

# Role Of Cyberchondria In Mediating Health Anxiety, Fears And Obsessions Among Students Of Private Medical Colleges Sargodha

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## Abstract

**Objective:** This study was conducted to examine the role of cyberchondria in mediating health anxiety, fears and obsessions among Students of private medical college.

**Methods:** This descriptive correlational study was conducted at department of Psychiatry & behavioural sciences and Medical OPD of Rai Medical College, Sargodha. For this purpose data was collected from 150 medical students. The Cyberchondria Severity Scale (CSS-12) was used to measure cyberchondria severity and Short Health Anxiety Inventory (SHAI) scale was used to measure Anxiety in patients. The Obsessive–Compulsive Inventory – Revised (OCI-R) scale was used to measure Obsessive Compulsive Disorder (OCD) in patients.

**Results:** Descriptive statistics (i.e. frequency distribution, percentages, mean, standard deviations, Pearson correlation and Anova) were the analytical methods to test the objectives. Results of correlational analysis showed positive but non-significant correlation between cyberchondria and mobile usage per day. Results of linear regression analysis indicate that cyberchondria has significant impact on health anxiety. Findings also indicate significant gender differences on health anxiety and cyberchondria, Females are more concerned about health and have more cyberchondria tendencies than males. However, non-significant difference on OCD patterns, mobile phone daily usage.

**Conclusion:** This study shows that feeling constantly worried about your health and obsessively checking the internet for information can make you feel more anxious and stressed, and can also lower your quality of life. It also shows that cyberchondria has a great impact on health anxiety. Gender differences exist in health anxiety and cyberchondria.

**Keywords:** Cyberchondria, Health Anxiety, Fear, OCD.

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## 1. Introduction

Cyberchondria refers to a maladaptive pattern of behavior marked by a hyperactive and anxiety-inducing preoccupation with seeking medical or health-related information online.<sup>1</sup> The phenomenon of cyberchondria has been found to be correlated with elevated levels of psychological distress and diminished well-being perceptions. The contemporary diagnostic and classification frameworks utilized within the field of psychiatry, specifically the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition Text Revision (DSM-5-TR) and the 11th Revision of the International Statistical Classification of Diseases (ICD-11), do not incorporate cyberchondria within their defined spectrum of mental disorders. There is an increasingly prevalent viewpoint among academia indicating that cyberchondria is evolving into a matter of public health concern.<sup>2</sup>

Cyberchondria exhibits distinctive clinical features and is correlated with consequential functional

impairment.<sup>3</sup> The phenomenon known as cyberchondria is characterized by three pivotal components. Firstly, there is typically a pervasive and compulsive reliance on digital mediums, particularly the Internet, for the investigation of medical or health-related matters.<sup>4</sup> The ultimate goal of these inquiries is often to obtain a sense of reassurance regarding one's symptoms. Secondly, such searches frequently result in heightened levels of distress or anxiety, which can persist over an extended period of time.<sup>1,5</sup> Lastly, an escalation in the frequency of online health-related searches and the consequential pursuit of reassurance may occur despite the negative consequences associated with these behaviours.<sup>5</sup>

Numerous investigations have demonstrated that cyberchondria is associated with various risk factors, such as health anxiety, obsessive-compulsive symptoms, intolerance of uncertainty, and negative metacognitive beliefs.<sup>6</sup> Significantly, an investigation on the pertinent precursors of cyberchondria formulated a paradigm in which the perception of a health hazard stemming from physical symptoms

induces health-related anxiety.<sup>7</sup> The phenomenon of online health searches exhibits a significant and positive correlation with cyberchondria, which is subject to the moderation of obsessive-compulsive disorder.<sup>8</sup> Subsequently, this anxiety impels individuals to search for health-related information online, whereby the intermediary variable of "information insufficiency" enacts mediation of this association.<sup>9</sup> The latter refers to an individual's perception of thoughts related to health as being uncontrollable and being negatively evaluated.<sup>10</sup>

The present investigation aims to elucidate the associations among fear, obsessions, health anxiety, and cyberchondria. The primary objective of this study is to investigate the potential mediating influence of health anxiety in the correlation between obsessive-compulsive disorder (OCD) and Cyberchondria. The study is conducted on a group of adult students drawn from the population.

