Media recruitment of participants also carries the risk of biased research findings, as has been put forward by several publications on media recruitment in mixed-age populations [37].

It is often stated that CBT should be modified to accommodate the needs of older adults. This is why CBT in studies of older adults is often provided in a group format [38, 39] rather than the individual format in which it is usually provided to younger adults. The rationale behind this approach is that older adults may be more socially isolated than younger adults and will benefit more from treatment in a group [38]. It is unclear if this rationale is justified or whether it reflects another well-intended form of ageism. In younger populations, group treatment is still often deemed less effective for anxiety disorders than individual treatment. Other recommended modifications for older adults involve a greater emphasis on psychoeducation, increasing patient motivation, and repeating the explanation of new coping strategies. It is often suggested that psychoeducation is more important in older adults because the present older cohort may have unrealistic views of what psychotherapy entails and may also have more trouble identifying and talking about psychological problems. More emphasis on increasing the motivation of patients is presumed to be needed because people often have been living with their symptoms for decades and are reluctant to believe that recovery is possible. Treatment studies all claim to have incorporated some or all of these modifications into their CBT protocols, but no systematic study has been performed to establish if modifications are necessary, and if so, which modifications are needed to improve the effectiveness of CBT for late-life anxiety disorders. Recently, a published study comparing standard

CBT with an adapted CBT protocol for older adults in the treatment of GAD provided some indication that the adapted protocol may yield better results [40]. Adaptations involved the use of learning and memory aids, more attention to the (repeated) explanation of the rationale of treatment, and weekly calls from the therapist to help participants with any problems they may have encountered in doing the homework assignments.

In conclusion, CBT appears to be effective for the treatment of anxiety in older adults, and the state of knowledge does not justify an attitude of therapeutic nihilism. However, the evidence is still mostly limited to specific subgroups of patients (GAD, relatively healthy, well-educated, cognitively unimpaired, relatively young).

Pharmacologic Interventions

The paucity of data on the effectiveness of existing treatments for late-life anxiety is even greater for pharmacologic interventions. Common practice still entails the prescription of benzodiazepines. This is a troubling phenomenon, as the long-term use of benzodiazepines is associated with serious adverse effects, especially in older adults (eg, heightened risk of accidents and falls, heightened risk of cognitive impairment, development of tolerance and addiction) [41].

Furthermore, benzodiazepines are indicated for incidental use when individuals are confronted with infrequent anxiety symptoms, whereas in older adults, anxiety disorders tend to be chronic in nature. In trying to reverse the wide distribution of benzodiazepines among anxious older adults, several authors have warned against pharmacologic treatments of late-life anxiety in general because even the prescription of safer psychotropic drugs, such as selective serotonin reuptake inhibitors (SSRIs), may be problematic in older adults [42]. Recent studies indicate that SSRIs and tricyclic antidepressants may also induce a heightened risk of falls, fractures, and cognitive impairment [43]. On the other hand, a psychological intervention may not always be feasible or successful. In seriously incapacitating cases, when comorbid severe depression is present, and in older adults reluctant to start a psychological treatment, SSRIs can be a suitable alternative. The available data imply that SSRIs are as effective in older adults as in mixed-age populations in reducing anxiety, and that they are generally well-tolerated [20, 44]. One recent meta-analysis even suggests that SSRIs may be more effective in reducing late-life anxiety than psychological interventions [26], but as the available research data are scarce and hampered by various methodologic shortcomings, this conclusion is premature.

From the limited available research data on this topic, no firm conclusions can be drawn with regard to heightened effectiveness or better tolerability for a certain type of SSRI. Older adults generally report that they prefer a psychological intervention, although dropout rates in intervention studies tend to be similar in both conditions. Severely anxious older adults may refuse pharmacologic treatment due to an excessive fear of side effects and addiction. CBT intervention techniques may be used to counter this anxiety [45].

