



## **UWL REPOSITORY**

**repository.uwl.ac.uk**

Using health psychology techniques to manage chronic physical symptoms

Barley, Elizabeth ORCID logoORCID: <https://orcid.org/0000-0001-9955-0384> and Lawson, Victoria (2016) Using health psychology techniques to manage chronic physical symptoms. *British Journal of Nursing*, 25 (22). pp. 1258-1262. ISSN 0966-0461

10.12968/bjon.2016.25.22.1258

This is the Accepted Version of the final output.

UWL repository link: <https://repository.uwl.ac.uk/id/eprint/3002/>

**Alternative formats:** If you require this document in an alternative format, please contact: [open.research@uwl.ac.uk](mailto:open.research@uwl.ac.uk)

### **Copyright:**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy:** If you believe that this document breaches copyright, please contact us at [open.research@uwl.ac.uk](mailto:open.research@uwl.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.

## Using health psychology to help patients: managing chronic physical symptoms

Chest pain and palpitations, non-malignant pain, breathlessness and fatigue often endure despite the receipt of appropriate nursing and medical care. This is distressing for patients, impacts on their quality of life and ability to function and is associated with high healthcare usage and costs. The cognitive behavioural approach offers nurses a model to understand how people's perceptions and beliefs and their emotional, behavioural and physiological reactions are linked. Common 'thinking errors' which can exacerbate symptom severity and impact are highlighted. Understanding of this model may help nurses to help patients cope better with their symptoms by helping them to come up with alternative more helpful beliefs and practices. Many Improving Access to Psychological Therapy services offer support to people with chronic physical symptoms and nurses are encouraged to sign post patients to them.

In this article, the authors discuss how health psychology can help nurses to help patients to manage physical symptoms which have become chronic. That is those symptoms which continue despite the patient receiving appropriate nursing and medical care. Effective management of chronic symptoms is important for the NHS since patients with such symptoms incur high healthcare costs often through frequent but avoidable use of primary and emergency care (Celano et al, 2016; Kohlmann, Gierk, Hilbert, Brähler and Löwe, 2016; Kroenke, 2014; McDaid and Park, 2015). Nurses in a variety of fields will encounter patients with chronic physical symptoms. Among the most common are non-malignant pain, acute chest pain and palpitations, breathlessness and fatigue. These symptoms, the scale of the problem and their impact is summarized briefly below. We then discuss the dominant health psychology model for understanding chronic symptoms – the cognitive behavioural model.

### Non-malignant pain

Normal tissue healing time is considered to be between three to six months. Non-malignant pain is termed chronic when it has persisted beyond this time and is without apparent biological cause (Mersky and Bogduk, 1994). Chronic pain is extremely common. In one study across 15 European countries and Israel 19% of adults surveyed (n= 46,394) reported chronic pain of moderate to severe intensity (Breivik et al, 2006). Over 25% of adult Americans report chronic pain (National Centers for Health Statistics, 2006). The most common types of chronic pain are musculoskeletal, back, and headache/migraine (Kroenke, 2014; National Centers for Health Statistics, 2006). Chronic pain is associated with impaired quality of life, high levels of psychological distress and reduced levels of employment resulting in economic disadvantage for affected individuals and their families (Breivik et al, 2006). However, management of chronic pain is often less than optimal. Breivik and colleagues reported that a third of the people with chronic pain were not receiving pain management and only 2% were receiving specialist pain treatment (Breivik et al, 2006).

### Chest pain

Chest pain may be due to angina pectoris where insufficient oxygenated blood can reach the heart muscle due to coronary arteries being blocked by atheroma (fatty deposits). Angina, which occurs at rest, worsens (crescendo angina), is severe and new onset may be an indicator of an impending heart attack. This kind of angina is termed unstable or atypical angina. Patients need to be educated about this so that they will seek appropriate and timely help. However, here we are concerned with stable angina (also known as typical angina or effort angina). This kind of angina is predictable, brought on by exercise or emotion, and is often relieved following *pro re nata* [glyceryl trinitrate medication](#) (prn GTN). However, enduring chest pain is common in people with coronary heart disease (CHD). In one UK cohort study (n = 803) of primary care CHD patients, 44% reported current chest pain despite receiving treatment (Walters et al, 2014). Chest pain may also be experienced by

people with normal coronary arteries known as ‘non-cardiac chest pain (NCCP)’ or ‘non-specific chest pain’. Up to 75% of people attending rapid access chest clinics may have NCCP (Debney and Fox, 2011). NCCP is associated with high levels of psychological distress, work absenteeism and impaired quality of life (Fass and Achem, 2011; Parkash et al, 2009; Robertson et al, 2008). The experience of chest pain is similar whether or not chest pain has a cardiac origin (Marks et al, 2014).