The current study questions are based on the previously mentioned research review:

1. What would be the impact of Health anxiety on cyberchondria, also to investigate their relationship?
2. How Cyberchondria will mediate the role of fear and obsessive thought?
3. How the OCD pattern will moderate the relationship between health anxiety and cyberchondria?
4. What is the relationship of Cyberchondria with the demographic variables?

## 2. Materials & Methods

The study employs a quantitative correlation research design by the pragmatic research design. The participants will be examined for the relationship between Health Anxiety, Cyberchondria, and fears and obsessions. The research design is a descriptive correlational study. In which the relationship between the variables and correlational values is found.

This study's participants comprise all medical students enrolled at private medical colleges in Sargodha, Pakistan.

The selection of the research participants was based on two criteria: their level of Internet access and their level of concern regarding health matters. Owing to

constraints related to both time and resources, the present study was restricted to medical students enrolled at private medical colleges in Sargodha. The process of selecting the study sample entails the utilization of non-probability volunteer sampling techniques of 150 students.

Data were collected through a self-developed questionnaire. Following scales will be used.

The researcher personally collects data from the students. The gathered information was subsequently undergone statistical analysis via SPSS 24. Correlation, ANOVA, and descriptive analysis techniques are used to forecast the association between the variables.

## 3. Results

The present study was conducted to study the role of cyberchondria in mediating health anxiety, fears and obsessions. Psychometric properties of variables include mean, standard deviation, and alpha reliability. The relationship between variables was predicted by Correlation, linear regression and *t*-test.

**Table 1: shows the frequency and percentage of demographics of the variable**

| Variables                                                  | F   | %    |
|------------------------------------------------------------|-----|------|
| <b>Age</b>                                                 |     |      |
| 18-23years                                                 | 134 | 89.3 |
| <b>Gender</b>                                              |     |      |
| Male                                                       | 54  | 35.1 |
| Female                                                     | 96  | 64.9 |
| <b>Current Education</b>                                   |     |      |
| Third                                                      | 132 | 89.2 |
| Fourth                                                     | 6   | 3.1  |
| Final                                                      | 12  | 8.1  |
| <b>Mobile usage per day.</b>                               |     |      |
| 1-2 hours per day                                          | 16  | 10.8 |
| 2-4 hours per day                                          | 64  | 43.2 |
| 5-6 hours per day                                          | 48  | 32.4 |
| 8-10 hours per day                                         | 22  | 13.7 |
| <b>Purpose of mobile usage<br/>(As reported by sample)</b> |     |      |
| Chatting                                                   | 40  | 27.0 |
| Gaming                                                     | 20  | 13.5 |
| Reading research articles related to health                | 20  | 13.5 |
| Checking health apps mostly                                | 8   | 5.4  |
| YouTube streaming                                          | 60  | 40.5 |
| <b>Socio-economics status (as reported by sample)</b>      |     |      |
| Lower middle                                               | 4   | 2.7  |
| Middle                                                     | 64  | 43.2 |
| Upper middle                                               | 68  | 45.9 |
| Upper                                                      | 14  | 8.4  |

**Table 2: Pearson Correlation among all variables. (N=150)**

| Variables             | 1        | 2      | 3        | 4       | 5        | 6        |
|-----------------------|----------|--------|----------|---------|----------|----------|
| Age                   | 1        | -.131  | 0.337**  | 0.040   | -0.285** | -0.134   |
| Socio Economic Status | -0.131   | 1      | 0.131    | -0.075  | -0.157   | -0.136   |
| Current Education     | 0.337**  | 0.131  | 1        | 0.054   | -0.314** | -0.214** |
| OCIRtotal             | 0.040    | -0.075 | 0.054    | 1       | 0.414**  | 0.443**  |
| CSStotal              | -0.285** | -0.157 | -0.314** | 0.414** | 1        | 0.534**  |
| SH Total              | -0.134   | -0.136 | -0.214** | 0.443** | 0.534**  | 1        |

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

\* $p < .01$

The target sample of the study was fifty students of the age range 18-30 years. The analysis was done on all study variables and demographics. Some of the variables

also show non-significant relationship with each other which are also discussed in this chapter. This chapter follows the tables and results which show significant results of the study.

