GUEST EDITORIAL

Late-life anxiety is coming of age

Anxiety is an adaptive human experience that may occur at all ages and serves to help draw attention to, avoid or cope with immanent threat and danger. Given its evolutionary importance, it has strong genetic and biological underpinnings, and when it serves that adaptive function for the organism, anxiety may be viewed as useful. However, complex adaptive systems, such as our adaptation to threat or stress, by definition provide many and often interrelated points of breakdown or dysregulation, which, if sustained, may lead to psychopathology. Anxiety has been described as a common currency for psychopathology, indicating that it is a first line and universal way for us to respond to stress and threat. It is more or less prominent in patients diagnosed with practically all psychiatric or neurodegenerative disorders. This has lead to the inclusion of anxiety as a cross-cutting symptom measure in the development of DSM-5 (APA, 2013). Given that they are rooted in a complex adaptive system that has many potential points of impact to develop pathology, it is not surprising that anxiety disorders are extremely heterogeneous. This heterogeneity of anxiety disorders pertains to symptomatology, etiology and outcomes, and poses great challenges to both research and clinical practice.

Age and aging present a range of adaptive challenges that may cause anxiety. Some of these challenges are similar to the challenges and threats experienced earlier in life, which may translate into risk factors for anxiety that appear independent of age. However, the exposure to known risk factors for anxiety disorders, such as living alone, exposure to physical illness and disability or cognitive decline, changes quite dramatically with age (Wolitzky-Taylor *et al.*, 2010). Moreover there are also specific, age-dependent risk factors that are important to our understanding of late-life anxiety. Therefore, even if our vulnerability to known risk factors for anxiety disorders were stable across the life cycle (which is unlikely), exposure to known risk factors changes with increasing age and requires the specific study of late-life anxiety. Moreover, as medical interventions are allowing people in both the developing and developed world to live longer, albeit with a greater likelihood of chronic illness with increasing age, anxiety and its symptomatology, etiology and outcomes may also be quite different between relatively young-old and the oldest-old populations.

Due to age related developments, anxiety, when provoked, may be expressed differently. This requires novel and age specific diagnostic criteria for anxiety disorders. It may also be that aging is associated with less anxiety. This may be due to older people learning to cope with stress, the change in life perspective rendering common threats less anxiety provoking, selective survivorship of those who are less prone to anxiety or changes in the biological underpinnings necessary to develop frank symptoms of anxiety. It is likely that all three mechanisms are at work simultaneously. There are good reasons to suppose that aging is associated with more- or new-risk factors for anxiety, that there is an age-specific response to threat and expression of anxiety related signs and symptoms, and that aging may be related to resilience or other developments that protect against anxiety. In an individual patient, each, or a number of these three mechanisms may be at work, rendering general statements about late-life anxiety hazardous. The net effect is probably that clinical heterogeneity of anxiety disorders, important at all ages, increases with age.

How should we respond to this? With humility? Yes, both as clinicians and as researchers we should acknowledge the complexity of issues surrounding late life anxiety, guarding against easy assumptions. With curiosity and potentially optimism? Yes, anxiety and anxiety disorders in later life have only recently been discovered as a topic for research and much is yet to be discovered. However, this special issue on late-life anxiety bears testimony to the fact that late-life anxiety has received full recognition as a key area in geriatric psychiatry and that research groups around the world are investing in its deeper understanding.

Four of the papers in this special issue concern the definition and measurement of anxiety in older people. This reflects the idea that the concept of late-life anxiety requires specific attention and that definition and measurement issues are a prerequisite for any scientific exploration. There are many reasons why it is necessary to develop instruments specifically for older people. One set of such reasons pertains to comorbidity and potential

overlap of anxiety related signs and symptoms with those of physical illness, cognitive decline, and depression. Including such items in a scale measuring anxiety would lead to inadvertent over-registration of anxiety symptoms and blurring of clinical boundaries between anxiety, depression, physical illness, and cognitive decline. It is only very recently that instruments devised specifically to measure anxiety and anxiety disorders among older people have been developed and tested. Prominent examples are the Geriatric Anxiety Inventory (GAI, Pachana *et al.*, 2007) and the Geriatric Anxiety Scale (GAS, Segal *et al.*, 2010). Both instruments are put to the test in this issue and both perform very well (Mueller *et al.*, 2015, Johnco *et al.*, 2015). It is interesting that the makers of the two instruments have chosen a different strategy to deal with putative overlap with symptoms of physical illness. Where the GAI was devised to minimize overlap with somatic illness and has deleted items prone to such overlap, the GAS has a somatic symptom subscale, accommodating the existence of somatic symptoms in anxiety disorders. This is a development very similar to what has occurred in instruments designed to measure depression, where instruments such as the Geriatric Depression Scale and the Hospital Anxiety and Depression Scale were designed to delete items sensitive to overlap, while instruments such as the Center for Epidemiologic Studies Depression Scale and the Hamilton Rating Scale for Depression have specific somatic item dimensions. The result is that both researchers and clinicians have a choice of instruments that reliably measure anxiety, while either avoiding symptom overlap or taking care to measure somatic symptoms in a specific dimension of the instrument. These instruments are also now being tested in different healthcare settings and in different languages. This issue of *International Psychogeriatrics* contains a paper demonstrating the validity of a Brazilian–Portuguese translation of the GAI (Nitschke Massena *et al.*, 2015). The content of the items of instruments designed for younger adults may not be appropriate for older people. Examples are items in which fear or avoidance behavior is explored, associated with work situations. The reverse is also true in that there are age-specific and fear related situations that are insufficiently captured using existing instruments. A prime example is fear of falling, an instrument for which is tested for the first time in a large sample of elderly persons recovering from hip fracture in the current issue (Bower *et al.*, 2015). This issue also contains a review of psychological factors associated with falls-related psychological concerns in community-dwelling older people (by Hughes and colleagues), which further explicates