### **Palpitations**

Cardiac palpitations may also be experienced by people with or without heart disease (Lee et al 2014). Palpitations are rapid thumping or fluttering sensations in the chest or throat which last from a few seconds to several minutes. Palpitations may be due to an adrenaline surge following emotional excitement or physical exertion, lifestyle factors (eating rich foods, excess caffeine/alcohol, recreational drugs/ tobacco) or panic attacks. They are also commonly associated with anaemia, hypotension (low blood) pressure, thyroid problems, hypoglycaemia (low blood sugar levels), dehydration, menopause, menstruation and pregnancy. Some medications, such as ventolin or thyroxine, may cause palpitations (Lee, Hemingway, Harb, Crake and Lambiase, 2012). Alternatively, palpitations may be due to cardiac arrhythmias. The most common being atrial fibrillation (AF), a risk factor for stroke (Lane et al, 2013). Whatever their origin, palpitations are associated with increased anxiety and reduced quality of life (Hoefman et al 2007, Thrall et al 2006).

### **Breathlessness**

Chronic breathlessness or shortness of breath is associated with a range of conditions including respiratory diseases (for example chronic bronchitis, emphysema, asthma), heart diseases (for example heart failure, coronary heart disease, atrial fibrillation), anaemia, panic attacks and lung cancer. Breathlessness may also occur in the absence of a physiological origin in ‘hyperventilation syndrome’ where the individual breathes too deeply or rapidly. This causes other symptoms including chest tightness, dizziness, tremor and paraesthesia (Jones et al, 2013). In chronic obstructive pulmonary disease (COPD), breathlessness, along with reduced mobility and function, has been found to have the biggest impact on quality of life (Wortz et al, 2012; Barnett, 2005).

### **Fatigue**

Fatigue is extreme or unusual tiredness and represents a continuum from tiredness to exhaustion (Ahlberg et al, 2003). The physiological mechanisms of fatigue are poorly understood (Sharpe and Wilks, 2002) but it is a commonly reported symptom in many long term conditions. It may also be an individual’s main problem, for instance with chronic fatigue syndrome, which has no known or agreed medical cause. The prevalence of persistent fatigue in the general population has been reported to be from 5-20%. In 5-10% percent of primary care patients, fatigue will be the reason for their visit, and a secondary symptom in a further 5-10% (Sharpe and Wilks, 2002).

### **Cognitive behavioural understanding of chronic physical symptoms**

The cognitive behavioural model (CBM) was first proposed to describe human mental distress (Beck, 1967). It describes how people’s perceptions of and beliefs about situations and their emotional, behavioural, and physiological reactions are linked. More recently, CBM has been used to explain the importance of cognitive and behavioural factors in the development and maintenance of common physical symptoms. Symptom management informed by CBM has been found to be effective (Kroenke, 2014). CBM proposes that some thoughts and beliefs unhelpful to the individual, and if changed would facilitate healthier behaviours. These are known as ‘thinking errors’ or ‘cognitive distortions’. Common thinking errors and symptom-specific examples are described in Table 1.

**Table 1: Common thinking errors**

Thinking error	Definition	Symptom-specific example
----------------	------------	--------------------------

Magnification	Over-estimating the seriousness	I am always so tired, there must be something seriously wrong with me
Rumination	Compulsively focusing	I can't stop thinking about this pain, I will never be better
Helplessness	Under-estimating amount of control	I am too breathless to do anything
Catastrophizing	Predicting the worse possible outcome	I have chest pain again, I could have a heart attack at any minute

It is easy to see how the thoughts in table 1 may cause individuals distress and affect their health; this has been demonstrated through research. For instance, in chronic pain a combination of these thinking errors was associated with impaired physical and psychological health and function, worse response to treatment and increased pain intensity (Quartana et al, 2009; Sullivan et al, 2004). People with chest pain or palpitations commonly demonstrate a fear of these bodily sensations and believe that they are always serious/catastrophizing (Jonsbu et al, 2010). In coronary heart disease, non-cardiac chest pain and palpitations, catastrophizing and fear of bodily sensations have been found to be associated with panic, worse health and unnecessary health service use (Furze et al, 2003; Jonsbu, et al 2010).

Panic may also make breathlessness worse. The cognitive behavioural model of panic predicts a vicious cycle of catastrophic misinterpretation of the cause and/or consequences of breathlessness (i.e believing that the breathlessness is worse than it is), which leads to increased fear and sympathetic arousal (Clark, 1986). This in turn exacerbates breathlessness. Carers or other observers of breathlessness and panic may also respond with alarm, due to feelings of helplessness, inadvertently reinforcing the individual's panic and escalating the problem (Howard and Dupont, 2014). Thinking errors also lead to unhelpful behaviours, for example, in people who are experiencing breathlessness, concurrent panic has been linked to overuse of medication, constant over-vigilance for signs of breathlessness and inappropriate use of health services (Heslop and Foley, 2009). Another common but unhelpful behavior is avoiding any activity that may trigger symptoms. The 'Fear-avoidance model' below explains why this happens (Vlaeyen and Linton, 2000).

#### **Fear-Avoidance Model** (Vlaeyen & Linton 2000)

A belief that a symptom means that the body is damaged and that disability will ensue leads to an excessive fear of that symptom and avoidance of any activity the individual believes might cause it (Vlaeyen and Linton, 2000), illustrated in Figure 1.

Figure 1: Example of Fear-Avoidance model



In pain, fear-avoidance is associated with lower tolerance of pain (Verbunt et al, 2010). In fatigue, leads to reduced exercise tolerance leading to a vicious cycle of further deconditioning and inactivity (White et al, 2011). Breathless people have also been observed to avoid any activity which causes breathlessness, resulting in worse health, social isolation, depression, continued smoking and a lack of motivation for self-management (Heslop and Foley, 2009; Livermore et al, 2010).

Furthermore, not being able to perform desired activities may lead to feelings of frustration, particularly the case for 'perfectionists', who have thinking errors such as "I should do more", "I am useless because I can't do anything". In fatigue, these thinking errors may motivate the person to 'push themselves' or overdo things during the times when they are feeling better. This may cause more fatigue requiring increased resting, more frustration and then more 'overdoing of things', known as a 'boom and bust' cycle (Burgess and Chalder, 2009). It is this pattern of behaviour that may prevent people from developing a balanced lifestyle.

## Symptom Management

Understanding of common thinking errors and behaviours associated with chronic physical symptoms has led to the development of effective cognitive-behavioural therapy (CBT) for all the symptoms discussed here:

- Non-malignant pain (Glombiewski et al, 2010)
- Chest pain in people with diagnosed CHD (Lewin et al, 2002)
- Chronic stable angina (Moore et al, 2007)
- Non-cardiac chest pain (Kisely et al, 2012)
- Palpitations (Jonsbu et al, 2010)
- Breathlessness (Coventry and Gellatly, 2008; Howard and Dupont, 2014)
- Fatigue (White et al, 2011)

Protocols for specific symptoms vary, but the CBT approach is to challenge misconceptions that all symptoms are bad and should be avoided. CBT therapists use education, behavioural experiments (helping the patient to test the effect of activity) and opportunities to experience symptoms in a safe

environment (known as exposure, for example from pulmonary or cardiac rehabilitation). Through this, the individual learns to accept and manage their symptoms, leading to less restriction and improved functioning (Farver-Vestergaard, Jacobsen and Zachariae, 2014). In England all nurses can refer patients for CBT to their local Improving Access to Psychological Therapy (IAPT) service, a primary care level talking therapies service for mild to moderate anxiety and depression (Clark, 2012). Many of these services offer specific support for people living with long term physical health conditions. Despite this service being widely available in England there is a low take up from certain groups, particularly those over the age of 65 years and from the BAME community (Brown et al 2014). Nurses can play an important role in helping people who are struggling to manage chronic physical symptoms in accessing this support and a directory of IAPT services is provided on the NHS Choices website (<http://www.nhs.uk/pages/home.aspx>). Nurses may also be able to help patients to cope better with their symptoms by identifying and challenging unhelpful beliefs and by helping them to come up with alternative beliefs which disrupt the fear-avoidance cycle.

## Conclusion

This article focuses on a cognitive behaviour understanding of chronic physical symptoms. Furthermore, as with all chronic conditions, self-management is key. Most symptoms will be improved by losing weight, staying active, taking medications, adhering to treatment regimens such as physiotherapy, and coping with distress. The behaviour change techniques described in our previous articles, and detailed in Barley 2016, will therefore be relevant when managing patients who are experiencing chronic physical symptoms.