Table 2 shows the correlation of all variables including demographic variables. Most of the variables show a correlation with each other.

Multiple Liner regression in Table 3 shows that cyberchondria is a stronger predictor for health anxiety giving  $\beta$  value as .43 and this value is significant at .001. Cyberchondria and OCD patterns added a variance of up to 35% for health anxiety

**Table 3: Multiple liner Regression analysis for Cyberchondria, Health Anxiety, Fears and Obsessions. (N=150)**

| Predictors               | B     | SE   | Standardized Beta | P     | 95% CL |       |
|--------------------------|-------|------|-------------------|-------|--------|-------|
|                          |       |      | B                 |       | LL     | UL    |
| Constant                 | 21.54 | 6.31 |                   | 0.001 | 11.57  | 36.11 |
| Health Anxiety           | 0.42  | 0.04 | 0.45              | 0.001 | 0.33   | 0.52  |
| OCR(Fear and obsessions) | 0.17  | 0.14 | 0.06              | 0.22  | -0.11  | 0.45  |
| R <sup>2</sup>           | 0.43  |      |                   |       |        |       |
| F                        | 38.66 |      |                   |       |        |       |

MD=Moral Disengagement, PI=Peer influence

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

Analyses based on the Demographic status of the sample The following analyses are done on the demographics of the current research. The significant results of the study are reported in the tables. However, the *t*-test is used to find the relationship between Cyberchondria Health Anxiety, Fears and Obsessions with demographic variables of the current study.

Results in Table 4 depict that two groups divided based on gender differ slightly in their mean values. It is revealed that gender shows a significant difference between Health Anxiety and Cyberchondria. However, non-significant difference in OCD patterns and mobile phone Usage. Females are more concerned about health and have more cyberchondria tendencies than males. The table also shows the value of Cohen's *d*.

The present study aimed to understand the Role of Cyberchondria in Mediating Health Anxiety, Fears and Obsessions. In this study, researchers discovered that feeling constantly worried about health and being addicted to the internet played a role in how anxious people felt. These feelings also affected people's quality of life. After reviewing the latest studies, found that individuals showing signs of cyberchondria, as assessed by CSS-12, exhibit heightened obsessive-compulsive

behaviours and display a stronger dependence on the internet. Also, as shown in a study done by Vismar having higher scores in obsessive-compulsive symptoms and Internet addiction is linked to having more severe health anxiety and OCD.<sup>11,12</sup>

Similar to what has been found in previous studies by Peng, R.X., about health anxiety, having more severe cyberchondria is linked to having greater health anxiety.<sup>13, 14</sup> Additionally, cyberchondria was also a strong predictor of overall anxiety, which supports the limited research on the connection between cyberchondria and anxiety beyond just health concerns as shown in Table 2. As we examine these findings, it's important to consider the interconnections of certain anxiety-related concepts.<sup>14,15</sup>

#### 4. Discussion

The findings also show in Table 4, how demographic factors are connected to cyberchondria. It was found that gender makes a big difference in Health Anxiety and Cyberchondria, but not in OCD patterns or how much people use their mobile phones every day. Women worry more about their health and look up health information

online more than men. These findings are correlated to previous research as Santoro, G., Starcevic, V., et al., believe that the younger generation has greater internet accessibility and utilization<sup>16,17</sup> As reported by Newby, J.M. and McElroy, E., people who don't feel good about themselves and look for information online, like about health, may be more likely to search for health information on the internet.<sup>18</sup> But we still need more research to understand how age affects searching for health information online.<sup>16</sup>

The Table 3 data shows that cyberchondria is a good predictor of health anxiety. The  $\beta$  value for cyberchondria is. 43, and this value is very significant. 001 Cyberchondria and OCD habits contribute to 35% of health anxiety. The results support the idea that cyberchondria and health anxiety, as well as obsessive-compulsive problems, are connected. In addition, the connections between worrying about health, obsessive behaviours, and how you feel about yourself are similar to what other studies have found. Vismara, M., suggests that concerns about health and obsessive behaviours may make people think less of themselves.<sup>19</sup>

In summary, looking up too much medical information can make you worry more about your health and make you keep looking for more information, which can make you feel like you're not important because you're scared of not being able to solve your health problems. According to Starcevic and Berle, and proven by Oniszczenko, W., it was found that being anxious about your health, especially online, and having obsessive thoughts could all be linked together in a cycle.<sup>20, 21</sup>

The result of this study found that obsessive-compulsive symptoms and Internet addiction play a big role in explaining how cyberchondria is related to different health problems. Abdelsattar et al., show that cyberchondria can make people worry a lot about their health and feel anxious. This is because they may become obsessed with checking their symptoms and spend a lot of time on the internet looking for information about their health.<sup>13</sup> This matches with the study of Rahme, C., et al., that suggest being obsessive might be a big part of cyberchondria. But it's not clear if the need to constantly search for health information online is a way to seek reassurance if it's just a general habit of using the internet too much, or maybe it's both.<sup>22</sup> Fang, S. and Mushtaque, I., said that some people who worry a lot about their health spend a lot of time looking for answers online. They might feel better at first, but then they start to worry more and more.<sup>23</sup> It can become

like an addiction. The reason why people can't stop using the internet even when it hurts them is because they are addicted.

The results of this study show that being obsessed with searching for health information online can make people feel more depressed. Generally, being addicted to the Internet or online gaming is often connected to feeling depressed.<sup>24</sup> Based on what we found, being worried about having health problems because of the internet doesn't always mean your life will be worse. One reason for this result could be that some people feel anxious when looking for health information online, but others feel better because of their existing vulnerabilities.<sup>25</sup> However, this type of relief may only last for a short time and you may need to keep searching online for a longer-lasting solution. This can lead to a compulsive need for reassurance and result in losing control. This could help us understand why, in our research, cyberchondria only leads to a decrease in quality of life after considering the impact of obsessive-compulsive symptoms and Internet addiction. Recent research showed that a new issue called cyberchondria may be connected to health anxiety and obsessive-compulsive disorder (OCD). This research is useful for psychologists to better understand cyberchondria and its different parts. This study can help doctors because it shows that people who look for health information online might not trust their doctors and doubt their skills. Also, it demonstrated the importance of government oversight of medical websites to ensure their accountability. Only medical professionals should have authority over health-related content on these websites.

Despite the implications of this study, there are certain considerations that future researchers should take into account. Using the Internet to find people for a study may have left out certain groups of people who are not familiar with technology. This means the study might only include people who are comfortable using the Internet and likely to look for health information online. Furthermore, the research utilized information reported by the subjects to investigate the variables being studied. Self-reported measures are more likely to show what people think others want to hear.

## 5. Conclusion

This study shows that feeling constantly worried about your health and obsessively checking the internet for information can make you feel more anxious and

stressed, and can also lower your quality of life. Our research reveals an important aspect of cyberchondria behaviour: the tendency to be compulsive. In addition, these findings provide new information about cyberchondria by looking at how it relates to certain psychological ideas that haven't been studied much before.

### Institutional Review Board Approval

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### CONFLICTS OF INTEREST- None

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### Contributions:

M.U, S.A - Conception of study

- Experimentation/Study Conduction

A.A, B.H, S.A, A.I - Analysis/Interpretation/Discussion

M.U, A, B.H, A.I - Manuscript Writing

M.U, A.A, A, S.A - Critical Review

All authors approved the final version to be published & agreed to be accountable for all aspects of the work.

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