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Cognitive Behaviour Therapy for Panic Disorder in Chronic Obstructive Pulmonary Disease: Two Case Studies

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Abstract. Anxiety symptoms and panic disorder are common sequelae of chronic obstructive pulmonary disease, an illness that primarily affects older adults. The aim of this paper is to describe the application of cognitive behavioural treatment for two patients with chronic obstructive pulmonary disease and co-morbid panic disorder. The patients attended for eight to twelve sessions of cognitive behaviour therapy. Both improved on a range of indices of anxiety and quality of life. Neither patient met criteria for panic disorder at the end of treatment or over the following year. These two cases provide evidence that interventions of proven efficacy for treating panic disorder in healthy individuals can be adapted to treat patients with chronic obstructive pulmonary disease.

Keywords: Panic disorder, old age problems, cognitive behaviour therapy.

Introduction

Chronic obstructive pulmonary disease (COPD), for which cigarette smoking is the primary risk factor, is a leading cause of illness and death worldwide. While the severity of physical symptoms contributes to deteriorating quality of life, symptoms of anxiety and depression also predict impaired quality of life and reduced functional status (Kim et al., 2000). The prevalence of panic disorder in COPD is estimated to be approximately 10 times higher than that of 1.5 – 3.5% for the population in general (Smoller, Pollack, Otto, Rosenbaum and Kradin, 1996). The cognitive model of panic disorder (Clark 1986; Salkovskis, 1988) predicts a high

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prevalence of this disorder in COPD. Dyspnea (shortness of breath) is a frequent experience in the respiratory disease, evoked by progressively lower levels of exertion as the disease progresses. Hence, it is not surprising that, even early in the illness, vulnerable patients may overestimate the imminent threat associated with episodes of exertional dyspnea and learn to fear breathlessness. Anticipatory anxiety then increases breathlessness, and leads to panic attacks even in the absence of physical exertion or acute infection. Although more difficult to diagnose in the presence of respiratory disease, panic disorder is identified in COPD patients by anticipatory anxiety about future panic attacks, and the unexpected and unpredictable nature of at least some panic attacks that do not occur solely in response to situations inevitably causing dyspnea in COPD (Smoller et al., 1996).

There is limited evidence that cognitive behavioural therapy (CBT) can effectively treat COPD-related panic disorder, although further studies are clearly warranted in light of its proven efficacy in treating panic disorder in healthy younger adults (Gould, Otto and Pollack, 1995). The aims of this paper are to illustrate the application of CBT for COPD-related panic disorder, and to describe the adjustments necessary in adapting CBT to this patient group.

Method

Participants

The two cases outlined were selected for this paper as typical of those referred for clinical psychology treatment at the Prince of Wales Hospital in Sydney, Australia.

Case 1. Jill was a 72-year-old widow, living with her son. She had been diagnosed with COPD 15 years previously, and ceased smoking cigarettes 12 years previously. She had no prior history of psychiatric disorder. Her first panic attack had occurred 17 months before referral, when she began to feel very dyspneic and light-headed one day when walking. She had interpreted her symptoms to mean that her heart "could stop beating", leading to death. Her anxiety symptoms had steadily worsened since then. She was experiencing recurrent, unexpected and unpredictable panic attacks, and had been avoiding walking alone, bus travel, and elevators, for several months.

Case 2: Edna was a 77-year-old single woman, living with her elder sister. She had developed increasing dyspnea on physical exertion more than 10 years previously, but was only diagnosed with COPD when hospitalized due to an infective exacerbation of the illness 12 months before referral to clinical psychology. She had ceased smoking cigarettes at that time. She had no prior history of psychiatric disorder. Her first panic attack happened in the context of the initial infective exacerbation, when she began to feel very short of breath at home, and feared that she could stop breathing and die. She had begun to experience recurrent, unexpected panic attacks, in addition to attacks triggered by physical exertion. For several months she had been avoiding shopping malls, crowded places and elevators.

