



Psychotherapeutic Treatment Approaches of Anxiety Disorders in the Elderly

Camille Alvarado, D.O., M.P.H.^{1,*} Vania Modesto-Lowe, M.D., M.P.H.²

Address

*,¹University of Connecticut Health Center (UCHC), 263 Farmington Ave, Farmington, CT, 06030, USA
Email: Alvarado@uchc.edu

2Connecticut Valley Hospital, Silver Street, P.O. Box: 351, Middletown, CT, 06457,

Published online: 31 January 2017

© Springer International Publishing AG 2017

This article is part of the Topical Collection on Geriatric Disorders

Keywords Geriatric · Anxiety · CBT · Mindfulness · Acceptance and commitment

Opinion Statement

Anxiety disorders among older adults are fairly common but often go undiagnosed and under treated. Unfortunately, untreated anxiety leads to hastened aging, including increased risk for cardiac morbidity and cognitive impairments. First-line treatments for anxiety disorders are typically pharmacological measures, primarily selective serotonin reuptake inhibitors (SSRIs), and benzodiazepines. However, many patients may not accept medications or may experience debilitating side effects. Additionally, anxiety symptoms may not be entirely addressed by medications alone. All of this points to the need for non-pharmacological treatments. When treating anxiety, cognitive behavioral therapy (CBT) has become the gold standard psychotherapeutic intervention. However, sometimes CBT alone is insufficient in treating anxiety. New innovative approaches, such as mindfulness therapy (MT) and acceptance and commitment therapy (ACT), have been developed to augment CBT and have proven to be beneficial in small studies. Additionally, the skills learned in these novel treatment modalities can continue to be used by older adults in managing anxiety long after the treatment sessions have ended.

Introduction

Anxiety disorders are common among older adults. Excessive worry and ruminations associated with aging, death, pain, and dependency decrease the sense of well-being in the elderly population. However, only a fraction of individuals with anxiety receive treatment

and even fewer have a favorable response to pharmacological treatment. Unfortunately, pharmacological treatment results in a number of unfavorable side effects, including increased risk for falls and cognitive impairment. Therefore, there is an increasing need for non-

pharmacological treatments for anxiety disorders in older adults. This article provides an overview of anxiety disorders in older adults and explores the different psychotherapeutic treatments available, including cognitive behavioral therapy (CBT), mindfulness therapy (MT), and acceptance and commitment therapy (ACT).

Overview of anxiety disorders in geriatrics

Anxiety disorders, whether as a primary diagnosis or comorbid illness, are common and extremely relevant in the geriatric population given their impact on health. It has been proposed that anxiety disorders are associated with hastened aging. Aging-related brain structural and functional alterations appear more prominent in older persons with anxiety disorders. Along with poor cognitive performance in these individuals, changes in gray matter density, white matter alterations, and impaired functional connectivity of large-scale brain networks are also seen [1]. Anxiety disorders are also a risk factor for coronary heart disease, cardiac mortality, comorbid somatic symptoms, and physical disability [2–5]. As a comorbid psychiatric illness, anxiety leads to higher relapse rates, a more severe presentation of depressive illness and poorer social function [6].

The prevalence of anxiety disorders among older adults is high and in fact may be higher than mood disorders across all age groups [7]. In a survey of seven lower- and middle-income countries, prevalence of anxiety disorders in seniors ranged from 2.3–8.9% [8]. Another study reported that the lifetime prevalence of generalized anxiety disorders among geriatrics was 11%, of whom 24.6% reported a first episode after 50 years of age [9].

Additionally, anxiety is often a hidden comorbidity with a number of psychiatric disorders, including depressive disorders. Anxiety and depression are often closely intertwined, with up to 47.5% of those with depression having an anxiety disorder and 26.1% of those with anxiety disorder having depression [10]. In one study, Sami et al. (2015) examined the natural course of anxiety in an elderly population and discovered that when there is a relapse of symptoms, there is a considerable shift to a mixed anxiety and depressive state [11•]. Individuals with anxiety and depression appear to have a poorer prognosis than pure anxiety or pure depression and have higher rates of relapse, lower rates of response to treatment, increased risk of cognitive decline and dementia, and a significant increased risk of suicide [11•, 12, 13].