Conclusions

In 2005, the guest editors of the *Acta Psychiatrica Scandinavica* made an appeal for more systematic research into anxiety disorders in older adults [46]. In the meantime, the number of published papers on anxiety disorders in older adults has increased rapidly. More and more has become known regarding the epidemiology, recognition, diagnosis, and treatment of anxiety disorders in late life. These developments have given rise to the creation of evidence-based multidisciplinary guidelines for anxiety disorders in late life [45]. However, data are still scarce and focused on late-life GAD, without much consideration for any of the other anxiety disorders. Research findings to date are also primarily based on the relatively healthy, the well-educated, and the “young.” More knowledge is needed with regard to the phenomenology of anxiety syndromes in older people, as well as long-term treatment outcomes. In addition, no data are available on the implementation of these research findings or on the implementation of guidelines in everyday clinical practice. It is common knowledge that adherence rates to guidelines in clinical practice are relatively low and that adherence yields superior results compared with nonadherence [47]. In 2005, it was concluded that “implementation can only succeed when the gap between researchers and clinicians is bridged successfully” [46]. This conclusion still holds and is a major challenge for both groups of professionals dealing with older patients with anxiety disorders.

Disclosure No potential conflicts of interest relevant to this article were reported.

References

Papers of particular interest, published recently, have been highlighted as:
- • Of Importance
- •• Of major importance

1. Bryant C, Jackson H, Ames D. The prevalence of anxiety in older adults: methodological issues and a review of the literature. J Affect Disord. 2008;109:233–50.

