# Cyberchondria in medical education

**Editorial**

## 1. Introduction

Cyberchondria is a term used to describe the excessive worry and anxiety a person experiences due to medical information found online (1-2). This term refers to the tendency of some people to search for information about their symptoms or health concerns on the internet and then misinterpret that information to conclude that they have a serious or dangerous illness, even when that is not necessarily true. Cyberchondriacs can spend hours browsing medical websites, discussion forums, and other online resources, looking for information about symptoms or illnesses they think they have. This constant search for information can lead to increased anxiety and fear about one's own health, which in turn can lead to avoidance behaviors, such as avoiding leaving the house or constantly seeking medical attention. It's important to note that while online medical information can be helpful, it can also be incorrect, incomplete, or based on assumptions and speculation. In addition, the excess of medical information (infodemic) can create unnecessary anxiety and stress and can make it difficult to make informed decisions about health. If you have health concerns, it's important to seek the opinion of a trained health professional and avoid self-diagnosing or self-treating based solely on information you find online.

Cyberchondria and hypochondria are related, but they are two different conditions. Hypochondriasis refers to persistent excessive preoccupation with health, in which the person believes they have a serious or dangerous illness, even when there is no medical evidence to support it. In contrast, cyberchondriasis specifically focuses on the excessive use of online medical information to search for symptoms and health concerns, which can increase anxiety and concern about one's health. Both can interfere with the quality of life of the affected person, generating stress, anxiety and constant concern for health. If a person suspects that they may be experiencing any of these conditions, it is important to seek the help of a trained healthcare professional.

This term, health anxiety, has also been called the medical student syndrome (3). The term was mentioned in several articles, for example in an article by Hardy and Calhoun (4), although the condition has been mentioned by earlier sources under different names as early as the 20th century, such as nosophobia, medical student disease, and hypochondriasis. Probably the earliest mention of this condition was by neurologist George Lincoln Walton (5), who mentioned that medical students repeatedly consulted doctors on the assumption that they had the disease they were studying. Walton suggested that because students knew the anatomical location of a diseased organ, they became overly sensitive to harmless sensations in nearby areas. Research in this area resurfaced in the 1960s and has regained popularity several times in history, but until now there has never been full agreement on the condition or a good solution (5-7). There are various

definitions of the medical student syndrome, but it generally means health anxiety induced by the process of studying medicine.

## 2. Psychological bases of cyberchondria.

Cyberchondria is based on several psychological and emotional factors, such as anxiety, fear, uncertainty, and the need for control (8-11). Anxiety is an emotion commonly associated with cyberchondria. People who experience cyberchondria may feel constant anxiety about their health and may seek medical information online as a way to reduce their anxiety. However, this search for information can increase your anxiety and lead to even more worry. Fear is another emotion that may be at the base of cyberchondria. People may fear that they have a serious or dangerous illness, even when there is no medical evidence to support it. Fear can motivate people to search for medical information online as a way to gain security and peace of mind. Cyberchondria may also be related to the need to reduce uncertainty. People experiencing cyberchondria may feel uncertain about their health and may search for medical information online as a way to get clear and accurate answers. People who experience cyberchondria may also have a strong need for control. Looking for medical information online can give them the feeling that they are taking proactive steps to protect their health and have more control over their well-being. In summary, cyberchondriasis is related to psychological and emotional factors that we need to understand in order to effectively address cyberchondriasis and improve the mental health and well-being of those affected.

## 3. Questionnaires to assess cyberchondria.

There are several questionnaires that can be used to assess cyberchondria (12). The most widely used is the Cyberchondria Severity Scale (CSS), or Cyberchondria Severity Scale, a questionnaire developed by McElroy and Shevlin in 2014 (1). The CSS originally consists of 33 items that evaluate different dimensions of cyberchondria (compulsion, excessive search for information on the Internet, anxiety, security, and distrust of medical professionals). Participants rate each item on a scale from 1 (never) to 5 (always). It has been shown to be reliable in terms of internal consistency and test-retest stability. There is a short version, proposed by McElroy and colleagues in 2019, recently validated in Spanish, called CSS-12 (12-16). In this short CSS scale, the dimensions are only the first 4 of the original CSS test.

Another of the scales used is the cyberchondria scale (CS), (17), with 27 items and 5 dimensions (factors that increase anxiety, factors that decrease anxiety, compulsion, doctor-patient interaction, and dysfunctional use of the Internet). It also shows good psychometric data (12).

Finally, we will mention the short cyberchondria scale (SCS), made up of only four items, although it has shown acceptable reliability, a clear and consistent factorial structure. This new short scale was adopted in two recent studies to access cyberchondria level data during the COVID-19 (18-19) pandemic.

These questionnaires can be useful in evaluating cyberchondriasis and can provide valuable information for treatment and intervention in people experiencing cyberchondriasis. It is important to emphasize that the results of these questionnaires must be interpreted by a trained health professional to avoid misdiagnosis and ensure adequate treatment.

## 4. Prevalence of cyberchondria in students of medicine and health sciences.

The prevalence of cyberchondriasis is unknown as it is a recent and little-studied phenomenon, but it is a growing concern among many health professionals (20). There are few studies on the prevalence of cyberchondria in health sciences students. A study conducted at a dental university in India found that 31.5% of students had cyberchondriasis (21), results similar to those found in undergraduate students in India, where the prevalence was 37.5%, more frequent in men. than in women and in those who spend between 5 and 6 hours a day using the Internet, with a constant connection 24 hours a day, 7 days a week (22). Another study conducted in Turkey found that 30.6% of health science students had health anxiety and 20.8% had cyberchondriasis (23).

Burnout or exhaustion among medical students is a common problem that can have negative effects on their mental health and academic performance (24), as a recent study of more than 5,000 Spanish medical students has shown. Medical students face many psychosocial stresses throughout their training that can cause burnout syndrome, among them it has not been studied whether this problem of cyberchondriasis could be important as one of the personal and professional stressors that found during the intense training time. Future studies may clarify these relationships.

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