Despite the prevalence of anxiety disorders in the elderly community, there is considerable under-treatment of this illness. Physicians may have difficulty recognizing anxiety disorders in older patients [11•, 14]. One reason for under-recognition of this illness by primary care physicians and psychiatrists is the symptom profile of anxiety in geriatric populations. In older adults with anxiety, excessive worry was among the least reported symptoms. Being easily fatigued, feeling keyed up or on edge/irritable, experiencing sleep disturbances, difficulty concentrating, and somatic complaints were among the most highly reported symptoms [14, 15]. However, even if an anxiety disorder is diagnosed, only a third of patients (an estimated 36.3%) receive any form of treatment [9, 14]. SSRIs and benzodiazepines are the gold standard psychopharmacologic agents for treatment of anxiety. However, many patients may not tolerate or accept medications [16]. Although antidepressants and benzodiazepines are

efficacious for the treatment of anxiety in the elderly, anxious older adults are sometimes cautious about taking medications due to concerns about side effects. For example, sedative anxiolytics, which are often the first-line medication for many prescribers, place geriatric patients at increased risk for cognitive impairments, functional impairments, and increased risk of falls and hip fractures. Additionally, chronic benzodiazepine use may also be associated with increased risk of dementia [17, 18]. Additionally, for older adults it is important to minimize pill burden and many prefer non-pharmacological strategies. All of this points to the need for psychotherapeutic interventions that can improve anxiety symptoms in older adults without causing significant side effects and compromising quality of life.

Cognitive behavioral therapy

Cognitive behavioral therapy (CBT) is an approach aimed at changing maladaptive thoughts and behaviors that serve to maintain and exacerbate anxiety states. The tenant of cognitive behavioral treatment is that thoughts, feelings, and behaviors are a cycle. The goal of CBT in the context of anxiety is to help patients learn coping strategies for reducing anxiety and worry while simultaneously developing skills to confront feared situations and ending maladaptive cycles. Accordingly, CBT explores the cognitive, behavioral, and physiological processes that contribute to anxiety states in each patient. CBT is meant to identify and restructure anxiogenic cognitive processes (or thoughts that contribute to the anxiety) and encourage more adaptive behaviors [19]. Simply put, if thoughts and behaviors change, feelings like anxiety will also change. In the case of an elderly patient, he or she faces the possibility of having changes in health and functional status as well as death. These fears, while legitimate, may be intrusive and may cause extreme distress particularly in the setting of an anxiety disorder. Such symptomatology may benefit from CBT. Several studies have examined the benefits of CBT for late-life anxiety disorders and have found that CBT is generally efficacious in treating not only anxiety, but also depressive symptoms [20, 21]. Stanley et al. (2009) examined the use of CBT in the primary care setting, where most older adults initially seek treatment for their anxiety symptoms. Older adults were randomized to either CBT, which included cognitive therapy, problem solving skills training, exposure, education and awareness, relaxation training, motivational interviewing, and behavioral sleep management, or biweekly telephone calls where minimal support was provided to ensure patient safety. Individuals who receive CBT experienced greater improvement in worry severity, depressive symptoms, and general mental health compared to patients who simply received biweekly telephone calls [22].

In individuals with combined anxiety and depression, who overall have a poorer prognosis, therapists have begun to incorporate interpersonal skills and spirituality into treatment. Integrated group therapy programs, unlike existing programs, combine a more structured approach to CBT with process-oriented interpersonal therapy, specifically targeting the coexistence of depression and anxiety in the elderly [23]. In regards to religion, some older adults believe it to be an important aspect of their

life. Research has generally found a positive relationship with between spirituality and mental health and the incorporation of spirituality and religion in CBT may improve its acceptability and effectiveness among older adults. Paukert et al. (2009) reviewed a number of studies that examined the effects of integrating religion into CBT for depression and anxiety and discovered that when aspects of a person's religion or belief system were incorporated into CBT there was improvement in depressive and anxiety symptoms earlier in treatment when compared with sole CBT [24].

Given the benefit of CBT treatments in geriatric anxiety disorders, Brenes et al. (2016) researched an innovative way to target individuals living in rural areas with limited access to mental health treatment. They used telephone-administered CBT treatments and found that approximately nine sessions given by graduate or doctoral level therapists decreased pathological worry to a greater extent than the same amount of supportive therapy resulting in a response rate of 72% compared to 43%. Additionally, the study had a good compliance rate with almost 75% of randomized participants completing at least 9 sessions of CBT and participants reporting a high satisfaction rate [25•].

