

**Original Article**

# Assessment of Cyberchondria among patients presenting to the Emergency Department of three hospitals in Islamabad, Pakistan

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**ABSTRACT****OBJECTIVE**

Cyberchondriasis is an emerging mental health disorder in lower and middle-income countries. The study was aimed for assessment of cyberchondriasis in patients presenting to the emergency department of three tertiary care hospitals of Pakistan

**METHODS**

A questionnaire-based study, formulated on the Cyberchondriasis Severity Scale, was carried out in three emergency departments of tertiary care hospitals in Islamabad, Pakistan. The study duration was three months i.e. March to May 2019. A self-reported questionnaire was distributed amongst participants and results were calculated through SPSS version 23. Ethical approval was obtained.

**RESULTS**

Out of 958 participants, 304 people returned the questionnaire with a response rate of 31.4%. 62.17% (189) patients admitted that if

they would notice an unexplained bodily sensation, they would often search for it on the internet. Alarming, a significant population (11.18%) of the participants said that they would rarely trust their GP over their online self-diagnosis. Online searching and self-diagnosis made 80.26% (244) patients panic and 10.52% (32) always found it difficult to sleep after researching perceived medical conditions.

**CONCLUSION**

Many aspects of cyberchondriasis are evident in the study. Further studies are required to report the exact prevalence and association with mental health.

**KEYWORDS**

Cyberchondria, Psychological Disorder, Cyberchondria Severity Scale (CSS), Emergency Department

**INTRODUCTION**

The term cyberchondria stems from the words cyber and hypochondria. A cyber is a computer network, electronic medium, or computer in which online communication occurs. Hypochondria is a condition in which an individual is unduly or excessively worried about having a particular disease. Consequentially, cyberchondria suggests a hypochondria related to computer and internet use, probably caused by it. The source of the term is not clear, but it is often traced back to a Wall Street Journal article in 1999 known as "On the Internet, diseases are rampant, playing to worries of hypochondriacs" by journalist Ann Carrns. The media has capitalized on the term and made it popular. As a result, most scientific and professional literature often cites online

articles as their primary sources.

Two extreme views suggest that cyberchondria is a psychological disorder <sup>(1)</sup> and a person seeking healthcare information from the internet is termed as a cyberchondriac. <sup>(2)</sup> Regardless, cyberchondria has become a prevalent issue with the continued use of the internet over recent years. People have even gone to the extent of searching healthcare information to avoid visiting the doctor, and instead, buy the medication from a pharmacy themselves. Others reaffirm diagnoses and medication provided by their doctors by performing searches on the internet. Individuals who have medical-related anxiety tend to look for information on the internet. Once they locate the data, their distress

and anxiety heighten. <sup>(3)</sup>

While the second view of cyberchondria was commonly accepted as too harsh <sup>(4)</sup> (person looking for information on the web), the former has been widely welcomed (disorder). The perception that cyberchondria was a new mental illness was published in 2001 in a British newspaper called the Independent. <sup>(2)</sup> Later on, some authors suggested that people with the condition should receive a formal diagnosis, <sup>(5)</sup> while others stopped emphasizing that it is a distinct and new psychiatric disorder. Other researchers equated the disorder to hypochondriasis <sup>(6)</sup> by terming cyberchondria as the 21<sup>st</sup>-century counterpart of the disease. <sup>(7)</sup> This is primarily because, in the 21<sup>st</sup> century, individuals are less likely to consult books and encyclopedias about their possible medical conditions. They are more likely to pursue a deep dive on the Internet, making cyberchondria the new frontier of illness anxiety. <sup>(8)</sup>

More nuanced definitions have emerged over the years, with people referring to cyberchondria as the tendency to believe that they have an illness or condition mentioned on the internet. <sup>(9)</sup> Many meanings emphasize the presence of anxiety by conceptualizing cyberchondria as medical anxiety caused by exposure to internet information. <sup>(5)</sup> The definitions below also incorporate anxiety, but as an outcome of specific behavior: immense health anxiety created from online health research, <sup>(8)</sup> unfounded concerns of similar symptomology based on the assessment of literature and search results on the Internet, <sup>(10)</sup> and the escalation of medical-related fears by users of the web to research medical and health information. <sup>(11)</sup>

Consequentially, cyberchondria seems to resonate with searches of medical data on the internet and not the passive exposure to online content. Whatever the definition, at the core of the disorder is the anxious concern and tendency to perceive normal variations in the functioning of the body as a reflection of severe illness symptoms. It is an exaggeration that is common among many people today because they are used to internet symptom checking. A cyberchondriac will perform extensive online searches and associate a minor symptom of a disease to a serious condition, such as associating a severe headache to a brain tumor. <sup>(8)</sup> The more they search, the more their imagined fate becomes. The problem is thus not the symptom that they have, but the tendency to be overly occupied by normal body signs.

