



Nurse-led cognitive behavioural therapy for treatment of anxiety in COPD

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Anxiety disorders are common and debilitating conditions that significantly impair the physical functioning and quality of life (QoL) of patients with chronic obstructive pulmonary disease (COPD). A recent systematic review identified the high prevalence of these disorders in patients with COPD, ranging 6–33% for generalised anxiety, 0–44% for panic disorder, 10–27% for specific phobias, and 5–11% for social phobias [1]. Furthermore, under-recognised or untreated anxiety disorders in COPD patients may reduce the QoL of their caregivers and increase emergency care visits and hospital admissions [1–5]. In 2004, in the European Union, the estimated direct (e.g. hospital admissions and medications) and indirect (e.g. loss of productivity due to absence from work) cost of anxiety disorders exceeded €41 billion per annum [2].

The exact mechanism of how anxiety disorders develop in patients with COPD is not clearly understood, but most likely includes multiple physiological, behavioural and social factors (table 1). Anxiety is characterised by elevated fatigue, irritability, poor concentration and poor sleeping patterns, a feeling of dysphoria or somatic symptoms of tension in patients with COPD [5–8]. Anxiety symptoms such as hyperventilation, frustration, anger and panic can, in turn, heighten the sensation of dyspnoea symptoms [4, 6, 7]. Growing evidence suggests that nonpharmacological intervention with pulmonary rehabilitation (PR) improves exercise capacity, QoL, and anxiety and depressive symptoms in patients with COPD [9, 10]. However, after completion of PR the benefits gradually wane in the succeeding months, partly due to a lack of maintenance therapy as patients fail to adhere to their exercise programmes.

Recent studies demonstrate the value of psychological therapy, with promising results for cognitive behavioural therapy (CBT) in the treatment of depression and anxiety in patients with COPD [11, 12]. CBT is “a time-sensitive, structured, present-oriented psychotherapy directed toward solving current problems and teaching clients skills to modify dysfunctional thinking and behaviour” [13]. This talking therapy is patient-centred and individualised, with specific goals of improving health behaviours and adherence to treatment. In patients with COPD, group CBT reduces patient-reported symptoms, increases exercise therapy, improves QoL, augments adherence to medical treatment and diminishes exacerbations [14, 15]. Despite these benefits, CBT remains underused in COPD patients, partly due to limited access for patients to CBT, and primary care providers not referring patients for CBT due to a paucity of knowledge, excessive waiting time and inadequate provision of psychological services [16, 17]. Furthermore, access to trained CBT therapists in the national health service is scarce. Studies that have been conducted to deliver one-to-one CBT sessions using nurses are relatively small in sample sizes and their efficacy in the treatment of anxiety was inconclusive [12, 18, 19].

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TABLE 1 Variables that contribute to elevated anxiety in patients with chronic obstructive pulmonary disease

Demographic and physiological

Reduced lung function [4, 8]
 Elevated level of dyspnoea [4, 8]
 Lower socioeconomic status [5]
 Hyperventilation [6]
 Female sex [1, 5]
 Sleep disturbance and sleep apnoea [6–8]

Behavioural

Lower body mass index [5]
 Active smoking [5, 8]
 Tobacco addiction [8]

Social

Frustration dependency on caregivers [5, 8]
 Reduced exercise tolerance [1, 4, 5]
 Anger, loss of interest in social interaction [1, 4, 5]
 Social phobia [1, 8]
 Fear avoidance [1, 4]
 Panic [1, 4, 8]
 Stigma [5, 8]
 Severe depression [5]

In *ERJ Open Research*, HESLOP-MARSHALL *et al.* [20] report their findings from an adequately powered, randomised controlled trial of CBT compared to self-help leaflets to treat anxiety in patients with COPD. After 1 year of follow-up, CBT delivered by respiratory nurses (one-to-one therapy, for an average of four sessions) effectively reduced symptoms of anxiety, emergency care and hospital admissions in a cost-effective manner. Fewer respiratory admissions and emergency visits reduced the total mean cost for the CBT patients, more than offsetting the expense of providing CBT. Only the reduction in emergency visit costs, and not respiratory admission costs or total costs, achieved statistical significance due to variability. Nevertheless, a statistically significant improvement in quality-adjusted life-years favoured CBT, rendering intervention with CBT almost certainly cost-effective. HESLOP-MARSHALL *et al.* [20] should be applauded for conducting this large study, and particularly for demonstrating that briefly trained nurses can supervise and implement effective, and almost certainly cost-effective, one-to-one CBT for patients with COPD.