However, a study completed by Gould et al. (2012) demonstrated the need for additional treatment approaches to augment the effectiveness of CBT. In this study, CBT was significantly more effective in reducing anxiety symptoms when compared to treatment as usual or being on a waiting list. However, when compared with an active control condition, CBT was only significantly more effective at reducing anxiety at 6 months, but not at 3 or 12 months. This study confirmed the effectiveness of CBT for anxiety in older adults but also illustrated the need for other treatment approaches to augment CBT and increase the effectiveness of treatment [26].

Mindfulness therapy

Anxiety is often associated with catastrophic thinking and negative feelings such as angst, body sensations, hyperarousal, and avoidance behaviors that are counterproductive. Cognitive behavioral treatment (CBT) remains the standard psychosocial intervention for anxiety disorders including among the elderly; however, like all interventions, CBT may not benefit all elderly with anxiety underscoring the need for novel strategies. Mindfulness therapy (MT) has now been modified for use in various clinical settings to treat anxiety in seniors as an alternate to worrying incessantly about the future [27]. The basic premise of mindfulness includes intentionally focusing on the moment in an unbiased fashion. Mindfulness-Based Stress Reduction (MBSR) is a program that presents the theory of mindfulness and helps individuals cultivate mindfulness through the practice of several types of meditation, e.g., body scan, loving kindness, and mindful breathing [28]. Mindfulness-based cognitive therapy (MBCT) is another adaptation of mindfulness training presented as an eight-session course involving meditation practices learned in session and practiced at home and is combined with the principles of CBT [29].

It has been proposed that MT may assist seniors cope with the somatic, spiritual, and psychological challenges of aging. Lenze et al. (2014)

explored the effects of MT in seniors with intense worry and mild cognitive difficulties. More specifically, they studied four questions: a) acceptability of MBSR, b) whether the curriculum needs to be modified to the cognitive and developmental needs of the sample, 3) MT effects on worry and cognition, and 4) ongoing applications of MT strategies at 6-month follow-up. Thirty-four older adults experiencing significant anxiety and subjective cognitive difficulties were involved. They were assigned to either a traditional eight sessions MBSR or a longer 12-week version that had the same content with more repetition. This study revealed significant reductions in worry and memory symptom, the majority of study subjects maintained their MT practice at 6-month follow-up, and many rated the mindfulness-based strategies as useful to cope with anxiety [30•].

Although this data requires replication in controlled trials, it is consistent with data in adult populations that have shown improvements in worry and rumination with MBSR [31–33]. One retrospective analysis assessed the effects of MBSR training on mood states in seniors. One hundred and forty-one older adults interested in improving their stress management abilities completed the Profile of Mood States-Short Form at baseline and following 8 weeks of MBSR. In a secondary analysis, these investigators analyzed the efficacy of MBSR in seniors that had the most significant anxiety and depression. Results showed a 50% improvement in this subgroup [34].

Subsequently, Rawtaer et al. (2015) explored the effects of art, music, tai chi, and mindfulness for anxiety and depression in a senior Singaporean sample. There were 101 participants (76 females, 25 males) with a mean age of 71. This study showed that these psychosocial interventions were culturally acceptable and led to improvements in anxiety and depression levels which persisted at 1-year follow-up. Although this study was not controlled, it shows acceptability of mindfulness in a different culture as well as persistence of effects post-intervention [35]. Of course, it is difficult to disentangle the active ingredients responsible for the changes since mindfulness was part of a package of interventions. To date, only a few studies on the use of MT for anxiety in the elderly have been conducted and most of these studies had a small sample size to explore feasibility and acceptability. However, these studies show promise for MT as an adjunct intervention to address anxiety.

