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RESEARCH ARTICLE

INTERACTIONS BETWEEN CYBERCHONDRIAC ACTIVITY AND THE SYMPTOMOLOGY OF INDIVIDUALS WITH BORDERLINE PERSONALITY DISORDER: A CASE REPORT OF A PRE-TEEN PATIENT

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ABSTRACT

Overview and Background: Cyberchondria, characterized by excessive online health-related searches leading to heightened anxiety, has been increasingly recognized as a clinically relevant phenomenon. Although not formally classified, it shares symptomatic overlap with multiple psychiatric conditions, including anxiety disorders, obsessive-compulsive disorder, and personality disorders. This case report presents a 12-year-old female patient exhibiting compulsive health information seeking, intrusive thoughts, emotional dysregulation, and mood instability, culminating in a diagnosis of Borderline Personality Disorder (BPD) alongside ADHD, OCD, GAD, and social anxiety disorder. This study delves into previously unexplored territory, although BPD has not been indicated to have a direct association with cyberchondria, there are overwhelming indirect connections and personality traits that contribute to the occurrence and severity of cyberchondria such as neuroticism, suicidal ideation, internet addiction, reassurance seeking, and psychological insecurity. **Hypothesis:** Cyberchondriac activity worsens symptomatology and the intensity of anxiety and BPD. **Methodology:** Searches for scientific literature were conducted on PubMed and Google Scholar using the following keywords: Cyberchondria, adolescent, anxiety, BPD, borderline personality disorder, generalized anxiety, obsessive-compulsive disorder, internet addiction, social media addiction, comorbidity. A case study was provided by a senior doctor. After the case study was completed, the printed documents were shredded. No literature preference was given. **Results/Conclusions:** Findings suggest that cyberchondriac behaviors may magnify emotional and cognitive vulnerabilities, contributing to the emergence or intensification of BPD symptomatology. Numerous symptoms related to cyberchondriac behavior or exacerbation of cyberchondriac activity overlap with BPD symptomology with significant chances of comorbidity.

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INTRODUCTION

Cyberchondria, a term introduced between 1999 and 2001, refers to the anxiety triggered by online health-related searches. Initially coined and popularized by journalists, it was not given serious consideration by clinicians or researchers. In 2009, a pivotal study by White and Horvitz provided a catalyst for further academic exploration of the phenomenon, establishing it as a legitimate area of research. The introduction of the Cyberchondria Severity Scale (CSS) in 2014 significantly advanced scholarly work and empirical studies in the field (1). While cyberchondria has not acquired a formal definition, the prevalence and focus of this condition have increased exponentially as internet usage has increased over the decades. This buildup culminated in a focus on cyberchondria during the COVID-19 pandemic (2). Cyberchondria has been shown to exert a range of negative effects on individuals' functioning and well-being. It may lead to the neglect of responsibilities in personal, occupational, and academic domains, while also contributing to deterioration in interpersonal relationships and social engagement. Although it is associated with increased healthcare utilization, some individuals may paradoxically avoid seeking professional care due to heightened health-related anxiety. Furthermore, cyberchondria can adversely affect the patient-provider relationship, potentially hindering effective communication and treatment outcomes (1). Borderline personality disorder (BPD) is a mental health illness that presents instabilities in mood, interpersonal relationships, self-image, and beliefs. Individuals with BPD often have difficulties in maintaining

stable and healthy relationships as they hold distorted perceptions of both themselves and others. Within the DSM-5, BPD is grouped into Cluster B of personality disorders. Cluster B personality disorders comprise dramatic, emotional, and erratic behaviors. The etiology of BPD consists of an interaction between genetic and environmental factors, with adverse childhood effects increasing the chance of BPD development. Approximately 40% of BPD can be traced to hereditary origins (3). Borderline Personality Disorder (BPD) affects approximately 0.7% to 2.7% of the general population, typically emerging in early adulthood. Prevalence is higher in clinical settings, reaching 22% among psychiatric inpatients. While overall rates are slightly higher in women, they account for a disproportionate majority of outpatient diagnoses (4). Our hypothesis states that cyberchondriac activity worsens not only symptomatology, but also the intensity of anxiety and BPD.

