Clinical question series: invited paper

# Adjuvant Psychological Therapy in Long Term Endocrine Conditions

Daniels, J. [1] & Turner-Cobb, J.M.[2]

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[1] Department of Psychology, The University of Bath, UK
[2]Research Centre for Behaviour Change, Department of Psychology, Bournemouth University, UK

*Requests for reprints should be addressed to Dr Jo Daniels, University of Bath, Department of Psychology, Claverton Down, Bath BA2 7AY, UK, email: j.daniels@bath.ac.uk

**Summary**

Consideration of psychological distress in long term endocrine conditions is of vital importance given the prevalence of anxiety and depression in such disorders. Poor mental health can lead to compromised self-care, higher utilisation of health services, lower rates of adherence, reduced quality of life and ultimately poorer outcomes. Adjuvant psychological therapy offers an effective resource to reduce distress in endocrinological disorders. While the vast majority of work in this area has focused on psychological screening and intervention in diabetes, identification and recognition of psychological distress is equally important in other endocrinological conditions, with supportive evidence in Polycystic Ovary Syndrome and Addison's disease. Referral pathways and recommendations set out by UK guidelines and the Department of Health mandate requires greater attention across a wider range of long term endocrine disorders to facilitate improved quality of life and health outcome.

***Clinical case***

Patient A, a female in her 40s with a diagnosis of well-controlled Addison's Disease presents as reassurance seeking and highly anxious at consultation. Due to anxieties focussed around early detection of infections to prevent Addisonian crisis, Patient A frequently attends the local Emergency Department (ED) at the point at which she detects changes in bodily variations, such as palpitations, dizziness, feeling hot, and physical sensations, which she often interprets as signs of illness. This is accompanied by high levels of psychological distress. In a 12 month period, Patient A had been admitted through the ED on six occasions, with an average of five days per stay. Admission initially decreases distress, however this reinforces use of the ED as a coping strategy. Despite less than 50% of attendances confirming presence of infection, Patient A continues to use emergency services and additional outpatient appointments to reduce anxiety and seek reassurance when she suspects a pending infection. Patient A's distress has become unmanageable.

***Introduction***

Psychological distress in response to significant health problems is not only common but 'normal' and understandable: the disruption to life trajectories and impact on every domain of life makes adjustment difficult. Signs of compromised psychological wellbeing within the medical setting often include behavioural changes such as ineffective self-management, poor attendance to medical appointments and reduced treatment adherence[1]. In clinic, the distressed patient may present as tearful, withdrawn, low in mood, with reductions in sleep and appetite; they may appear anxious/panicky, excessively worried and frequently seeking reassurance, or a combination of these and other symptoms (see box 1). For those most affected, normal day-to-day activities will become a challenge and enjoyment of life will be

much reduced, yet many will present to the clinic with a 'brave' face. Distress is not always immediately evident, but can be revealed with a gentle and general line of enquiry: '*…and how have things been*?' – an important question that should be asked of all of our patients.

Psychological distress has been detected in up to 81% of endocrine conditions, with half representing low mood and a third anxiety related[2]. Prevalence of health related anxiety has been reported as particularly high in endocrine patients compared to the general population[3], which is unsurprising given the potentially life-threatening nature of many endocrine conditions and the importance of hypervigilance to bodily changes and health status.

The reciprocal relationship between physical and mental health is well documented: poor mental health leads to compromised self-care, higher utilisation of health services, lower rates of adherence, reduced quality of life and ultimately poorer outcomes[1]. Thus, long term conditions (LTCs) complicated by psychological distress require additional consideration. A recent report by the Kings Fund Centre for Mental Health[1] suggests that between 12-18% of expenditure associated with LTCs in the UK is linked to poor mental health and well-being; integrated physical and mental health care would undoubtedly better meet the needs of patients and support the UK National Health Service (NHS) to meet the Quality, Innovation, Production and Prevention (QIPP) challenge as recommended. From the patient or clinician perspective, psychological and emotional wellbeing in LTCs has been a growing priority in recent years, with a particular focus on increasing self-management in the community and high quality care for all, including a holistic view of health and mental health[1,4]

***What are the psychophysiological factors to take into account in long-term endocrine conditions?***

The interaction between biological, psychological and social aspects of long term endocrine conditions presents a complex clinical problem: symptoms commonly associated with the psychological presentation of anxiety and depression are similar to those attributed to the physical manifestations of prodromal, acute and sequale phases of an endocrine condition[5]. Indeed, in some cases, diagnosis of endocrine conditions have been overlooked by clinicians when presentation of psychological symptoms have masked changes in underlying physical symptoms[6].