Although larger controlled studies are required to replicate these findings, some mechanisms by which MT may reduce anxiety have been proposed. From a physiological perspective, MT may alter excessive sympathetic activity associated with anxious states by reducing sympathetic over-activity and augmenting parasympathethic output by vagal stimulation. This improves the physiological aspects of anxiety by shifting the autonomic nervous system balance from sympathetic to parasympathetic, leading to positive changes in anxiety [36]. According to the Segal et al. (2002), the psychological mechanisms by which mindfulness work may also include the notion of decentering [29]. Decentering refers to the process of observing one's own feelings and thoughts in a more detached and objective fashion. Decentering has been described as not believing all of one's thoughts but instead noticing one's beliefs and emotional reactions as temporary and not

overidentifying with them [37]. In other words, patients learn to observe their thoughts, feelings, and emotions as transient events that pass through their mind but not hold on to them as being true or descriptive of them [38]. This enables participants to establish new relationships with their thoughts, feelings, and emotions.

Acceptance and commitment therapy

Acceptance and commitment therapy (ACT) is another acceptance-based approach. ACT aims to help individuals improve their psychological flexibility so that they are able to accept unavoidable events, redirect their energy, and engage in value-based behaviors instead of struggling against aversive psychological events. ACT has been tested for feasibility in elderly populations with anxiety. Wetherell et al. (2011) examined the benefits of ACT in 16 seniors with a principal diagnosis of generalized anxiety disorder (GAD). Seven subjects were provided with 12 weeks of ACT, and nine received CBT. At the end of the study, the ACT group had 100% retention rate and worry and depression significantly improved. These preliminary results are promising and may require further investigation [39].

ACT may also help treat individuals with both depression and anxiety, who traditionally have been more resistant to treatment. Davison et al. (2016) evaluated the efficacy of ACT in improving symptoms of depression and anxiety among long-term care residents. Forty-one residents between the ages of 63 and 97 participated in the study. Participants either received 12 sessions of ACT intervention or were placed on a wait-list control group. Measures of depression and anxiety were collected at baseline and 8 weeks post-intervention. Depression measures were significantly lower for those that received the ACT intervention versus controls, demonstrating promise for ACT in treatment of both anxiety and depression [40•]. Although the number of studies using MT and ACT for anxiety in the elderly is limited, initial findings support the usefulness of MT and ACT for the treatment of anxiety and depression in older adults.

Conclusion

Anxiety disorders are common among older adults as they cope with the many stresses associated with aging. Physicians have traditionally treated anxiety disorders with medications, but as individuals age their pill burden increases as does the potential for side effects. Additionally, medications alone may not entirely treat anxiety symptoms. This pointed to the need for non-pharmacological treatment options for anxiety disorders. CBT has been shown to be beneficial in treatment of anxiety disorders in geriatric patients. Additionally, it has been beneficial in the treatment of anxiety in seniors living in rural areas where access to mental health treatment is limited, potentially demonstrating the promise of CBT taught via telephone to homebound seniors. However, CBT alone is sometimes insufficient for the treatment of anxiety. MT and ACT have shown promise in small-scale studies in the treatment of anxiety disorders and can be used as adjuncts to CBT and medications. The benefit of therapeutic interventions such as CBT, MT, and ACT is that the skills

learned during treatment sessions can continue to be used long after the treatment period has ended therefore improving a person's quality of life for subsequent years.

Compliance with Ethical Standards

Conflict of Interest

Camille Alvarado declares that she has no conflict of interest. Vania Modesto-Lowe declares that she has no conflict of interest.

Human and Animal Rights and Informed Consent

This article does not contain any studies with human or animal subjects performed by any of the authors.

References and Recommended Reading

Papers of particular interest, published recently, have been highlighted as:

