Avoidance in hypochondriasis

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ABSTRACT

The DSM-5 diagnosis of illness anxiety disorder adds avoidance as a component of a behavioral response to illness fears – one that was not present in prior DSM criteria of hypochondriasis. However, maladaptive avoidance as a necessary or useful criterion has yet to be empirically supported.

Methods: 195 individuals meeting DSM-IV criteria for hypochondriasis based on structured interview completed a variety of self-report and clinician-administered assessments. Data on maladaptive avoidance were obtained using the six-item subscale of the clinician-administered Hypochondriasis - Yale Brown Obsessive Compulsive Scale – Modified.

To determine if avoidance emerged as a useful indicator in hypochondriasis, we compared the relative fit of continuous latent trait, categorical latent class, and hybrid factor mixture models.

Results: A two-class factor mixture model fit the data best, with Class 1 ($n = 147$) exhibiting a greater level of severity of avoidance than Class 2 ($n = 48$). The more severely avoidant group was found to have higher levels of hypochondriacal symptom severity, functional impairment, and anxiety, as well as lower quality of life.

Conclusion: These results suggest that avoidance may be a valid behavioral construct and a useful component of the new diagnostic criteria of illness anxiety in the DSM-5, with implications for somatic symptom disorder.

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Hypochondriasis – the fear of having a serious illness despite medical evaluation and reassurance to the contrary – occurs in approximately 5% of patients in primary care settings [1,2]. Diagnostic criteria for hypochondriasis have generally emphasized bodily preoccupation and disease conviction with non-responsiveness to reassurance [3]. Another key feature of hypochondriasis – avoidance behaviors – has been neglected, even though psychoanalytic [4–6] work and empirical studies [7–10] cite avoidance as an essential, if not wholly understood, aspect of hypochondriasis [11].

Recent comparisons of hypochondriasis and OCD suggest that those with illness worries may avoid situations that exacerbate physical symptoms (i.e., shortness of breath), provoking fears of associated illnesses [12]. This is not surprising given that somatic awareness and negative attribution bias is common to individuals with illness anxiety. Additionally, recent theories suggest that a "disengaged" defensive coping style, such as avoidance, can lead to increased stress [13] thereby heightening illness anxiety in predisposed individuals. A latent class analysis of 1785 Scandinavian patients found that participants with hypochondriasis, compared to those with only somatic or non-somatic symptoms, were distinguishable by increased prevalence of fear, including "fear of medication" [14]. Indeed, some patients with hypochondriasis ('Phobic hypochondria') may neglect their health and compulsively avoid doctors and illness reminders to such a degree as to potentially jeopardize health [15].

DSM-5 [16] eliminated the diagnosis of hypochondriasis, by creating two new diagnoses – somatic symptom disorder (SSD) and illness anxiety disorder (IAD). SSD is diagnosed when patients present with one or more prominent somatic symptoms accompanied by excessive cognitive, affective or behavioral responses to somatic symptoms or associated health concerns. Illness anxiety disorder focuses on anxiety about health, de-emphasizes somatic symptoms (i.e., "…not present or are only mild in intensity…"), and requires maladaptive behavior, dichotomized as either appetitive (i.e., excessive health-related behaviors such as bodily-checking) or avoidant, e.g. avoiding appointments or visiting sick relatives. In addition, two care-specific subtypes are offered (care-seeking and care-avoidant). Despite this prominence of avoidance in DSM-5 criteria for IAD, there is little empiric research to support these changes [16].

In this paper, we examine avoidance in a large sample of patients with DSM-IV hypochondriasis. Although avoidance is only included as a component of a diagnostic criterion for IAD, we anticipate that many individuals with SSD also exhibit avoidance behaviors resulting from illness fears. We base this on a recent report [17], that nearly three times as many individuals with DSM-IV hypochondriasis would now be

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diagnosed with DSM-5 SSD as would be diagnosed with IAD. This study also reported that SSD and IAD shared many features of health anxiety, and that they differed primarily in severity of functional impairment and psychiatric comorbidity. Therefore we anticipate our study findings will be applicable to both these new DSM-5 disorders.

The objective of this study is to clarify whether there are latent subgroups of avoidant individuals in a sample of individuals diagnosed with DSM-IV hypochondriasis. To this end, we compared relative fit of continuous latent trait, categorical latent class, and hybrid factor mixture models of avoidance. We then sought to determine whether an avoidant class would differ from other classes on hypochondriacal severity, quality of life, functional impairment, and medical utilization. We tested the following hypotheses:

1) Comparison of latent trait, latent class, and factor mixture models fit to Hypochondriasis-Yale-Brown-Obsessive-Compulsive-Scale-Modified (H-YBOCS-M [8]) avoidance items would indicate a two-class model fits the data best.
2) These two classes would be distinguished as being avoidant and non-avoidant of illness stimuli on the H-YBOCS-M.

a) The avoidant group would have less medical utilization, with less self-reported medical utilization, assessed with the medical utilization instrument [8].
b) The avoidant group would have greater hypochondriacal severity, assessed with the Whiteley Index [3] and Heightened Illness Concern Severity Scale [18].
c) The avoidant group would have lower scores on the Quality of Life Enjoyment Satisfaction Questionnaire-Short Form [19].
d) The avoidant group would have greater functional impairment, as assessed with the Sickness Impact Profile [20].