2. Beekman AT, Bremmer MA, Deeg DJ, van Balkom AJ, Smit JH, De Beurs E, et al. Anxiety disorders in later life: a report from the Longitudinal Aging Study Amsterdam. Int J Geriatr Psychiatry. 1998;13:717–26.
3. Grant BF. Prevalence, correlates, co-morbidity and comparative disability of DSM-IV generalized anxiety disorder in the USA: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Psychol Med. 2005;35:1747–59.
4. Wetherell JL, Thorp SR, Patterson TL, Golshan S, Jeste DV, Gatz M. Quality of life in geriatric generalized anxiety disorder: a preliminary investigation. J Psychiatr Res. 2004;38:305–12.
5. De Beurs E, Beekman AT, van Balkom AJ, Deeg DJ, van Dyck R, van Tilburg W. Consequences of anxiety in older persons: its effect on disability, well-being and use of health services. Psychol Med. 1999;29:583–93.
6. van Hout HP, Beekman AT, de Beurs E, Comijs H, van Marwijk H, de Haan M, et al. Anxiety and the risk of death in older men and women. Br J Psychiatry. 2004;185:399–404.
7. Crockett AJ, Cranston JM, Moss JR, Alpers JH. The impact of anxiety, depression and living alone in chronic obstructive pulmonary disease. Qual Life Res. 2004;11:309–16.
8. Strik JLMH, Denollet J, Lousberg R, Honig A. Comparing symptoms of depression and anxiety as predictors of cardiac events and increased health care consumption after myocardial infarction. J Am Coll Cardiol. 2003;42:1801–7.
9. Huffman JC, Smith FA, Blais MA, Januzzi JL, Fricchione GL. Anxiety, independent of depressive symptoms, is associated with in-hospital cardiac complications after acute myocardial infarction. J Psychosom Res. 2008;65:557–63.
10. Kim HFS, Braun U, Kuni ME. Anxiety and depression in medically ill older adults. J Clin Geropsychol. 2001;7:117–30.
11. Beekman AT, de Beurs E, van Balkom AJ, Deeg DJ, van Dyck R, van Tilburg W. Anxiety and depression in later life: co-occurrence and communality of risk factors. Am J Psychiatry. 2000;157:89–95.
12. Schoevers RA, Beekman ATF, Deeg DJH, Jonker C, Van Tilburg W. Comorbidity and risk-patterns of depression, generalised anxiety disorder and mixed anxiety-depression in later life: results from the AMSTEL study. Int J Geriatr Psychiatry. 2003;18:994–1001.
13. Smalbrugge M, Pot AM, Jongenelis K, Beekman AT, Eefsting JA. Prevalence and correlates of anxiety among nursing home patients. J Affect Disord. 2005;88:145–53.
14. Bierman EJM, Comijs HC, Jonker C, Scheltens P, Beekman ATF. The effect of anxiety and depression on decline of memory function in Alzheimer's disease. Int Psychogeriatr. 2009;21:1142–7.
15. Chemerinski E, Petracca G, Manes F, Leiguarda R, Starkstein SE. Prevalence and correlates of anxiety in Alzheimer's disease. Depress Anxiety. 2005;7:166–70.
16. van Balkom AJ, Beekman AT, De Beurs E, Deeg DJ, van Dyck R, van Tilburg W. Comorbidity of the anxiety disorders in a community-based older population in The Netherlands. Acta Psychiatr Scand. 2008;101:37–45.
17. Janzing JGE, van Eijndhoven P. Gegeneraliseerde angst en dementie. een studie naar de effecten van risicofactoren en comorbiditeit. Tijdschr Psychiatr. 2007;49:S103–4.
18. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2005;62:593–602.
19. Le Roux H, Gatz M, Wetherell JL. Age at onset of generalized anxiety disorder in older adults. Am J Geriatr Psychiatry. 2005;13:23–30.
20. Lenze EJ, Mulsant BH, Shear MK, Dew MA, Miller MD, Pollock BG, et al. Efficacy and tolerability of citalopram in the treatment of late-life anxiety disorders: results from an 8-week randomized, placebo-controlled trial. Am J Psychiatry. 2005;162:146–50.
21. Fuentes K, Cox B. Assessment of anxiety in older adults: a community-based survey and comparison with younger adults. Behav Res Ther. 2000;38:297–309.
22. Sheikh JI, Swales PJ, Carlson EB, Lindley SE. Aging and panic disorder. Phenomenology, co-morbidity and risk factors. Am J Geriatr Psychiatry. 2004;12:102–9.
23. Jacobs M. [Psychodynamische psychotherapie]: Psychodynamic psychotherapy. [Leidraad Psychogeriatrie B2]: Guideline Psychogeriatrics B2. Deventer: Bohn Stafleu van Loghum; 1994.
24. Emmelkamp PMG. Behavior therapy with adults. In: Lambert M, editor. Bergin and Garfield's handbook of psychotherapy and behavior change. 5th ed. New York: Wiley; 2004. p. 393–446.
25. Hendriks GJ, Oude Voshaar RC, Keijsers GP, Hoogduin CA, van Balkom AJ. Cognitive-behavioural therapy for late-life anxiety disorders: a systematic review and meta-analysis. Acta Psychiatr Scand. 2008;117:403–11.
26. Pinquart M, Duberstein PR. Treatment of anxiety disorders in older adults: a meta-analytic comparison of behavioral and pharmacological interventions. Am J Geriatr Psychiatry. 2007;15:639–51.
27. • Hendriks GJ, Keijsers GP, Kampman M, Oude Voshaar RC, Verbraak MJPM, Broekman TG, Hoogduin CAL. A randomized controlled study of paroxetine and cognitive-behavioral therapy for late-life panic disorder. Acta Psychiatrica Scandinavica 2010;122:11–9. *This is the only published RCT on the treatment of late-life panic disorder, yielding similar effect sizes for CBT as those found in mixed-age populations.*
28. Schuurmans J, Comijs H, Emmelkamp PM, Gundy CM, Weijnen I, van den Hout HM, et al. A randomized, controlled trial of the effectiveness of cognitive-behavioral therapy and sertraline versus a waitlist control group for anxiety disorders in older adults. Am J Geriatr Psychiatry. 2006;14:255–63.
29. Barrowclough C, King P, Colville J, Russell E, Burns A, Tarrier N. A randomized trial of the effectiveness of cognitive-behavioral therapy and supportive counseling for anxiety symptoms in older adults. J Consult Clin Psychol. 2001;69:756–62.
30. Mohlman J, Gorman JM. The role of executive functioning in CBT: a pilot study with anxious older adults. Behav Res Ther. 2003;43:447–65.
31. • Stanley MA, Wilson NL, Novy DM, Rhoades HM, Wagener PD, Greisinger AJ, et al. Cognitive behavior therapy for generalized anxiety disorder among older adults in primary care: a randomized clinical trial. JAMA 2009;301:1460–7. *This was the first RCT to test the effectiveness of CBT for late-life GAD delivered in primary care facilities; it yielded promising results.*
32. •• Veer-Tazelaar, PJ, van Marwijk HW, van Oppen P, van Hout HP, van der Horst HE, Cuijpers P et al. Stepped-care prevention of anxiety and depression in late life: a randomized controlled trial. Arch Gen Psychiatry 2009;66:297–304. *This RCT tested the effectiveness and feasibility of a stepped-care prevention program for late-life anxiety and depression in adults older than 75 years of age. It yielded impressive results in the successful recruitment of adults older than 75 years of age, as well as in providing evidence for the feasibility and effectiveness of a short problem-solving therapy intervention delivered by nurse practitioners in primary care.*
33. Emmelkamp PMG, van der Hout M. Failure in treating agoraphobia. In: Foa EB, Emmelkamp PMG, editors. Failures in behavior therapy. 1st ed. New York: Wiley; 1983. p. 58–81.
34. Issakidis C, Andrews G. Pre-treatment attrition and dropout in an outpatient clinic for anxiety disorders. Acta Psychiatr Scand. 2004;109:426–33.
35. Akkerman RL, Stanley MA, Averill PM, Novy DM, Snyder AG, Diefenbach GJ. Recruiting older adults with generalized anxiety disorder. J Ment Health Aging. 2001;7:385–94.
36. Wetherell JL, Gatz M. Recruiting anxious older adults for a psychotherapy outcome study. J Clin Geropsychol. 2001;7:29–38.