this important topic with respect to late-life anxiety. A final pertinent measurement issue pertains to the length and level of complexity of many instruments that were devised for younger people, rendering them less appropriate for use with older adults. To be appropriate for older people, especially for frail and very old people, instruments should be as short as possible and be devoid of complex answering routines. Very brief versions of all three instruments are available and tested, which will be a great help in their real world, day-to-day administration in geriatric psychiatry.

The paper by Losada *et al.* (2015) links anxiety to the behavioral, social, and physical conditions of older people. Their study convincingly demonstrates that anxiety may be viewed as an ecological condition, correlating strongly with levels of activity, social engagement, and physical health. Given the gradual deterioration of most of these variables with increasing age, one would expect to find a concomitant rise in anxiety with age, especially among more frail and lonely older adults. Hoarding behavior also may arise at any age. It is often a trait-like type of behavior that arises early in life, but may become increasingly prominent over time, developing into a frank disorder only in the fifth decade of life or later. Indeed, the prevalence of hoarding disorders is believed to be three times as high among older persons (Ayers *et al.*, 2015). Although, hoarding is associated with anxiety and depression, it has recently been recognized as a distinct disorder and placed among the spectrum of obsessive-compulsive and related disorders in DSM-5. Nevertheless, this is another example of data suggesting that older people are at risk to experience more anxiety due to their exposure to circumstances that are known risk factors at all ages, in addition to conditions that are specific to later life. Finally, the potential for personality factors to act as potential determinants of comorbid anxiety disorders in late-life depression was explored by van der Veen and colleagues (2015). In their sample, while neuroticism, extraversion, and conscientiousness emerged as determinants of co-morbid anxiety disorders, these and other determinants differed significantly across specific anxiety disorders, highlighting the need for examining such determinants for specific anxiety disorders separately. With the caveats of these studies in mind, the need for longitudinal data looms large, and within this special issue the systematic review of longitudinal studies exploring the natural course of anxiety disorders in later life offers a pertinent addition to the extant literature, highlighting the high risk of relapse and persistence alongside the progression to depression and anxiety depression states.

Given the above arguments pertaining to rising risk factors with increasing age, one might expect extremely high levels of anxiety among the very old. Ribeiro *et al.* (2015) were able to study a group of 97 centenarians to test whether this is indeed the case. They found very high levels of anxiety symptoms and these were associated with both health issues, concerns about financial ability to pay for medical expenses, as well as with levels of social engagement. The findings of these three studies seem at odds with epidemiological studies, suggesting that the prevalence of anxiety is lower among older people when compared with younger adults. How can that be? Worrying is the hallmark of generalized anxiety and provides a window to study whether aging moderates the way we process and experience anxiety related stimuli. In a fascinating experimental study Gould *et al.* (2015) show that, although there are many similarities, older people do seem to experience less anxiety when worrying. This is an example of the type of work that is necessary to disentangle the many still vexing questions about anxiety and aging.

Two of the papers in this special issue deal with potentially important comorbid symptoms presenting with late-life anxiety, which may have ramifications for both diagnosis and detection as well as treatment concerns with older patients. The first paper (by Byrne and colleagues) examines the occurrence of psychotic or quasi-psychotic experiences in older persons with anxiety disorders. This is a largely unexplored area, and preliminary findings from this cross-sectional study using a national mental health survey sample suggest that self-reported delusion-like experiences occur with increased prevalence among community-dwelling older persons with anxiety disorders. One clinical implication of this work is that potentially clinicians seeing older patients with anxiety disorders should be alert to the possibility of comorbid psychotic symptoms in these individuals. The second study (Oude Voshaar and colleagues) again interrogates a large data set in order to explore the characteristics of older patients with an anxiety disorder who died by suicide in comparison to younger patients. The startling finding that anxiety disorders are involved in one of every six older patients who died by suicide, coupled with the lack of effective intervention strategies in older patients, strongly suggests both the need for further research on the topic as well as heightened awareness on the part of clinicians of the link between anxiety in later life and the potential for self-harm.