Measures

Panic disorder with a moderate level of agoraphobic avoidance was diagnosed in each case, using the Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV) (Brown, DiNardo and Barlow, 1994). Jill's initial scores (see Table 1) on the Hospital Anxiety Depression Scale (HADS) (Zigmond and Snaith, 1983) anxiety and depression sub-scales, the Anxiety

Sensitivity Index (ASI) (Reiss, Peterson, Gursky and McNally, 1986), and the Interpretation of Breathing Problems Questionnaire (IBPQ) (Sutton, Cooper, Pimm and Wallace, 1999) were all in the clinically significant range, as were Edna's scores on all measures except the HADS depression sub-scale. Both showed significant illness-related disability on the St. George's Respiratory Questionnaire (SGRQ) (Jones, Quirk and Baveystock, 1991), and significant respiratory impairment on pulmonary function testing.

Treatment goals and intervention

The treatment goals agreed with each of the two patients were to reduce anxiety symptoms and specific agoraphobic avoidance behaviours, thereby improving quality of life and functional status. The intervention included the following components for both: psychoeducation, cognitive therapy, breathing retraining, training in activity planning and pacing, and interoceptive exposure. The initial contract was for review of progress after eight sessions. The length of the intervention was determined by each patient's preference at the time of the review, after the likely benefits of further sessions were explained. Additional sessions primarily focused on addressing agoraphobic avoidance with a systematic program of exposure to avoided situations (e.g. physical exercise) and sensations. It was clear that Edna was not sufficiently motivated to complete a more systematic exposure program. As a result, she was only seen for eight sessions. In contrast, Jill was very motivated to engage in avoided activities, including a regular program of exposure (initially accompanied by the therapist, and then alone) to physical exercise, bus travel, and elevators, and was seen for 12 sessions.

Results

Both of the patients appeared to benefit from the cognitive behavioural intervention, although to differing degrees. Table 1 documents the changes on all indices from pre-treatment to post-treatment, and at 6 and 12 month follow-ups.

Treatment outcome

Case 1. Jill was highly motivated to participate in the treatment program, and responded well to all components. By the end of the 12 sessions of cognitive behaviour therapy, her panic disorder and agoraphobia had resolved completely, and she continued to be symptom-free at 12 month follow-up. This improvement was reflected in persisting improvements in her scores on all measures, including disease-specific quality of life.

Case 2. Edna was compliant with most components of the intervention up to the agreed treatment review after session eight. A program of systematic exposure to avoided situations had been initiated, but she terminated this prematurely at treatment review, saying that she was happy to "settle for" the significant improvements already achieved and "didn't have the energy" for a more extensive exposure program. By that time she had recovered from her panic disorder, and was exhibiting mild (rather than the previous moderate) agoraphobic avoidance. She remained slightly anxious when dyspneic, but able to calm herself on these occasions. At 6 and 12-month follow-ups, while panic disorder had not recurred, she was experiencing occasional limited symptom attacks when dyspneic due to physical exertion. Her mild agoraphobic avoidance continued. The improvement in, but not complete recovery from,

Table 1. Psychological and physical measures during treatment and follow-up for the two patients described

	Case 1 (Jill)				Case 2 (Edna)			
	Pre	Post	6 mth	12 mth	Pre	Post	6 mth	12 mth
PA/PD status	PD	No	No	No	PD	No	LSA	LSA
HAD A	17	4	3	4	13	5	5	6
HAD D	10	1	1	1	6	2	4	3
ASI	39	15	16	19	44	41	42	33
IBPQ	15	5	7	8	17	8	8	12
SGRQ	71.2	36	32	29	70	52	39	55
FEV_1	47.7	–	45.0	45.0	63.3	–	78.8	81.8