Based on the growing number of users in the world, it is essential to arrive at a definition of cyberchondria. Firstly, there appears to be no disagreement that the disorder is associated with looking for medically-relevant information on the web and that the behavior is excessive or

too much. <sup>(8, 10-12)</sup> Excessiveness may mean that the search behavior is recurrent and time-consuming. It may also focus on the amount of content accessed or the pre-occupation on the details. Another point of agreement is the observation that the disorder is not rewarding or entertaining. Cyberchondria is related to adverse and unpleasant effects, stemming from heightened anxiety. <sup>(5, 8, 10-12)</sup> Hence, a useful definition of the disorder should consider the distress and discomfort caused by the disease.

In light of all these considerations and definitions, cyberchondria can refer to the repeated and excessive search for health and medical-related content on the internet, propelled by anxiety and distress about health, which only increases the anxiety and distress. The condition does not denote diagnosis and happens as a part of hypochondria and health anxiety. The exhaustive definition differentiates cyberchondria from the regular or occasional search of health information online, which may come from the need to learn or curiosity about one's symptoms or those possessed by another person. Additionally, web searches that have a sense of being informed or reassurance cannot be classified as cyberchondria since the definition includes the feelings of anxiety and distress.

Approximately 20% of people have escalated medical concerns. <sup>(13)</sup> The individuals can explore the symptoms of cyberchondria to determine whether they suffer from the disorder. Firstly, they should identify solitary activity aimed at arriving at diagnosis over internet forums and chat rooms. The exact search process used by people with cyberchondria has not been investigated. However, most individuals start with a basic search on different web engines, <sup>(14, 15)</sup> such as Google. They may consult different websites that give information and support to people who are diagnosed with certain illnesses. The second symptom that individuals should look out for is the excessive use of the internet to access medical diagnoses. The use of the web can also interfere with everyday tasks, such as concentrating on housework or a job.

Recently, the Cyberchondria Severity Scale (CSS) was formulated and validated to provide the different components of the anxiety disorder, including the mistrust of medical professionals because of internet information. <sup>(16)</sup> Subsequent studies have suggested that the mistrust component should be dropped. <sup>(17)</sup> The brief version of CSS is a reliable and useful measure of the extent of cyberchondria. <sup>(18)</sup> More studies are necessary to identify the prevalence of cyberchondria in middle and low-income nations, and other demographics, including age, gender, and ethnicity.

**METHODS**

This cross-sectional study was conducted from March to May 2019 at the emergency department of three private hospitals in Islamabad. The questionnaire was distributed to 958 patients randomly out of which 304 agreed to fill the questionnaire, making the response rate to be 31.7%. The informed consent was secured from every participant. The study was approved by the ethical review committee of Poonch Medical College, Rawalakot. Cyberchondria Severity Scale (CSS) questionnaire prepared by McElroy and Shelvin consists of 33 items.<sup>(16)</sup>

A short version consisting of 15-items was used in this research to study the prevalence of cyberchondria among patients presenting to the emergency department. The CSS questionnaire is a Likert scale questionnaire which records the responses on every item from 1-5, (1-never, 2-rarely, 3-sometimes, 4-often, 5-always). The data was analyzed using SPSS V23.0. The result was expressed in frequencies