Yet this complexity also provides a potential route to effective treatment. The biopsychosocial framework [7,8], well established in the context of health and clinical psychology offers a theoretical extension to the biomedical model to emphasise the importance of the interplay between biological (e.g. disease state, symptoms), psychological (e.g. mood, cognitions) and social factors (e.g. social support, socioeconomic status) to influence clinical outcomes. Such a framework broadens the ways in which the condition may be treated, provides a perspective that suggests greater potential for positive outcomes and efficacy in treatment[9]. A biopsychosocial approach is particularly prevalent and accepted in pain research for example but has just as much utility in endocrine conditions where a complex interplay between psychological factors and endocrine alteration operates. Central to consideration of the role of psychological and social factors in physical health is the concept of quality of life, a subjective evaluation used to describe how an individual evaluates their life experience at any point in time. Health-related quality of life refers to an individual's subjective experience in relation to the condition or symptoms they are facing (for overview see [10]). There are various ways to assess this subjective evaluation and a range of

standardised questionniares exist (e.g. SF-36[11]; WHOQOL-100[12]) that evaluate different domains including physical functioning, mental or psychological health, and social relationships.

It is well known and accepted that psychological and social (psychosocial) factors, including the experience of and reactivity to stress, typified by an individual's response to the demands of their life situation, can have significant impact on allostatic regulatory mechanisms[13, 14]. Disruption of stress response systems - the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic adrenal medullary (SAM) system - and of the negative feedback mechanisms that underlie them, are not only observed as a result of endocrine pathology. Dysregulation is also seen in individuals experiencing chronic ongoing duress, particularly in the absence of supportive social networks or effective personal coping resources. Psychosocial disruption has been associated with dysregulation of diurnal cortisol patterns leading to lowered resistance to disease across a range of physical conditions including autoimmune[9,15]. Yet there is less documented evidence to describe the exact role of stress in endocrine conditions. Whilst stress may play an intrinsic contributory role in the onset and exacerbation of endocrine conditions such as diabetes[16,17], the important issue in the current discussion is also the extent to which stress reduction may help patients regulate their endocrine condition and influence its ongoing management.

There is evidence that despite cortisol replacement in cases such as Addisons disease, patient experience of stress remains intact and particular aspects of the physiological stress response persist[18]. Although cortisol is administered and controlled synthetically in cases of adrenal insufficiency, simulation of circadian variation in cortisol rhythm presents significant challenges. Glucocorticoid dysregulation resulting from lack of normal cortisol variation can

influence mood (anxiety and depression) and have implications for reduced health-related quality of life across a range of domains including physical and social functioning[19,20]. There is evidence to suggest not only that higher levels of hydrocortisone dosage are assocated with poorer health-related quality of life and mood in patients with adrenal insufficiency but also that manipulation of hydrocortisone administration to two rather than three times per day may be beneficial in respect to these outcomes as this more closely mirrors natural cortisol regulation[20]. That closer simulation of natural circadian rhythms in conditions of adrenal insufficiency is linked to better psychosocial outcomes and that psychosocial outcomes may further influence endocrine regulation and disease course requires further attention. In particular, attention has been drawn to the need for closer simulation of cortisol rhythm to focus on enabling an increase in the pre awakening hours[20]. Such solutions would maximise efficacy of medical regimens and psychosocial outcomes in reciprocal benefit.

***Psychological therapy: what are the guidelines and recommendations?***

The degree to which psychological aspects of wellbeing are considered in the UK National Institute for Care and health Excellence (NICE) guidance varies: Graves' Disease, Hypothyroidism, Addison's disease and Cushing's Syndrome bear no mention of psychological wellbeing, despite known prevalence of depression and anxiety amongst these populations. Guidance for Hyperthyroidism and Polycystic Ovary Syndrome acknowledge the importance of emotional wellbeing, but little more. Guidance for the management of Diabetes recommends significant clinical input and care to address psychological and emotional wellbeing, outlining the necessity for early identification of sub-clinical levels of anxiety and depression, with particular reference to the importance of recognising an emerging eating disorder; guidance stipulates the need for clinicians involved in patient care

to be able to identify and refer on to specialist eating disorders clinics or for psychosexual interventions[21] (see https://www.nice.org.UK for all guidance). However, a recent UK Care Quality Commission paper[22] reported that 76% of patients are not offered psychological help despite recommendations in NICE guidance, with an overarching theme of outstanding need for emotional support voiced by patients. This indicates outstanding clinical need.