## References

- Ahlberg K, Gaston-Johansson F, Mock V (2003) Assessment and management of cancer related fatigue in adults. *The Lancet*. 362:640-50.
- Barley E (2016) *Health Psychology in Nursing Practice*. London: Sage.
- Barnett M (2005) Chronic obstructive pulmonary disease: a phenomenological study of patients' experiences. *Journal of Clinical Nursing*. 14(7):805-12.
- Beck AT (1967) *Depression: Clinical, experimental, and theoretical aspects*. New York: Hoeber. Republished as *Depression: Causes and treatment*. Philadelphia: University of Pennsylvania Press.
- Breivik H, Collett B, Ventafridda V, Cohen R, Gallacher D (2006) Survey of chronic pain in Europe: prevalence, impact on daily life, and treatment. *European Journal of Pain*. 10(4):287-333.
- Brown J S L, Ferner H, Wingrove J, Aschan L, Hatch S L, Hotopf M (2014) How equitable are psychological therapy services in South East London now? A comparison of referrals to a new psychological therapy service with participants in a psychiatric morbidity survey in the same London borough. *Social psychiatry and psychiatric epidemiology*, 49(12), 1893-1902.
- Burgess M, Chalder T (2009). *Overcoming chronic fatigue: a self-help guide using cognitive behavioral techniques*. Robinson: London.
- Celano C M, Daunis D J, Lokko H N, Campbell K A, Huffman J C (2016) Anxiety Disorders and Cardiovascular Disease. *Current psychiatry reports*, 18(11), 101.
- Clark DM (1986) A cognitive model of panic. *Behaviour Research and Therapy*. 24:461–470.

Clark, David M (2012) The English Improving Access to Psychological Therapies (IAPT) Program. Dissemination and implementation of evidence-based psychological interventions: 61.

Coventry PA, Gellatly JL (2008) Improving outcomes for COPD patients with mild-to-moderate anxiety and depression: A systematic review of cognitive behavioural therapy. *British Journal of Health Psychology*. 13(3):381-400.

Debney MT, Fox KF (2011) Rapid access cardiology – a nine year review. *Quarterly Journal of Medicine*. 105:231-4.

Fass R, Achem SR (2011) Non-cardiac chest pain: epidemiology, natural course and pathogenesis. *Journal of Neurogastroenterology and Motility*. 17:110-23.

Farver-Vestergaard I, Jacobsen, D, Zachariae R (2014). Efficacy of psychosocial interventions on psychological and physical health outcomes in chronic obstructive pulmonary disease: a systematic review and meta-analysis. *Psychotherapy and Psychosomatics*, 84(1), 37-50.

Furze G, Bull P, Lewin RJ, Thompson DR (2003) Development of the York Angina Beliefs Questionnaire. *Journal of Health Psychology*. 8(3):307-15.

Glombiewski JA, Hartwich-Tersek J, Rief W (2010) Two psychological interventions are effective in severely disabled, chronic back pain patients: a randomised controlled trial. *International Journal of Behavioural Medicine*. 17(2):97-107.

Heslop K, Foley T (2009) Using cognitive behavioural therapy to address the psychological needs of patients with COPD. *Nursing Times*. 105:18–19.

Hoefman E, Boer KR, van Weert HC, Reitsma JB, Koster RW, Bindels PJ (2007) Continuous event recorders did not affect anxiety or quality of life in patients with palpitations. *Journal of Clinical Epidemiology*. 60:1060–1066.

Howard C, Dupont S (2014) The COPD breathlessness manual: a randomised controlled trial to test a cognitive-behavioural manual versus information booklets on health service use, mood and health status, in patients with chronic obstructive pulmonary disease. *Primary Care Respiratory Medicine*. 24:14076.

Kisely SR, Campbell LA, Yelland MJ & Paydar A (2012) Psychological interventions for symptomatic management of non-specific chest pain in patients with normal coronary anatomy. *Cochrane Database of Systematic Reviews*, Issue 6. Art. No.: CD004101. DOI: 10.1002/14651858.CD004101.pub5.

Kohlmann S, Gierk B, Hilbert A, Brähler, E, Löwe B. (2016) The overlap of somatic, anxious and depressive syndromes: A population-based analysis. *Journal of Psychosomatic Research*, 90, 51-56.

Kroenke K (2014) A practical and evidence-based approach to common symptoms: a narrative review. *Annals of internal medicine*, 161(8), 579-586.

Jones M, Harvey A, Marston L, O'Connell NE (2013) Breathing exercises for dysfunctional breathing/hyperventilation syndrome in adults. *Cochrane Database of Systematic Reviews*, Issue 5. Art. No.: CD009041. DOI: 10.1002/14651858.CD009041.pub2.

Jonsbu E, Dammen T, Morekn G, Martinsen EW. (2010) Patients with noncardiac chest pain and benign palpitations referred for cardiac outpatient investigation: a 6-month follow-up. *General Hospital Psychiatry*. 32:406–412

Lane D, Raichand S, Moore D, Connock M, Fry-Smith A, Fitzmaurice D (2013) Combined anticoagulation and antiplatelet therapy for high-risk patients with atrial fibrillation: a systematic review. *Health Technology Assessment*. 17(30):1-188.

Lee V, Hemingway H, Harb, R, Crake, T, Lambiase P (2012) The prognostic significance of premature ventricular complexes in adults without clinically apparent heart disease: a meta-analysis and systematic review. *Heart*, 98(17), 1290-1298.

Lee Y H, Zhong L, Roger V L, Asirvatham S J, Shen W K, Slusser J P, Cha, Y M (2014) Frequency, origin, and outcome of ventricular premature complexes in patients with or without heart diseases. *The American Journal of Cardiology*, 114(9), 1373-1378.

Livermore N, Sharpe L, McKenzie D (2010) Prevention of panic attacks and panic disorder in COPD. *European Respiratory Journal*. 35:557–563.

Marks EM, Chambers JB, Russell V, Bryan L, Hunter MS (2014) The rapid access chest pain clinic: unmet distress and disability. *Quarterly Journal of Medicine*. 107(6):429-34.

McDaid D, Park A L (2015) Counting all the costs: the economic impacts of poor physical health in people with mental health problems.

Mersky H, Bogduk M and the Task Force on Taxonomy of the International Association for the Study of Pain (1994) Classifications of Chronic Pain: Descriptors of chronic pain syndromes and definitions of pain terms. Second Edition. IASP, Seattle. <http://www.iasp-pain.org/files/Content/ContentFolders/Publications2/FreeBooks/Classification-of-Chronic-Pain.pdf> (accessed 12.6.2015).

Moore, RKG, Groves, DG, Bridson, JD, Grayson, AD, Wong, H, Leach, A, Lewin, RJP, Chester, MR (2007) A brief cognitive-behavioral intervention reduces hospital admissions in refractory angina patients. *Journal of Pain and symptom management*. 33(3):310-316.

National Centers for Health Statistics (2006) Chartbook on Trends in the Health of Americans 2006, Special Feature: Pain. [http://www.cdc.gov/nchs/data/06.pdf](http://www.cdc.gov/nchs/data/hus/06.pdf) (accessed 12/6/2015).

Parkash O, Almas A, Hameed A, Islam M (2009) Comparison of non cardiac chest pain (NCCP) and acute coronary syndrome (ACS) patients presenting to a tertiary care centre. *Journal of the Pakistan Medical Association*. 59:667-71.

Quartana PJ, Campbell CM, Edwards RR (2009) Pain catastrophizing: a critical review. *Expert Review of Neurotherapy*. 9(5):745–758.

Robertson N, Javed N, Samani NJ, Khunti K (2008) Psychological morbidity and illness appraisals of patients with cardiac and non-cardiac chest pain attending a rapid access chest pain clinic: a longitudinal cohort study. *Heart*. 94:e12.

Sharpe M, Wilks D (2002) Fatigue. *BMJ*. 325:480.



Sullivan MJL, Thorn B, Rodgers W, Ward C (2004) Path model of antecedents to pain experience: experimental and clinical findings. *Clinical Journal of Pain*. 20(3):164–173.

Verbunt JM, Smeets RJ, Wittink HJ (2010) Cause or effect? Deconditioning and chronic low back pain. *Pain*. 149:428–430.

Vlaeyen JWS, Linton SJ (2000) Fear-avoidance and its consequences in chronic musculoskeletal pain: a state of the art. *Pain*. 85:317–332.

Walters P, Barley EA, Mann A, Phillips R, Tylee A (2014) Depression in Primary Care Patients with Coronary Heart Disease: Baseline Findings from the UPBEAT UK Study. *PLoS ONE*. 9(6):e98342.

White PD, Goldsmith KA, Johnson AL, Potts L, Walwyn R, DeCesare JC, Baber HL, Burgess M, Clark LV, Cox DL, Bavinton J, Angus BJ, Murphy G, Murphy M, O'Dowd H, Wilks D, McCrone P, Chalder T, Sharpe M; PACE trial management group (2011) Comparison of adaptive pacing therapy, cognitive behaviour therapy, graded exercise therapy, and specialist medical care for chronic fatigue syndrome (PACE): a randomised trial. *Lancet*. 377(9768):823-36.

Wortz K, Cade A, Menard J, Lurie S, Lykens K, Bae S, Jackson B, Su F, Singh K, Coultas D (2012) A qualitative study of patients' goals and expectations for self-management of COPD. *Primary Care Respiratory Journal*. 21(4):384-91.