Our patient exhibited severe OCD, social anxiety, and performance anxiety upon first visit. We were first concerned with these select conditions, but as the patient was further documented, a much more severe case began to arise as she started adopting the symptoms of the mental disorders she obsessively looked up. This cyberchondriac activity led to the emergence of new symptomatology and conditions as well as a worsening of her pre-existing conditions. Final diagnosis included, ADHD–combined type, OCD, generalized anxiety disorder, social anxiety disorder, and borderline personality disorder. She is being treated with Clonazepam (Klonopin) 0.5 mg daily, aripiprazole (abilify) 4mg, sertraline (zoloft) 50mg, and methylphenidate (ritalin) 10mg. Patient is currently in treatment, the outcome is pending.

Case Presentation: The patient is a female pre-teen that reported a depressed mood involving sad and tearful physiological reactions. She described her mood with feelings of hopelessness, helplessness, worthlessness, and suicidal thoughts. The patient said she was only alive because of her cat, parents, and grandma. Within the settings of her everyday life, she said that she did not feel safe at school and was having thoughts of self-harm in school and church. These thoughts of self-harm involved biting the back part of a pencil and scraping the back of her hand. As a result of these thoughts, she feels guilty and wants to punish herself, which creates a reinforcement cycle towards her negative feelings. Her first reported obsessive thoughts came about when she was just six years old, involving mostly religious and sexual acts. She has a vivid memory and is reported to be interested in girls as she formerly had a girlfriend. It is vital to note that, in the context of her life as a part of an extremely religious community, anxiety and guilt about her obsessive thoughts could have propelled her into this cyberchondriac trajectory.

The patient's parents reached out to the psychiatrist due to escalating anxiety, compulsive health-related internet use, recent-onset motor tics, obsessive-compulsive behaviors, and emerging emotional dysregulation. Symptoms began approximately six months before evaluation. Since then, the patient has engaged in excessive online searches related to psychological disorders, resulting in a strong conviction that she is suffering from multiple psychiatric conditions. Approximately two months before the visit, she developed sudden and repetitive motor tics, specifically head jerking and shoulder shrugging, which were more prominent during periods of stress. She also reported experiencing intrusive thoughts about harm coming to her family members, which triggered compulsive checking rituals. According to her parents, she has exhibited increased emotional reactivity and growing difficulties in peer relationships. She has displayed idealization and devaluation in friendships, fears of abandonment, and difficulty tolerating minor disappointments. She described episodes of yelling, crying, and threats of self-harm in response to perceived rejection or invalidation. Her final diagnosis profile consisted of ADHD–combined type, OCD, generalized anxiety disorder, social anxiety disorder, and borderline personality disorder. She is being treated with Clonazepam (Klonopin) 0.5 mg daily, aripiprazole (abilify) 4mg, sertraline (zoloft) 50mg, and methylphenidate (ritalin) 10mg. Patient is currently in treatment, the outcome is pending.

DISCUSSION

Comorbidities of Cyberchondria: While Cyberchondria has had a very recent and complicated history, several disorders have been associated with Cyberchondria. Cyberchondria is most closely linked with type A personality disorders which are characterized by anxiety and compulsive symptoms (5,6). Several studies, conducting linear regression evaluations, have indicated that cyberchondria has a strong positive correlation with compulsive symptoms, intolerance of uncertainty, obsessive symptoms, anxiety disorders, and health anxiety (5,7,8). Compulsions such as excessive washing/hygienic behavior and checking symptoms are significantly linked with Cyberchondria (6). As compulsions are characterized as repetitive behaviors conducted to reduce anxiety or avoid unwanted consequences, many displays of cyberchondria also display those concerns (1). Likewise, aside from personality disorders, depression and somatic symptoms have been shown to contribute to cyberchondria severity. Cyberchondria symptoms are potentially upregulated by significant psychological insecurity about interpersonal relationships and the development of events (9). By this association, Cyberchondria is associated with a significant positive correlation with suicidal ideation. A study conducted on a Chinese population, demonstrated through structural equation modeling, discovered a significant association between cyberchondria and psychological distress, between psychological distress and suicidal ideation, and a significant indirect effect of cyberchondria on suicidal ideation through this pathway (10). Moreover, select personality traits have demonstrated a significant positive correlation with cyberchondria such as neuroticism and extraversion (11). Both of these personality traits are closely linked with borderline behavior as BPD encapsulates outstanding symptoms of irritability, anxiety, shame, emptiness, paranoia, fear of abandonment, and warped perceptions of relationships. Suicidal ideation, suicidal behavior, and self-injury are all symptoms of BPD (3).