The most commonly applied psychological model in treating distress associated with health problems is Cognitive Behavioural Therapy (CBT), which has been found to be effective for a range of physical health problems[23] and is frequently endorsed within NICE guidance. CBT has proven efficacy for common problems found in medical conditions such as mood related issues, anxiety, fatigue and pain[24]. CBT is a time-limited, goal orientated and collaborative intervention which is based on identifying unhelpful thoughts and assumptions which lead to behavioural and emotional responses that precipitate vicious cycles of distress. The intervention itself is individually tailored and formulation driven. For patients with medical problems, the goal of CBT is to adopt active self-management and develop a repertoire of strategies to facilitate positive physical and emotional wellbeing[24]. Other approaches which have demonstrated effectiveness include 'third-wave' cognitive behavioural therapies, including Acceptance-Commitment Therapy and Mindfulness Based Cognitive Therapy.

Psychological interventions are adapted to include disease specific characteristics, however the underpinning theory and clinical approach to treating all distressing bears a commonality: the central role of 'meaning'. This 'making sense' of illness, i.e. what the illness means to the individual and their life at that time, plays a pivotal role in how individuals self-regulate, and how they respond to and manage their health. This self-regulation model initially developed

by Levental and colleagues in the 1980s[25], provides a useful framework for understanding social cognitions in long term illness and devising therapeutic approaches to improve medication adherence and quality of life.

The vast majority of outcome studies examining psychological therapy for endocrine disorders focus on Diabetes. A recent systematic review[26] reported that CBT is effective in treating anxiety, depression and glycemic control in the short term, with data to support long term benefits for depression in Diabetes. There is preliminary evidence to support adjuvant psychological therapy in Polycystic Ovaries Syndrome[27] and Addison's Disease[28], but it is evident that despite clinical need, there are few studies reporting trials of psychological therapy to treat distress associated with endocrine conditions. A randomised controlled trial of CBT for health anxiety in medical conditions, including endocrine patients[29], reported cost-neutral positive outcomes, offering a promising treatment option for patients who experience distress, particularly anxiety, associated with their health. The paucity of evidence in the field should denote outstanding clinical need, rather than lack of efficacy: psychological need in endocrine disorders have been unequivocally established and require addressing[5].

***What is the role of the endocrinologist in assessing psychological wellbeing?***

The role of the endocrinologist in assessing psychological wellbeing is primarily one of vigiliance and as conduit. It is beyond the clinical remit of the endocrinologist to comprehensively assess mental health, however it is possible that the patient experiencing psychological distress may not be seen regularly elsewhere and thus there is a duty of care address an outstanding unmet clinical need (see box 1 for summary overview).

NICE guidance for Diabetes, and further guidance on ‘depression in adults with a chronic physical health problems’ (see NICE.org.UK) indicates that clinicians should routinely and directly ask patients about their emotional wellbeing at every appointment. NICE specifically recommend asking the following questions:

- During the last month, have you often been bothered by feeling down, depressed or hopeless?
- During the last month, have you often been bothered by having little interest or pleasure in doing things?

These questions specifically target low mood, however screening for anxiety related problems is also recommended:

- During the last month, have you often been bothered by feeling worried, anxious or panicky?
- During the last month have you had concerns about your ability to cope with everyday activities?

If the patient responds ‘yes’ to one or more of these questions, NICE recommend considering onward referral for a fuller assessment of emotional wellbeing. Borderline answers should be probed further, and ‘watchful waiting’ employed if patients are not forthcoming yet difficulties are suspected. A brief discussion regarding any history of psychological difficulties will provide meaningful information as to whether a patient would benefit additional closer monitoring by the GP.