What are the implications of the findings to healthcare professionals who are engaged in caring for patients with COPD and comorbid anxiety? First, CBT effectively ameliorates anxiety symptoms. Healthcare practitioners should consider CBT as a first-line treatment option for COPD patients with mild-to-moderate anxiety. Secondly, CBT appears to be a cost-effective treatment option compared to the usual care (leaflets). Thirdly, briefly trained nurses can deliver effective CBT.

Study strengths include its large sample size, adequately powering the randomised controlled trial design. Sessions were audio taped and scrutinised for fidelity, and a comprehensive cost analysis highlighted the value of CBT. But as acknowledged by the authors, some limitations of the study mean that findings should be interpreted with caution. First, the Hospital Anxiety Depression scale screens for anxiety and depressive symptoms. Therefore, significant anxiety disorders (*e.g.* panic and phobias, which are common in patients with COPD) were not fully examined using the gold standard of a structured psychiatric interview and the criteria of the Diagnostic and Statistical Manual of Mental Disorders. Secondly, it is encouraging to observe that four brief CBT sessions effectively ameliorated clinically meaningful anxiety symptoms, and sustained this benefit for 1 year. Similarly, a recent study demonstrated that a brief CBT intervention in a primary care setting for medically ill veterans with COPD and heart failure reduced comorbid anxiety and depressive symptoms over 1 year [11]. But whether a brief CBT intervention will remain efficacious over the lifetime of a chronic disease such as COPD remains unanswered. Thirdly, some uncertainty remains as to whether “off the shelf,” self-help leaflets sufficiently provide and guide an active intervention. A recent systematic review and meta-analysis of 31 randomised, controlled trials demonstrated the efficacy of self-help in patients with anxiety compared to the waiting list [21]. Furthermore, another systematic review and meta-analysis showed that guided self-help was comparable to face-to-face psychotherapy intervention in reducing anxiety and depressive symptoms in patients with chronic diseases with 1-year follow-up [22]. However, caution need to be exercised when using self-help leaflets for severe and chronic anxiety disorders with a compromise of cognitive deficits and both sight and hearing impairments.

How can we incorporate CBT in routine care? Clinicians should be aware of when to initiate CBT for anxiety disorders in patients with COPD, in relation to other treatment options such as pharmacotherapy (with antidepressants and/or anxiolytics) and PR. Notably in the study by HESLOP-MARSHALL *et al.* [20], over one-third of COPD patients in both CBT and the leaflet control group received antidepressant drug therapy, and a small percentage also received anxiolytic medication, during the intervention period. In addition, over half of the patients had PR prior, during or following either the CBT or leaflet intervention. Thus, the study demonstrated real world clinical practice in the UK, and suggested that the benefit of CBT can be reaped at any point in the management of mild-to-moderate anxiety in patients with COPD.

Additional challenges exist for integrating CBT into routine clinical care. Inadequate resources are available to train adequate numbers of mental healthcare professionals to deliver CBT. HESLOP-MARSHALL *et al.* [20] show that primary care nurses can effectively deliver CBT with modest training. In addition, formal recognition of CBT in the reimbursement scheme for both general practitioners and respiratory specialists may facilitate the appropriate use of CBT for the treatment of anxiety disorders in patients with COPD. They have demonstrated the financial benefits gained by CBT intervention, with behavioural benefits lasting for a year, that also reduce emergency care and hospitalisations in a cost-effective manner.

Which patients are most likely respond to CBT? Patients with cardiopulmonary disease who exhibit greater physical disability and lower self-efficacy (unable to manage their symptoms and maintain functioning) are less likely to respond to anxiety and depressive symptoms after brief CBT [23]. Thus, future studies need to examine the efficacy of booster or maintenance CBT. Moreover, anxiety disorders confer a considerable degree of physical impairment, limited social interactions, dependency on caregivers, high healthcare use, and large societal economic burden due to absence from work [24]. Thus, CBT may be the first step towards reducing cost and improving QoL in patients with COPD.

In summary, HESLOP-MARSHALL *et al.* [20] indicate that brief CBT is feasible and cost-effective for the treatment of anxiety in patients with COPD. Healthcare delivery systems should look for the means to provide this effective therapy to COPD patients.

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