Notes: LSA = Limited symptom attacks; HADS = Hospital Anxiety Depression Scale. The clinical cut-off scores for the HAD anxiety and depression subscales are: >7 "possible" clinical significances, >10 "probable" clinical significance. Range 0–21 (Zigmond and Snaith, 1983); ASI = Anxiety Sensitivity Index. 35.9 represents the mean score for 764 adult patients with panic disorder, agoraphobia, or panic disorder with agoraphobia. The mean score for non-clinical populations was 19.01 (Peterson and Reiss, 1993); IBPQ = Interpretation of Breathing Problems Questionnaire. 11.25 represents the mean score for severity of catastrophic thoughts from a sample of 16 patients with COPD who experienced panic attacks, while 9.71 was the mean score from a sample of 14 patients who did not experience panic attacks (Sutton, Cooper, Pimm and Wallace, 1999); SGRQ = St. George Respiratory Questionnaire. 55.3 was the mean total score on this questionnaire from a sample of 41 patients with COPD. A score of 100 indicates maximum disability (Jones, Quirk and Baveystock, 1991); FEV_1 = Forced expiratory volume in the first second. Percentage of predicted value for an individual of that age. We would not expect any change in this physiological measure of disease severity as a result of psychological intervention.

her anxiety symptoms is consistent with her incomplete treatment, and her results at follow-up on other indices.

Discussion

The cases outlined illustrate the possible benefits to anxious COPD patients of CBT, and some of the variables that may be associated with good long-term outcomes. One of these variables is the individual's willingness to persist with treatment that fully addresses their situational avoidance behaviour, instead of settling for more limited gains. As for younger adults with panic disorder and agoraphobia, exposure is likely to be a critical component of the CBT intervention. Participation in CBT should be made as easy as possible for this disabled, elderly group, with interventions ideally being provided in patients' homes, or transport to treatment facilities provided.

The treatment program used in these two cases was drawn largely from interventions demonstrated to be effective in the management of panic disorder in younger patients without COPD (Gould et al., 1995). It also incorporated modifications to CBT for effective use with elderly patients. We have found, in particular, that pragmatic approaches to CBT with anxious COPD patients, taking into account the real limitations and dangers they face, are most helpful.

The question they are taught to ask themselves is, "What thoughts fit the evidence I have, *and* will help me to cope better"?

The current treatment approach differed from that usually taken for panic disorder by including tasks that could be conceptualized in healthy individuals as safety seeking behaviours. Theoretical accounts of panic disorder have concluded that breathing management techniques can be seen as examples of safety seeking behaviours, as can consulting medical specialists repeatedly to seek reassurance (Salkovskis, 1988). However, COPD is a terminal illness characterized by increased dyspnea on physical exertion and during acute respiratory infections. This dyspnea has to be managed, and medical interventions are often necessary to stabilize it. Breathing re-training is one important method for self-management of dyspnea in COPD. "Pursed lips breathing" entails slow inhalation through the nose, followed by breathing out through pursed lips. This technique increases airway intraluminal pressure, helping to splint the airways open, and augments patients' sense of control over breathing distress (Mahler, 1996). Similarly, activity pacing and planning also play primary roles in minimizing unnecessary dyspnea in this illness, rather than as ways of avoiding anxiety-related situations. Interoceptive exposure to anxiety provoking physical sensations can be used in the treatment of COPD patients to help challenge beliefs about the danger of these sensations in everyday life. Yet caution is necessary when carrying out such exposure, taking into account severity of current breathing-related symptoms. Hyperventilation exercises should not be carried out during an infective exacerbation of the condition as they may increase respiratory distress and further compromise respiratory function. Consultation with the patient's respiratory physician is therefore required. If COPD patients with panic disorder can learn that the consequences of dyspnea in most situations are not imminently dangerous, then the use of breathing management techniques to provide a sense of some control over dyspnea should not be detrimental to their psychological treatment. Jill's complete remission of symptoms, despite the use of breathing exercises, supports this contention.

Panic symptoms are common in patients with COPD, and as a result a considerable proportion of patients with this life-threatening illness develop comorbid panic disorder (Smoller et al., 1996). COPD patients with anxiety symptoms fare worse than others in terms of their physical function and other health outcomes (Kim et al., 2000). Hence, the management of clinical levels of anxiety in COPD patients is essential. The current results suggest that CBT derived from the treatment of panic disorder in healthy people may be helpfully applied to COPD-related panic disorder. Furthermore, the cases discussed here allow identification of some variables associated with recovery that could form the basis of future controlled studies.

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