Reduced medication adherence, poor attendance and difficulties in effective self-management should all be taken as potential early signs of psychological difficulties, and may act as a trigger to explore the degree to which functioning is compromised, particularly if the clinician believes there is little more that can be done to promote more effective self-management from a service point of view.

Changes in sleep/appetite/mood/function and other signs of psychological difficulties (see box 1.) may also represent the onset of more complex mental health needs, which reiterates the necessity of recognising changes and symptoms early on, as per the NICE guidance, in a bid to optimise outcomes in both physical and mental health.

Routine implementation of standardised screening questionnaires within specialist endocrine settings would identify patients with emerging and existing psychological difficulties in line with UK NICE recommendations for early recognition and assessment. Disorder specific measures such as the Problem Areas in Diabetes Questionnaire (PAID) are useful in assessing the functional impact of struggling to adjust to illness and can be applied to other related conditions. Scales such as these can be used as a baseline measure or ad-hoc to give a measure of emotional distress. Measures commonly used to assess mental health include the Physical Health Questionanire 9 (PHQ-9)[30] and Generalized Anxiety Disorder-7 (GAD-7)[31], which show reliability in physical health settings and due to common use are transferrable across health services. The Hospital Anxiety and Depression Scale (HADS)[32] is specifically designed for use in medical settings and reports cross-specialty reliability. Due to the high prevalence of health anxiety[3] in endocrine disorders and recent evidence indicating the efficacy and cost-effectiveness of psychological interventions in medical clinics[29], the authors suggest Health Anxiety Inventory (HAI)[33] for screening purposes. Previous research has

identified that health anxiety has distinct clinical features which may not be sensitively detected though the use of a generic anxiety measure[34].

The primary purpose of assessing emotional wellbeing on routine basis is to allow for early detection and treatment of a range of difficulties, including more severe and enduring mental health issues. Identification and integration of physical and mental health problems have become a priority on an international scale: recent developments in the USA private healthcare system[35] and proposed actions within the World Health Organisation (WHO) European Mental Health Action Plan[36] also recognise the need for better access and assessment of mental health within physical health.

***Who should be referred for psychological therapy?***

In addition to simple screening questions to triage need for onward referral, other thresholds may apply: referral for psychological therapy should be offered at the point at which patients experience psychological distress that interferes with emotional wellbeing, self-management and when they themselves express the need for additional support in relation to self-management or distress [24.] This is particularly pertinent in cases where residual physical symptoms and psychological distress co-occur as addressing psychological wellbeing is likely to improve rates of physical remission[1]. The threshold for referral for a more specialist assessment to may appear low (i.e. feeling bothered by low mood/worry, reduced enjoyment and activity) however, research indicates that compromised psychological functioning significantly impacts effective self-management and thus these initial symptoms bear gravitas; NICE and WHO indicate that early detection and intervention is essential for better outcomes long term.

For more acute and severe mental health difficulties such as hearing voices, unshakeable or unusual beliefs, hallucinations, mania, risk/suicidal despair, patients should be refered to the GP on an urgent same day basis to ensure onward referral for specialist mental health assessment due to risk management issues.

Communication between services is vitally important to the success of integrating physical and mental health[5], therefore it is essential that information regarding patient wellbeing is communicated to the GP in routine letters, including questionnaire data where available.

***What services are available for the endocrine patient who experiences psychological difficulties?***

The UK NHS Mandate[37] emphasises the importance of a smooth transition between services, which requires front line clinicians to possess the skills of detection and knowledge of services available. Indeed, the consideration of adjuvant psychological therapy in long term endocrine disorders has come at a timely point; the NHS landscape is now populated with a range of options for individuals who require the integration of both physical and mental health.

The Improving Access to Psychological Therapies (IAPT)[38] movement has evolved to deliver stepped care psychological support for individuals who experience anxiety and depression with a co-morbid long term health problem, integrating physical and mental health[38.] Due to the recent evolution of IAPT service into the LTC sphere, there is no data available from larger follow-up studies. Psychological therapies delivered by IAPT are underpinned by

empirically grounded evidence based treatments and endorsed by NICE, however the successful adaptation to LTCs is yet to be evidenced in respect to long term outcomes or disease specific outcomes.