37. Rapaport MH, Frevert T, Babior S, Seymour S, Zisook S, Kelsoe J, et al. Comparison of descriptive variables for symptomatic volunteers and clinical patients with anxiety disorders. Anxiety. 1996;2:117–22.
38. Stanley MA, Beck JG, Novy DM, Averill PM, Swann AC, Diefenbach GJ, et al. Cognitive-behavioral treatment of late-life generalized anxiety disorder. J Consult Clin Psychol. 2003;71:309–19.
39. Wetherell JL, Gatz M, Craske MG. Treatment of generalized anxiety disorder in older adults. J Consult Clin Psychol. 2003;71:31–40.
40. Mohlman J, Gorenstein EE, Kleber M, de Jesus M, Gorman JM, Papp LA. Standard and enhanced cognitive-behavior therapy for late-life generalized anxiety disorder: two pilot investigations. Am J Geriatr Psychiatry. 2003;11:24–32.
41. Wang PS, Bohn RL, Glynn RJ, Mogun H, Avorn J. Hazardous benzodiazepine regimens in the elderly: effects of half-life, dosage, and duration on risk of hip fracture. Am J Psychiatry. 2001;158:892–8.
42. Nordhus IH, Pallesen S. Psychological treatment of late-life anxiety: an empirical review. J Consult Clin Psychol. 2003;71:643–51.
43. French DD, Campbell R, Spehar A, Cunningham F, Foulis P. Outpatient medications and hip fractures in the US: a national veterans study. Drugs Aging. 2005;22:877–85.
44. Bourin M. Use of paroxetine for the treatment of depression and anxiety disorders in the elderly: a review. Hum Psychopharmacol. 2003;18:185–90.
45. Trimbosinstituut: [Addendum ouderen bij de MDR angststoornissen]. Addendum older adults to the multidisciplinary guidelines for anxiety disorders. www.ggzrichtlijnen.nl.
46. Loebach Wetherell J, Maser JD, van Balkom AJLM. Anxiety disorders in the elderly: outdated beliefs and a research agenda. Acta Psychiatr Scand. 2005;111:401–2.
47. van Balkom AJLM, Oosterbaan D. [Leiden richtlijnen tot een betere klinische praktijk?] Do guidelines improve common clinical practice? Tijdschr Psychiatr. 2008;50:323–8.
48. Bijl RV, Ravelli A, van Zessen G. Prevalence of psychiatric disorder in the general population: results of the Netherlands Mental Health Survey and Incidence Study (NEMESIS). Soc Psychiatry Psychiatr Epidemiol. 1998;33:587–95.