On this note, treatment considerations are an important element of this special issue, as ultimately this is where effective prevention and intervention may occur. Shrestha and colleagues examined predictors of change in quality of life (QOL) in a randomized clinical trial of cognitive behavioral therapy for GAD relative to enhanced usual care. Their data suggest that QOL improvements vary quite a bit between individuals, and point to psychosocial variables, such as social support and self-efficacy as potentially being avenues to enhancing treatment gains in this age group. Novel interventions are described in the paper by Grenier and colleagues (2015), whereby virtual reality techniques might be used with some success in older populations. Use of such technology may be particularly useful when access to *in vivo* exposure (e.g. to combat fear of flying or of chronic illness) may be less desirable or feasible – exploration of this topic provides both researchers and clinicians with novel ways to surmount treatment barriers. Wuthrich and colleagues (2015) also explored treatment barriers, in this case identifying barriers to seeking help and participating in therapy in a clinical population of older Australians. A pertinent barrier to treatment is their finding that 50% of their sample reported the belief that their symptoms were normal; cost of treatment was reported both as a barrier to seeking help as well as continuing therapy.

This special issue of *International Psychogeriatrics* brings together a fine set of papers, illustrating the state of the art with regard to clinical research on late-life anxiety. We are still in the early phases of developing a firm empirical basis regarding late-life anxiety. The importance of anxiety for the public health of older people is very clear. The development of reliable and valid instruments to measure late-life anxiety is well under way, as are attempts to disentangle its etiology. It is likely that the interventions that we know are effective with younger adults need to be adapted for use among older adults and that studies into the ecology of late-life anxiety, among with experimental work testing age related changes in our processing of anxiety related stimuli will help designing effective age sensitive interventions. This is a great agenda for future work.

Conflict of interest

None.

AARTJAN T. F. BEEKMAN,[1]
RICHARD OUDE VOSHAAR[2] AND
NANCY A. PACHANA[3]

[1]Department of Psychiatry, VUMC and GGZ inGeest, Amsterdam, the Netherlands
[2]Department of Psychiatry, University of Groningen, Groningen, the Netherlands
[3]School of Psychology, The University of Queensland, Brisbane, Australia

References

American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders*, 5th edn. Washington, DC: American Psychiatric Association.

Ayers *et al* (2015). Predictors of hoarding severity in older adults with hoarding disorder. *International Psychogeriatrics* 27, 1147–1156.

Bower *et al* (2015). A new measure of fear of falling: psychometric properties of the fear of falling questionnaire revised (FFQ-R). *International Psychogeriatrics* 27, 1121–1133.

Gould *et al* (2015). Experimental examination of worry among older and young adults. *International Psychogeriatrics* 27, 1177–1190.

Grenier and colleagues (2015). Using virtual reality to improve the efficacy of cognitive-behavioral therapy (CBT) in the treatment of late-life anxiety: preliminary recommendations for future research. *International Psychogeriatrics* 27, 1217–1225.

Johnco *et al* (2015). Psychometric properties of the Geriatric Anxiety Inventory (GAI) and its short-form (GAI-SF) in a clinical and non-clinical sample of older adults. *International Psychogeriatrics* 27, 1089–1097.

Losada *et al* (2015). Behavioral correlates of anxiety in well-functioning older adults. *International Psychogeriatrics* 27, 1135–1146.

Mueller *et al* (2015). Geriatric Anxiety Scale: item response theory analysis, differential item functioning, and creation of a ten-item short form (GAS-10). *International Psychogeriatrics* 27, 1099–1111

Nitschke Massena *et al* (2015). Validation of the Brazilian Portuguese Version of Geriatric Anxiety Inventory GAI-BR. *International Psychogeriatrics* 27, 1113–1119.

Pachana, N. A., Byrne, G. J., Siddle, H., Koloski, N., Harley, E. and Arnold, E. (2007). Development and validation of the Geriatric Anxiety Inventory. *International Psychogeriatrics*, 19, 103–114.

Ribeiro *et al* (2015). Predictors of anxiety in centenarians: health, economic factors, and loneliness. *International Psychogeriatrics* 27, 1167–1176.

Segal, D. L., June, A., Payne, M., Coolidge, F. L. and Yochim, B. (2010). Development and initial validation of a self-report assessment tool for anxiety among older adults: the Geriatric Anxiety Scale. *Journal of Anxiety Disorders*, 24, 709–714.

van der Veen and colleagues (2015). Comorbid anxiety disorders in late-life depression: results of a cohort study. *International Psychogeriatrics* 27, 1157–1165.

Wolitzky-Taylor, K. B., Castriotta, N., Lenze, E. J., Stanley, M. A. and Craske, M. G. (2010). Anxiety disorders in older adults: a comprehensive review. *Depression and Anxiety*, 27, 190–211.

Wuthrich and colleagues (2015). Barriers to treatment for older adults seeking psychological therapy. *International Psychogeriatrics* 27, 1227–1236.