Where available, pathways to these services are usually through general practitioner referral, with some local services offering self-referral. The stepped care model implies a 'least intervention first time' approach, where patients can progress through steps of psychological therapy which increase in intensity at each stage, and are limited to the recommended treatment duration (dependent on the presenting problem). The waiting times for IAPT services is set on a national level, with 3 days from first referral to booking an assessment, 10 days from referral to assessment and a further 4 weeks to interventions.

Clinical and health psychologists are often attached to specific medical specialities and offer an in-house option; they are able to provide highly specialised assessment and interventions tailored to the individual needs of medical patients presenting with a broad range of psychological distress, however availability will again vary depending on locality. Models of working are usually more flexible within clinical health psychology services, offering less contraints around clinical sessions available, and the option of multi-disciplinary working, which is usually not the case in IAPT. Assessment and treatment target waiting times for clinical health psychology services may be set on a local or service level, or confer to NHS England's 18 week target but in reality patients are seen sooner. Stepped care working can also be seen in clinical health settings as they are in IAPT, with equivalent bibliotherapy, group work and individual therapy options emerging.

In contrast to the IAPT LTC services, clinical and health psychologists are usually embedded within a medical setting and hold specialist expertise pertaining to that difficulty; this is not the case in IAPT LTC services where the dominant focus is mental health needs within the context of health problems. Indeed, while Diabetes has been identified as a target group for IAPT LTC, specialist knowledge of the aforementioned psychophysiology of the endocrine system is unlikely to be available. Notwithstanding this, IAPT LTC services represent a movement towards acknowledging the psychological impact of physical health problems: a highly skilled and efficient workforce and services underpinned by evidence-based approaches should be embraced as an additional tool to support those struggling to adapt to illness, particularly given impressive wait list targets.

In addition to IAPT services and clinical and health psychologists in health settings, community mental health and services are also available for patients who are experiencing severe and enduring mental health problems, and should be accessed through the GP. While clinical and health psychologists embedded within medical settings are highly trained to work therapeutically integrating physical and mental health care, if mental health is considered the dominant concern (as opposed to physical health), then a referral back to the the GP for mental health assessment would be prudent to complement and optimise physical healthcare.

***Clinical case: outcome***

Patient A was referred to a clinical health psychologist working in an acute hospital setting. A brief 12-session course of CBT focussing on health related anxiety yielded reliable and clinically significant outcomes in respect to reductions in psychological distress and health service utility: in the 12 months following intervention Patient A

was admitted to the ED on zero occasions and maintained routine hospital attendances[22].

***Conclusions***

Psychological distress in long term endocrine conditions is common and associated with compromised quality of life, elevated use of health services and poorer health outcomes.

Due to the complex interplay between biological, psychological and social factors in endocrine disorders, symptoms associated with anxiety and depression could easily be missed by clinicians. Anxiety and depression are amenable to psychological therapies with or without a physical health problem, with vast bodies of research underpinning the application of psychological theory to health problems. Psychological therapy is increasingly accessible through IAPT services or clinical health psychology in medical settings in the UK, however the availability of all psychological and mental health services vary within the UK and throughout Europe[39] and the USA[35] despite similar underpinning principles of better integrating physical and mental healthcare[40].

Identification and early detection of psychological difficulties should be considered as part of the core business of clinicians in endocrinology: the true integration of physical and mental health is vital to the optimisation of outcomes[1]. This can be achieved through implementation of brief screening measures, an awareness of services and referral pathways and, most importantly, a compassionate approach to each individual patient and their needs. Distress, here, is normal.

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**Box 1.**

*Signs and symptoms associated with psychological distress*

- Low mood, tearful, hopelessness
- Excessive worry, anxiety/panic
- Lack of interpersonal engagement
- Poor sleep and/or appetite
- Poor treatment adherence
- Repeated clinic non-attendance
- Problems carrying out normal day-to-day tasks
- Reported difficulties in effective self-management
- Reduced self-efficacy and functioning
- Poor self-car (e.g. dressed inappropriate to weather, unkempt)

*The role of the endocrinologist:*

- Vigilance to signs of psychological distress
- Assess emotional wellbeing using NICE recommended screening questions and routine clinic review
- Consider routine use of screening questionnaires to inform assessment of wellbeing
- Routinely communicate information relating to emotional wellbeing to GP as case holder
- Awareness of services and pathways for patients who warrant adjuvant psychological therapy
- Refer to GP if onward referral for psychological therapy or mental health assessment if indicated