Dangers and Vulnerabilities in Patients with Cyberchondria: The prevalence of cyberchondria in the general population is all but equal. Several factors including age, education, and sex are all significant predictors of cyberchondria severity and prevalence. A cross-sectional study within a Turkish population displays a significantly higher pervasiveness of health anxiety, hypersensitivity to physical symptoms, and anxiety subscale scores in the female experimental population (12). Among those with cyberchondria, the tendency to develop internet addiction, engage in self-diagnosis, increased reliance on self-diagnosis, self-management of psychiatric conditions, and reluctance to seek professional medical care are pronounced. Such conduct

potentially creates a harmful cycle of worsening mental health and reluctance to resolve medical conditions professionally (13).

Comorbidities of BPD: BPD is often associated with numerous mental disorders as the symptomatology of BPD frequently overlaps with additional mental conditions. Major depressive disorder, dysthymia, substance abuse, eating disorders, antisocial personality disorders, narcissistic personality disorders, and bipolar disorder are all common comorbidities. Additionally, generalized anxiety disorder (GAD) is prevalent within individuals with BPD as a study shows a 16.4% comorbidity with an 11.3% lifetime prevalence (14).

Ties of Cyberchondria with BPD or BPD-adjacent Disorders: Although BPD has not been indicated to have a direct association with cyberchondria, there are overwhelming indirect connections and personality traits that contribute to the occurrence and severity of cyberchondria. As previously mentioned, neuroticism, extraversion, suicidal ideation, psychological insecurity about interpersonal relationships, constant need for reassurance, and are common among patients with cyberchondria as well as BPD (6,10,11). Comorbidities of cyberchondria include generalized anxiety disorder, OCD, health anxiety disorder, internet addiction, social media addiction, depression, and psychological distress. Among these, GAD, internet addiction, depression, mixed anxiety disorders, and health anxiety disorder are all common in patients with BPD (3,6,14,15). In all, the evidence presents significant symptomatology overlap between the two conditions. Several of these symptoms not only modulate the intensity of cyberchondria, but also compound BPD symptoms as literature shows that individuals with cyberchondriac behavior tend to aggravate their anxiety as well as their reluctance to seek medical care (13).

CONCLUSION

Cyberchondria and BPD have significant overlaps in symptomology and factors that contribute to their severity and presentation. Neuroticism, extraversion, suicidal ideation, psychological insecurity about interpersonal relationships, constant need for reassurance, and are common among patients with cyberchondria as well as BPD (6,11,10). Among the various symptoms of cyberchondria, GAD, internet addiction, depression, mixed anxiety disorders, and health anxiety disorder are all common in patients with BPD (3,6,14,15). These overlapping symptoms often create a feedback loop of negativity that results in a worsening of symptoms related to both conditions. Within our case study, the symptomatology, worsening of symptoms, and development of BPD all support our hypothesis that cyberchondriac activity exacerbates the symptomology and intensifies anxiety and BPD. This report also sheds light on the scarcity of academic documentation on the condition and advocates for expanded inquiry into the consequences of cyberchondria and its interactions with other psychiatric conditions.

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Key Points

- Neuroticism, extraversion, suicidal ideation, psychological insecurity about interpersonal relationships, constant need for reassurance, and are common among patients with cyberchondria as well as BPD.
- cyberchondriac activity exacerbates the symptomology and intensifies anxiety and BPD.
- Symptoms of cyberchondria including GAD, internet addiction, depression, mixed anxiety disorders, and health anxiety disorder are all common in patients with BPD.
- Adoption of disorders and self diagnosis arising from cyberchondriac activity pose significant threats to mental wellbeing.

Glossary of Abbreviations: Borderline personality disorder (BPD), cyberchondria severity scale(CSS), generalized anxiety disorder(GAD), obsessive-compulsive disorder(OCD), attention deficit and hyperactivity disorder(ADHD),

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