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Empirical Research

The chronic illness acceptance questionnaire: Confirmatory factor analysis and prediction of perceived disability in an online chronic illness support group sample

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ABSTRACT

Chronic illnesses and health conditions are among the most frequently diagnosed illnesses and costly in health care systems worldwide. Patients seek "simultaneous" medical care for multiple chronic illnesses and related symptoms. In this study, a measure of Acceptance commonly utilized in chronic pain populations (Chronic Pain Acceptance Questionnaire) was adapted for application with patients with heterogeneous and often co-morbid chronic illness diagnoses. The online chronic illness support group sample participants ($N=413$) ranged in age from 20–84 years [Mean age=53.18 (12.39)] and were diagnosed with 1–7 ($M=2.36$; SD$=1.39$) chronic illnesses. The Chronic Illness Acceptance Questionnaire (CIAQ) showed adequate-to-good fit to the data. For the two factor CFA model, the RMSEA$=0.078$ (90% CI$=0.071$–0.085). The items of the two parallel measures appear to tap similar acceptance dimensions or subscales – Willingness and Activity Engagement. Additionally, the two CIAQ subscales significantly predicted illness-related disability ratings in this sample. Taken together, results suggest further study may yield ecologically valid approaches to ACT based assessment and intervention in medical settings wherein patients seek treatment for multiple health concerns.

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1. Introduction

Chronic illnesses and health conditions (i.e., noncommunicable diseases) are among the most frequently diagnosed illnesses and, inarguably, among the most costly in health care systems world-wide. Globally, they are the leading cause of death with most deaths as a result of cardiovascular diseases, diabetes, cancers and chronic respiratory diseases. It is estimated that over the next 20 years, noncommunicable diseases will cost more than $30 trillion US dollars, representing nearly half of the 2010 global gross domestic product (Bloom et al., 2011; WHO, 2011). In the US, it is estimated that almost 1 in every 2 adults has at least one chronic illness (Wu & Green, 2000). The commonality among all of these illnesses is the direct impact of lifestyle behavior and psychosocial factors as important contributors to the disease course.

Empirically supported behavioral/cognitive behavioral assessments and interventions have been utilized in management of chronic illness and pain with modest-to-good outcomes. Nonetheless, there is considerable room for improvement in assessment and treatment of

these pervasive problems in health care and community settings (Starfield, Lemke, Bernhardt, Forrest, & Weiner, 2003). Recently, there has been an increased focus on outcomes that extend beyond symptom reduction (e.g., depression) and toward enhanced functional outcomes across a variety of domains in patients with chronic pain and illness (McCracken, 2011, McCracken & Vowles, 2014).

1.1. Purpose of the present study

Given the commonalities of ongoing behavioral management of chronic pain and chronic illness conditions, we sought to adapt a measure of Acceptance commonly utilized in chronic pain populations for application with patients who have more diverse, heterogeneous and often co-morbid chronic illness diagnoses. Moreover, we wished to examine the predictive role of chronic illness acceptance and other key predictors in perceived illness related disability.

1.2. Perceived disability

Perceived disability, the degree to which an individual sees himself or herself as being disabled as a result of illness or symptoms related to a chronic condition (Pollard, 1981), has been studied extensively in chronic pain populations (Arnstein, Caudill, Mandle, Norris, & Beasley,

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1999). Perceptions about one's disability attributed to illness is a critical component of patient functional outcome. For example, Alschuler, Theisen-Goodvich, Haig, and Geisser (2008) found that higher rating of pain intensity was associated with greater *perceived* disability, but not objectively rated disability as measured by a physical performance test. Lofland et al. (1997) found that perceived disability predicted improvement in activity level and overall function in chronic pain patients who participated in a multi-disciplinary pain intervention program. Specifically, after controlling for depression symptoms, lower perceived disability was related to higher standardized functional capacity tests (e.g., measures of physical strength and range of motion), as well as increased daily activity.

The primary focus of chronic illness management is often not disease cure or symptom abatement. Rather, the focus is on living "well" with and functioning optimally with chronic illness and the related symptoms. As such, there is greater emphasis on ways in which patients may feel they are disabled as a result of their illness-related symptoms because feeling disabled appears to be more related to function than the actual presence or absence of symptoms (World Health Organization, 2013). In some cases, perceived disability has been defined as a "proxy" for functional outcomes in online chronic pain support group samples (Herbst, Beacham, Payne-Murphey, Crafton, & Katsikas, 2010).

1.3. Acceptance and mindfulness

Acceptance and mindfulness based interventions (e.g., Acceptance and Commitment Therapy; ACT) have shown considerable promise in chronic pain populations (McCracken, Vowles, & Eccleston, 2004, 2005; McCracken, Vowles, & Zhao-O'Brien, 2010; Vowles, McCracken, & Eccleston, 2008). Within an ACT approach, the overarching goal is to increase "psychological flexibility," thus fostering adaptive responding across different contexts. In essence, persons with higher levels of flexibility more readily adapt to myriad internal and external cues, resulting in the ability to live a life guided by one's values, including experiences of pain, illness, and other difficulties as part of this process. For a more extensive review of ACT theory and core processes see Hayes, Strosahl, and Wilson (1999, 2012).