- Of importance
- Perna G, Iannone G, Alciati A, Caldirola D. Are anxiety disorders associated with accelerated aging a focus on neuroprogression. Neural Plast. 2016. doi:10.1155/ 2016/8457612.
- Roest AM, Martens EJ, De Jonge P, Denollet J. Anxiety and risk of incident coronary heart disease: a metaanalysis. J Am Coll Cardiol. 2010;56(1):38–46.
- 3. Lenze EJ, Rogers JC, Martire LM, Mulsant BH, Rollman BL, Dew MA, et al. The association of late-life depression and anxiety with physical disability: a review of the literature and prospectus for future research. Am J Geriatr Psychiatry. 2001;9(2):113–35.
- 4. Gale CR, Sayer AA, Cooper C, Dennison EM, Starr JM, Whalley LJ, et al. Factors associated with symptoms of anxiety and depression in five cohorts of community based older people: the HALCyon (healthy ageing across the life course) programme. Psychol Med. 2011;41(10):2057–73.
- 5. Ni Mhaolain AM, Fan CW, Romero-Ortuno R, Cogan L, Cunningham C, Kenny RA, et al. Frailty, depression and anxiety in later life. Int Psychogeriatr. 2012;24(8):1265–74.
- Lenze EJ, Mulsant BH, Shear MK, Schulberg HC, Dew MA, Begley AE, et al. Comorbid anxiety disorders in depressed elderly patients. Am J Psychiatry. 2000;157(5):722–8.
- 7. Byers AL, Yaffe K, Covinsky KE, Friedman MB, Bruce ML. High occurrence of mood and anxiety disorders among older adults: The National Comorbidity Survey Replication. Arch Gen Psychiatry. 2010;67(5):489–96.
- 8. Prina AM, Ferri CP, Guerra M, Brayne C, Prince M. Prevalence of anxiety and its correlates among older

- adults in Latin America, India, and China: crosscultural study. Br J Psychiatry. 2011;199(6):485–91.
- 9. Zhang X, Norton J, Carriere I, Ritchie K, Chaudieu I, Ancelin ML. Generalized anxiety in community-dwelling elderly: prevalence and clinical characteristics. J Affect Disord. 2015;172:24–9.
- Beekman AT, de Beurs E, van Balkom AJ, Deeg DJ, van Dyck R, van Tillburg W. Anxiety and depression in later life: co-occurrence and communality of risk factors. Am J Psychiatry. 2000;157(1):89–95.
- 11.• Sami MB, Niforooshan R. The natural course of anxiety disorders in the elderly: a systematic review of longitudinal studies. Int Psychogeriatr. 2015;27(7):1061–9.
- Wolitzky-Taylor KB, Castriotta N, Lenze EJ, Stanley MA, Craske MG. Anxiety disorders in older adults: a comprehensive review. Depress Anxiety. 2010;27(2):190–211.
- Deluca AK, Lenz EJ, Mulsant BH, Butters MA, Karp JF, Dew MA, et al. Co-morbid anxiety disorders in late life depression: association with memory decline over four years. Int J Geriatr Psychiatry. 2005;20(9):848–54.
- Bland P. Tackling anxiety and depression in older people in primary care. Practitioner. 2012;256(1747):17–20.
- Miloyan B, Pachana NA. Clinical significance of individual GAD symptoms in later life. J Geriatr Psychiatry Neurol. 2016;29(2):92–8.
- Wetherell JL, Lenze EJ, Stanley MA. Evidence-based treatment of geriatric anxiety disorders. Psychiatr Clin N Am. 2005;28(4):871–96.
- Olfson M, King M, Schoenbaum M. Benzodiazepine use in the United States. JAMA Psychiatry. 2015;72(2):136–42.

- 18. Hayashi F, Varvara M, Harsany A, Wong PY, Lantz MS. Benzodiazepines in geriatric outpatients: an action plan to eliminate use and reduce harm. Am J Geriatr Psychiatry. 2015;23(3):S141.
- Beck AT, Emery G. Anxiety disorders and phobias: a cognitive perspective. 15th ed. New York: Basic Books; 2005.
- Hendriks GJ, Oude Voshaar RC, Keijsers GP, Hoogduin CA, van Balkom AJ. Cognitive-behavioral therapy for late life anxiety disorders: a systematic review and meta-analysis. Acta Psychiatr Scand. 2008;117(6):403–11.
- 21. Wuthrich VM, Rapee RM, Kangas M, Perini S. Randomized controlled trial of group cognitive behavioral therapy compared to a discussion group for co-morbid anxiety and depression in older adults. Psychol Med. 2016;46(4):785–95.
- 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(14):1460-7.
- 23. Sochting I, O'Neal E, Third B, Rogers J, Ogrodniczuk JS. An integrative group therapy model for depression and anxiety in later life. Int J Group Psychother. 2013;63(4):502–23.
- Paukert A, Phillips L, Cully JA, Loboprabhu SM, Lomax JW, Stanley MA. Integration of religion into cognitivebehavioral therapy for geriatric anxiety and depression. J Psychiatr Pract. 2009;15(2):103–12.
- 25. Brenes GA, Danhauer SC, Lyles MF, Anderson A, Miller ME. Effects of telephone-delivered cognitive-behavioral therapy and non-directive supportive therapy on sleep, health-related quality of life and disability. Am J Geriatr Psychiatry. 2016;24(10):846–54.