Statement	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)
If I notice an unexplained bodily sensation, I will search for it on the internet	7 (2.30)	10 (3.28)	65 (21.38)	189 (62.17)	33 (10.85)
I enter the same symptoms into a web search on more than one occasion	13 (4.27)	12 (3.94)	114 (37.50)	143 (47.03)	22 (7.23)
Researching symptoms or perceived medical conditions online interrupts other research (e.g., for my job/college assignment/homework)	17 (5.59)	5 (1.64)	161 (52.96)	76 (25.0)	45 (14.80)
Researching symptoms or perceived medical conditions online interrupts my online leisure activities (e.g., streaming movies)	14 (4.60)	17 (5.59)	78 (25.65)	152 (50.0)	43 (14.14)
I take the opinion of my GP/medical professional more seriously than my online medical research	6 (1.97)	22 (7.23)	83 (27.30)	161 (52.96)	32 (10.52)
I start to panic when I read online that a symptom I have is found in a rare/serious condition	09 (11.84)	11 (3.61)	21 (6.90)	244 (80.26)	19 (6.25)
Researching symptoms or perceived medical conditions online interrupts my work (e.g., writing emails, working on word documents or spreadsheets)	48 (15.78)	18 (5.92)	49 (16.11)	113 (37.17)	76 (25.0)
I discuss my online medical findings with my GP/health professional	26 (8.55)	14 (4.60)	102 (33.22)	97 (31.90)	65 (21.38)
I feel more anxious or distressed after researching symptoms or perceived medical conditions online	43 (14.14)	09 (2.96)	38 (12.50)	175 (57.56)	39 (12.82)
Researching symptoms or perceived medical conditions online leads me to consult with other medical specialists (e.g., consultants)	15 (4.93)	13 (6.25)	213 (70.06)	22 (7.23)	41 (13.48)
Discussing online info about a perceived medical condition with my GP reassures me	02 (.66)	25 (8.22)	110 (36.18)	79 (25.98)	88 (28.94)
I trust my GP/medical professional's diagnosis over my online self diagnosis	11 (3.01)	34 (11.18)	130 (42.76)	102 (33.55)	27 (8.88)
When researching symptoms or medical conditions online I visit both trustworthy websites and user driven forums	47 (15.46)	49 (16.11)	63 (20.72)	109 (35.85)	36 (11.84)
I have trouble getting to sleep after researching symptoms or perceived medical conditions online, as the findings play on my mind	19 (6.25)	10 (3.28)	140 (46.05)	103 (33.88)	32 (10.52)

**Table 1: Cyberchondriasis Severity Scale**

## RESULTS

The responses to the CSS are shown in Table. 1

Interestingly, 62.17% (189) patients admitted that if they would notice an unexplained bodily sensation, they would often search for it on the internet. Alarming-ly, a significant population (11.18%) of the participants said that they would rarely trust their GP over their online self-diagnosis. Whereas 42.76 % (130) would sometimes trust their GP and only 8.88% (27%) would always trust their GP over their online self-diagnosis. Online searching and self-diagnosis made 80.26% (244) patients panic and 10.52% (32) always found it difficult to sleep after researching perceived medical conditions. The details of all the items are shown in Table 1.

## DISCUSSION

This is the first study to investigate the prevalence of cyberchondriasis in the Pakistani population. Our research has revealed that searching online for a perceived medical condition is common practice with almost half of the respondents searching their health conditions or symptoms online. Our results also show that it led to more anxiety and extra consultations with the specialists, but it did not see the association with general mental health of the participants. Although most patients were satisfied with their medical practitioner's opinion about their health condition, some still valued their self-diagnosis made through internet more accurate. More studies are required to see the association between mental health and cyberchondria.<sup>(19)</sup>

A high prevalence of cyberchondriasis (55.6%) was reported in India amongst a group of professionals working in the information technology sector showing a negative association with general mental health.<sup>(20)</sup> Such high prevalence could be due to a very specific group included in the study as they had unlimited access to internet. Our study included people from various educational and professional backgrounds coming into the emergency department, so the responses are varied but a majority did look up their symptoms on internet. The similar questionnaire used in a Sri Lankan study showed a low prevalence of 16.4% with only 24% of the people looking online information about their health.<sup>(21)</sup> Another interesting study conducted on students in various departments of medical sciences showed higher scores in cyberchondriasis with almost 65.4% considering internet information as accurate.<sup>(22)</sup>

Cyberchondriasis is considered a mental health disorder with a specific component relating to mistrust with the practitioner. In our study it was evident that most people were reassured by their practitioner however some were not. A recent meta-analysis also positively correlates cyberchondriasis with health anxiety.<sup>(23)</sup> The

limitation of our study is that the sample was collected through emergency departments and it may have biased the results.

## CONCLUSION

Cyberchondria is becoming very prevalent in our society. The information related to health needs to be regulated on the internet. In addition to promoting health literacy, regulating health information on the internet, more studies need to be done in Pakistan and efforts should be made to prevent cyberchondria.

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