One especially important core process related to psychological flexibility is Acceptance. Defined as "the voluntary adoption of an intentionally open, receptive, flexible, and nonjudgmental posture with respect to moment to moment experience" (Hayes et al., 2012, p. 272). Acceptance in chronic pain patients, has been regarded as "willingness to experience pain without attempting to reduce or avoid it" (Vowles, McCracken, McLeod, & Eccleston, 2008). In studies of chronic pain, Acceptance has been defined as being comprised of two factors: Activity Engagement (a commitment to engaging in valued activities even in the face of illness related symptoms) and Willingness (a willingness to experience sometimes painful or aversive symptoms if it means being able to participate in valued life activities). Both facets of Acceptance are considered key processes in the development of psychological flexibility (McCracken, 2010).

Overall, Activity Engagement and Willingness factors of chronic pain Acceptance have singularly and together been shown to be strongly associated with key predictors of medical, behavioral, psychosocial and functional outcomes (McCracken & Velleman, 2010; McCracken et al., 2010; Vowles et al., 2008). In recent survey studies among online chronic pain support group members, both Activity Engagement and Willingness were inversely related to ratings of perceived disability across domains – including family, occupation, education, recreation and relationships. Acceptance has, likewise, been a key factor in positive outcome in patients with other chronic illnesses/conditions and associated risk factor modification including diabetes (Gregg, Callahan, Hayes, & Glenn-Lawson, 2007), obesity (Lillis, Hayes, Bunting, & Masuda, 2009), and smoking cessation (Gifford et al., 2004).

1.4. Comorbid chronic illness presentations

In medical settings, patients do not typically present for treatment with one single, predominant chronic illness condition. Rather, most patients visit their health care practitioners with multiple medical comorbidities and a constellation of behaviorally linked illness risk factors (Grumbach, 2003). When patients attend a health care appointment, they are seeking consultation and care for all of their conditions at one time (Grumbach, 2003; Starfield et al., 2003). In fact, visits for comorbidities outnumber visits for any single condition. For example, a patient with Type 2 diabetes may also have diagnosed hypertension, cardiovascular disease, and obesity with a sedentary lifestyle and a host of dietary factors – all of which are inextricably connected with each singular diagnosis. Logically, patients seen in the health care system are seeking help from their providers for treatment of the whole experience of their illness(es).

Disease or symptom specific approaches (e.g., programs with one target such as diabetes, pain, asthma) to patient care and the identification of meaningful outcomes may prove to be too reductionistic and inadequate in patient-centered care. The dilemma for health care providers treating these patients often becomes whether to similarly parse out assessment and intervention to smaller singular targets (e.g., chronic pain, diabetes) or to assess and intervene within the patient experience as a whole – that is, the total experience of myriad illness related symptoms simultaneously. Therefore, it is necessary, but not sufficient, to define and measure psychological symptom reduction (e.g., depression) as a singular meaningful treatment outcome in patients suffering from chronic illnesses. Rather, functional impairment/status of patients across many life domains should be considered an overarching primary outcome for chronic illness management.

There is currently a gap in assessment measures that could aid in both assessment and/or screening in patients with varied and co-morbid chronic illnesses. The majority of work in this area of study has had a primary focus on singular symptoms and/or chronic illness diagnoses. As such, the purpose of this study is to (1) adapt the Chronic Pain Acceptance Questionnaire (CPAQ) for use with a chronic illness population (Chronic Illness Questionnaire; CIAQ) and (2) examine the role of chronic illness acceptance with other ACT model components as predictors of an indicator of outcome (i.e., perceived disability).

2. Methods

2.1. Participants and procedures

Study participants were recruited through online chronic illness support groups. Online venues were *Yahoo!* illness specific support groups. The inclusion criteria included the following: (a) being 18 years of age or older; (b) be able to read in English, and (c) be a member of an internet-based chronic illness support group; (d) have a chronic health condition for at least three months. The groups targeted were those which the stated mission was to offer support for persons who self-identify as having been diagnosed with a chronic illness (e.g., diabetes, CVD, COPD, Fibromyalgia) or symptoms (e.g., pain such as chronic pelvic pain).

Participant recruitment. In all, a total of 296 groups with a total of 176,243 members were contacted and 73 groups with a total of 41,957 members granted permission to post the invitation to participate in the survey. The invitation to participate was posted to the discussion board of each group a total of three times. We were unable to calculate the exact accrual rate since we don't know how many people actually viewed the invitation to participate. Registered group members may not actively participate in the group and hence, may not have actually viewed the posted