CBT has been proven to be beneficial in the treatment of anxiety. This study examined the use of CBT in rural geriatric populations, showing that CBT could be delivered successfully over the phone. The success of this study suggests the possibility of delivering CBT to homebound individuals.

- Gould RL, Coulson MC, Howard RJ. Efficacy of cognitive behavioral therapy for anxiety disorders in older people: a meta-analysis and meta-regression of randomized control trials. J Am Geriatr Soc. 2012;60(2):218–29.
- 27. Bishop SR. What do we really know about mindfulness-based stress reduction? Psychosom Med. 2002;64:71–83.
- 28. Kabat-Zinn J, Massion AO, Kristeller J, Peterson LG, Fletcher KE, Pbert L, et al. Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. Am J Psychiatry. 1992;149:936–43.
- Segal ZV, Williams JM, Teasdale JD. Mindfulness-based cognitive therapy for depression: a new approach to preventing relapse. New York: Guilford Press; 2002.

30.• Lenze EJ, Hickman S, Hershey T, Wendleton L, Khanh L, Dixon D, et al. Mindfulness-based stress reduction for older adults with worry symptoms and co-occurring cognitive dysfunction. Int J Geriatr Psychiatry. 2014;29(10):991–1000.

This study was the first of its kind to examine MBSR in older adults. It showed the benefit that mindfulness can have not only on anxiety symptoms but also co-occurring cognitive dysfunctions.

- 31. Shapiro SL, Oman D, Thoresen CE, Plante TG, Flinders T. Cultivating mindfulness: effects on well-being. J Clin Psychol. 2008;64(7):840–62.
- 32. Déyo M, Wilson ŘÁ, Ong J, Koopman C. Mindfulness and rumination: does mindfulness training lead to reductions in the ruminative thinking associated with depression? Explore. 2009;5:265–71.
- Jain S, Shapiro SL, Swanick S, Roesch SC, Mills PJ, Bell I, et al. A randomized controlled trial of mindfulness meditation versus relaxation training: effects on distress, positives states of mind, rumination, and distraction. Ann Behav Med. 2007;33(1):11–21.
- Young LA, Baime MJ. Mindfulness-based stress reduction: effect on emotional distress in older adults.
 Complement Health Pract Rev. 2010;15(2):59–64.
- 35. Rawtaer I, Mahendran R, Yu J, Fam J, Feng L, Kua EH. Psychosocial interventions with art, music, Tai Chi, and mindfulness for subsyndromal depression and anxiety in older adults: a naturalistic study in Singapore. Asia Pac Psychiatry. 2015;7(3):240–50.
- Innes KE, Selfe TK. Meditation as a therapeutic intervention for adults at risk for Alzheimer's
 disease—potential benefits and underlying mechanism. Front Psych. 2014;5:40.
- Garland EL, Gaylord SA, Fredrickson BL. Positive reappraisal mediates the stress-reductive effects of mindfulness: an upward spiral process. Mindfulness. 2011;2(1):59–67.
- 38. Allen M, Bromley A, Kuyken W, Sonnenberg SJ. Participants' experiences of mindfulness-based cognitive therapy: "It changed me in just about every way possible.". Behav Cogn Psychother. 2009;37:413–30.
- 39. Wetherell JL, Afari N, Ayers CR, Stoddard JA, Ruberg J, Sorrell JT, et al. Acceptance and commitment therapy for generalized anxiety disorder in older adults: a preliminary report. Behav Ther. 2011;42(1):127–34.
- 40.• Davison TE, Eppingstall B, Runci S, O'Connor DW. A pilot trial of acceptance and commitment therapy for symptoms of depression and anxiety in older adults residing in long term facilities. Aging Ment Health. 2016;4:1–8.

There are a limited number of studies examining the benefits of ACT. This study examined the benefits of ACT in treating both depression and anxiety, which as we have learned are more resistant to treatment.