1. Methods

1.1. Participants

One hundred ninety-five individuals with primary hypochondriasis participated in a dual-site randomized double-blind intervention trial of two therapies for hypochondriasis, (cognitive behavior therapy and pharmacotherapy), conducted from 2006 to 2011 (for more detailed information, see Skritskaya et al., [8]). The sample was 56.4% female, with mean age of 39.7 years ($SD = 14.3$ [8]). For the purposes of this study, we examined baseline data prior to treatment, with all participants meeting *DSM-IV* [11] criteria for hypochondriasis, thus implicitly engaged in maladaptive reassurance-*seeking* behaviors, whereas maladaptive avoidance wasn't required for entry.

1.2. Measures

1.2.1. Maladaptive avoidance

The Hypochondriasis-Yale Brown Obsessive Compulsive Scale-Modified (H-YBOCS-M [8]) is a reliable, valid measure of three factors of hypochondriasis: illness worries, illness behaviors, and unhealthy illness-related avoidance; we focused on the avoidance scale, shown to account for 34.0% of total variance [8]. Researchers blinded to treatment wing rated unhealthy avoidance on a 5-point Likert scale across several domains, where higher numbers suggest more severe levels.

1.2.2. Medical utilization

Medical utilization was assessed with the Medical Care Utilization instrument, a seven-item instrument collecting open-ended frequency counts of visits to various medical providers in the past 6 months, with two questions pertaining to the past 30 days [8] (with items analyzed separately as Cronbach's alpha was 0.54 in this sample).

1.2.3. Hypochondriacal symptom severity

Two scales were used: the Heightened Illness Concern (HIC) Severity Scale [18] based on the Clinicians' Global Impression (CGI) scale [21], is a single item blinded-clinician assessment on a 7-point Likert scale of frequency, distress, duration, impairment, and behavior (reassurance and avoidance), as well the Whiteley Index (WI), a reliable and valid 14-item self-report questionnaire measuring hypochondriacal attitudes and behaviors on a similarly valenced 5-point Likert scale [22] [3]. In a previous study of the current sample, the H-YBOCS-M total scores were found to have good convergent validity with both HIC severity ($r = 0.51$ [8]) and WI scores ($r = 0.45$ [8]), but the relationship of these two scales with avoidance is unclear.

1.2.4. Quality of life

The Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form (Q-LES-Q-SF; modeled from the Q-LES-Q [19,23]) is a 16-item self-report questionnaire with excellent psychometric validity assessing satisfaction with quality of life in several domains such as housing and health. The first 14 items are used to calculate the summated score with range of 14–70 [23]; Cronbach's alpha reached 0.87 in the current sample. The scale has shown discriminant validity with H-YBOCS-M overall sum scores in the current sample ($r = -0.35$ [8], but the specific relationship between quality of life and the avoidance subscale of H-YBOCS-M remains unclear.

1.2.5. Functional impairment

The Sickness Impact Profile (SIP [20]), a 136-item self-report questionnaire, was used to assess functional impairment across 12 domains to yield a total score calculated as a weighted score ranging from 0 to 1, where higher scores indicate more impairment. Although it is less frequently studied in psychiatric settings, the SIP has been documented as being internally consistent in US, Swedish, Spanish, and Dutch samples (Cronbach's alpha ranged from 0.81–0.97), and has moderate to high correlations with associated measures of physical illness [24]; however, specific correlations with the H-YBOCS-M avoidance subscale are unclear.

1.2.6. Psychiatric symptoms and comorbidity

The State-Trait Anxiety Inventory (STAI [25]), a reliable and valid 20-item self-report measure (internal consistency was 0.96 in the current sample) was administered to assess anxiety symptoms, and depressive symptoms were assessed with the Beck Depression Inventory-II (BDI-I [26,27]), a reliable and valid measure of depression with an internal consistency in the current sample of 0.90. Lastly, to assess comorbid diagnoses, the Mini-International Neuropsychiatric Interview (MINI [28]), a validated measure of current Axis I diagnosis [24] was used. As only select modules were administered, internal consistency could not be calculated for the current sample; however, it has displayed excellent inter-rater reliability (most kappa values above 0.90) and good test-retest reliability (kappa values above 0.75) in other psychiatric samples [24].

1.3. Statistical analyses

1.3.1. Latent structure models

Structural models were fit with *MPlus 5* [29] using robust maximum likelihood estimation with a logit link function, allowing categorical and continuous models of psychopathology to be compared empirically [30–32]. We examined potential models of the H-YBOCS-M avoidance items [8] including continuous latent trait, categorical latent class, and hybrid factor mixture models to discern the latent structure of avoidance [33] [34,35].

Latent trait models assume a uniformly continuous and normal distribution of individuals [30]. While there are various latent trait models, Samejima's [5] graded response model was appropriate for our data. Two types of item parameters are estimated with this model: