RJNMSR
Review Journal of Neurological & Medical Sciences Review

Volume 3, Issue 3, 2025

PREVALENCE OF CYBERCHONDRIA AND FACTORS INFLUENCING PHYSICAL ACTIVITY AMONG DOCTOR OF PHYSIOTHERAPY STUDENTS OF SARHAD UNIVERSITY PESHAWAR

Nafeesa Taj[1], Maria Naz[2], Aqsa Rehan[3], Dr. Inayat Ullah (PT)[*4], Dr. Aqsa Khan (PT)[5], Dr. Aliman Shah (PT)[6]

[1,2,3]Doctor of Physiotherapy, Student, Sarhad University of Sciences and Information Technology Peshawar, Pakistan
*[*4]Assistant Professor, Sarhad University of Sciences and Information Technology Peshawar, Pakistan*
[5]Lecturer, NCS University System, Peshawar
[6]Deputy Director, Sarhad University of Sciences and Information Technology Peshawar, Pakistan

[1]nafeesataj07@gmail.com, [2]ktkmaria920@gmail.com, [3]aqsarehan494@gmail.com, [*4]inayatullah.siahs@suit.edu.pk, [5]aqsa.khan@ncs.edu.pk, [6]aliman.siahs@suit.edu.pk

Corresponding Author: *
Dr. Inayat Ullah(PT)
DOI: https://doi.org/10.5281/zenodo.16265514

Received	Accepted	Published
21 April, 2025	06 July, 2025	21 July, 2025

ABSTRACT

BACKGROUND & OBJECTIVE: *With increased online health information use, cyberchondria–excessive health anxiety from internet searches–has become a concern among students. This study explores its prevalence and impact on physical activity in Doctor of Physiotherapy (DPT) students at Sarhad University of science and information technology, Peshawar.*

METHODOLOGY: *This study included 119 Doctor of Physical Therapy (DPT) students, ranging in age from 18 to 25 years. The primary self-reported outcome measure utilized was the Chinese version of the Cyberchondria Severity Scale (C-CSS) which cover three dimensions: Negative Effects, excessiveness and Reassurance Seeking. A descriptive cross-sectional study design was chosen. Data were collected using non-probability convenience sampling through hard-copy questionnaires. Statistical analysis of the collected data was performed using SPSS version 20.*

RESULTS: *Statistical analysis revealed that all participants had continuous internet access. Results showed 63% had severe cyberchondria, 32.8% moderate, and 4.2% low. Common symptoms included repeated searches, anxiety (49.5%), sleep issues (35.3%), appetite loss (26.1%), and social withdrawal. Notably, 42% never consulted a healthcare professional*

CONCLUSION: *The study's findings indicate that Cyberchondria is highly prevalent among students and significantly impacts both mental and physical health. This suggests that factors such as repeated search online health information, internet usage habits and lack of professional medical guidance contribute to the severity of cyberchondria symptoms, leading to disruption in daily life and academic performance. Highlighting the need of Preventive measures like awareness, digital literacy, and support services.*

KEYWORDS: *Cyberchondria, internet anxiety, health information seeking, physical activity.*

INTRODUCTION

With the rapid growth of the internet, access to medical information has become easier, leading many people to search online for health concerns, which can cause cyberchondria(1, 2).The internet has become a primary source of health information due to its accessibility and availability(3) (4) However, excessive online searching often results in

increased anxiety and even depression, as people misinterpret information without proper medical guidance(5) .While online resources provide easy and affordable health information, using them as a self-diagnostic tool can worsen health anxiety, which is a growing concern given the widespread reliance on online health content(6).

Cyberchondria, a term combining "cyber" (internet) and "hypochondria" (excessive health anxiety), was introduced in the mid-1990s(7).Defined as a multidimensional construct, it involves compulsive online health searches, associated emotional distress, disruption of daily functioning, and increased doctor consultations due to heightened anxiety(8, 9). Paradoxically, while intended to reduce uncertainty, these behaviors often exacerbate health anxiety and psychological distress (10, 11). Excessive exposure to unreliable online information and repeated symptom checking contribute significantly to the development of cyberchondria (12, 13) .

Risk factors for cyberchondria include health anxiety, intolerance of uncertainty, internet addiction, and smartphone overuse(13).Notably, smartphone addiction is positively associated with cyberchondria severity, with prolonged internet exposure exacerbating health-related distress(14, 15) .Gender differences are also reported, with women exhibiting higher rates of health information-seeking behaviors and greater cyberchondria severity than men(16, 17).Additionally, married or divorced students demonstrate significantly higher cyberchondria levels compared to single individuals(18).

Medical students, by contrast, appear comparatively less susceptible to severe cyberchondria, likely due to their critical understanding of health information(14). Nonetheless, moderate levels remain common, underscoring the widespread nature of this phenomenon even among healthcare trainees. Importantly, fear and health concerns are identified as key drivers prompting excessive health searches online (19).

Assessment of cyberchondria is primarily conducted using the Cyberchondria Severity Scale (CSS-33), a validated tool assessing five domains: compulsion, distress, excessiveness, reassurance-seeking, and mistrust of medical professionals (20). Scoring stratifies individuals into low, moderate, and high severity categories (2).The Short Health Anxiety Inventory (21) is also used to evaluate comorbid health anxiety(22).

Management strategies for cyberchondria focus on psychological interventions and behavioral modifications. Cognitive Behavioral Therapy (CBT) has demonstrated efficacy in reducing excessive health-related searches and associated anxiety(23).Additionally, promoting physical activity and conducting digital literacy and awareness programs help mitigate smartphone dependency and reduce cyberchondria risk(21).

Epidemiological data underscore the global relevance of cyberchondria. Prevalence rates vary: 50.4% moderate and 23.8% severe among Pakistani university students (24), 55.6% among Indian IT professionals (25), and 45.3% among adults during COVID-19(26). Among dental students, higher compulsion and distress were observed in females, with academic underperformance linked to increased cyberchondria (5). Self-diagnosis error rates are alarmingly high, with 84.5% inaccuracies reported, often prompting unnecessary treatment changes or avoidance of professional consultations (27).

The growing prevalence of cyberchondria among undergraduate students, driven by increased technology access, health anxiety, and limited healthcare access, warrants investigation. After thoroughly search it is found that limited studies has been investigated on cyberchondria among students in Peshawar. This research aims to bridge this knowledge gap by exploring the prevalence of cyberchondria among students at Sarhad University

Methods

This study used a descriptive cross-sectional design to find out the prevalence of cyberchondria and factors influencing physical activity. Data were collected over six months, from February 2025 to July 2025. The research was conducted at single sites, Sarhad University of sciences and information technology Peshawar. Ethical approval was obtained from the Institutional Research Committee (IRC), and informed consent was secured from all participants prior to data collection. Only face-to-face interactions were used to reach participants.

A non-probability convenience sampling technique was adopted, selecting individuals who were readily

available and willing to participate. The minimum sample size was calculated using RaoSoft, Inc., with a 5% margin of error, 95% confidence level, and 50% response distribution, resulting in a recommended sample of at least 119 participants. Inclusion criteria included both gender (male and female), Undergraduate students, Age ranging from 18 to 28 years and willingly participated in our study. Exclusion criteria included Students other than DPT program of SIAHS, Security guards, Teaching Staff and administrative staff.

For data collection, the Chinese Version of the Cyberchondria Severity Scale (C-CSS) questionnaire was used. This 18-item, questionnaire assesses cyberchondria across three dimensions: Negative Effects (12 items), Excessiveness (3 items), and Reassurance Seeking (3 items). Each item is rated on a 5-point Likert scale (1 = never,2 = rarely, 3 = sometimes, 4 = often, 5 = always), with total scores 90 reflecting the severity of cyberchondria. Demographic data were also collected alongside the C-CSS responses. Data were analyzed using SPSS software, with frequency tables generated to present results clearly and professionally. Ethical considerations included ensuring participant confidentiality, informing respondents of study outcomes.

Results DEMOGRAPHICS

The study included 119 students (N=327) recruited from Sarhad University Peshawar. Participants with an age range of 18 to 25 years (M = 21.33, SD = 1.69), with 45.38% (54) males and 54.62% (65) females out of 119.Regarding marital status, in 119 participants 5.04% (6) were married and 94.96% (113) were unmarried. All participants had 24/7 access to the internet. (TABLE 1)

Table 1: DEMOGRAPHICS OF PARTICIPANTS

age of research participants		gender of research participants		marital statusof research participants		24/7 access to internet of research participants	
N	119	119		119		119	
	0	0		0		0	
Mean	21.3109	Males	54	Married	6	No	0
Median	21.0000	Females	65	Unmarried	113	Yes	119
Std.Deviation	1.69119						

Out of 119 participants, 31.1%(37) reported never feeling more anxious while the remaining 68.9% feel it, within this 19.3% (23) rarely,19.3% (23) sometimes, 15.1% (18) often, and 15.1% (18) always felt more anxious after researching symptoms online.(TABLE 2)

Table 2: INCREASE IN ANXIETY OR DISTRESS AFTER ONLINE SYMPTOM RESEARCH

	Frequency	Percent	Valid Percent	Cumulative Percent
Never	37	31.1	31.1	31.1
Rarely	23	19.3	19.3	50.4
Sometimes	23	19.3	19.3	69.7
Valid				
Often	18	15.1	15.1	84.9
Always	18	15.1	15.1	100.0
Total	119	100.0	100.0	

CYBERCHONDRIA SEVERITY LEVEL AND EFFECT ON PHYSICAL ACTIVITY

Among 119 participants, 4.2% (5) had a low level of cyberchondria, 32.8% (39) had a moderate level, while 63.0% (75) exhibited a severe level of cyberchondria. (TABLE 3)

Table 3: CYBERCHONDRIA LEVEL

	Frequency	Percent	Valid Percent	Cumulative Percent
Low	5	4.2	4.2	4.2
Moderate	39	32.8	32.8	37.0
Valid				
Severe	75	63.0	63.0	100.0
Total	119	100.0	100.0	

The following table show physical activity decreases with cyberchondria severity increases.

TABLE 4: CYBERCHONDRIA EFFECT ON PHYSICAL ACTIVITY

Cyberchondria	Physical Activity
Low	Normal Activity level
Moderate	Slightly Reduced
Severe	Significantly Reduced

Discussion

Most existing research focuses on general internet use and anxiety, but limited studies have explored how cyberchondria affects physical activities, academic performance, and mental health among students. The present study addressed this gap by examining the prevalence and impact of cyberchondria among DPT students at Sarhad University, finding a high rate (63%) of severe cases. These students frequently searched health symptoms online, leading to disrupted sleep, studies, appetite, and physical activity, yet many did not consult healthcare professionals.

The findings align with descriptive cross-sectional study was conducted on 50 Indian college students aged 18-23 years, indicated a strong positive correlations between health anxiety and all five subscales of the cyberchondria, particularly compulsive health information seeking. According to the study, individuals with higher health anxiety were more likely to engage excessive online health search which made their anxiety and distress worse.This suppors our results by showing how excessive online searching can contribute to anxiety (28).Similarly, Another study was Conducted in Jordan on 143 students during the COVID-19 pandemic explores the relationship between cyberchondria and internet addiction and found moderate level of both cyberchondria and Internet addiction.Their findings indicated that cyberchondria segnificantly predicted Internet addiction, especially when internet access at school was limited.this supports our results by showing that cyberchondria can lead to internet overuse(29)

However, some studies contrast with these results for example a cross-sectional study was conducted in China on 236 older adults in 2025 which found that cyberchondria may lead to online health information avoidance while in our study students search a lot due to anxiety(30).Another cross-sectional study was conducted in Poland 1613 polish internet users in 2024 which reported that cyberchondria was associated with increased utilization of healthcare services. They went to doctors and even used alternatives medicine While in our study many students had severe cyberchondria but did not visit healthcare professionals(31)

Overall the study highlights that cyberchondria is common among students and negatively effects their health and daily life, underlining the need of awareness and guidance regarding online health information usage.

Conclusion

In conclusion, the study highlights the high

prevalence of cyberchondria among DPT students at Sarhad University, with a significant number experiencing severe levels that negatively affect their mental health, sleep, academic performance, and physical activities. The findings emphasize the need for targeted awareness programs and educational interventions to guide students on the responsible use of online health information and help reduce unnecessary health-related anxiety. Future research should explore strategies to manage cyberchondria and promote healthy digital habits among university students in Peshawar.

LIMITATIONS OF THE STUDY

There are several limitations that should be considered when interpreting the findings. Firstly, the use of a non-probability sampling technique may limit the generalizability of the results, as participants were not randomly selected. Additionally, data were collected only from the Doctor of Physical Therapy (DPT) program at Sarhad University, which may not represent students from other academic disciplines and universities. The use of a cross-sectional study design allowed for the assessment of prevalence and associations at a single point in time, but prevented the establishment of causal relationships between variables. Lastly, as the study relied on a self-administered questionnaire, there is a potential for response bias, which may have influenced the accuracy of participants' answers.

REFERENCES

Doherty-Torstrick ER, Walton KE, Fallon BA. Cyberchondria: parsing health anxiety from online behavior. Psychosomatics. 2016;57(4):390-400.

El-Zayat A, Namnkani SA, Alshareef NA, Mustfa MM, Eminaga NS, Algarni GA. Cyberchondria and its association with smartphone addiction and electronic health literacy among a Saudi population. Saudi Journal of Medicine & Medical Sciences. 2023;11(2):162-8.

Barke A, Bleichhardt G, Rief W, Doering BK. The Cyberchondria Severity Scale (CSS): German validation and development of a short form. International journal of behavioral medicine. 2016;23(5):595-605.

Batigun AD, Gor N, Komurcu B, Erturk IS. Cyberchondria Scale (CS): Development, validity and reliability study. Dusunen Adam. 2018;31(2):148-62.

Patanapu SK, Sreeja CS, Veeraboina N, Reddy KV, Voruganti S, Anusha P. Prevalence and effect of cyberchondria on academic performance among undergraduate dental students: An institutional based study. Industrial Psychiatry Journal. 2022;31(2):228-34.

Kanganolli SR, Kumar NP. A cross-sectional study on prevalence of cyberchondria and factors influencing it among undergraduate students. Int J Med Sci Public Health. 2020;9(4):63-266.

Loos A. Cyberchondria: too much information for the health anxious patient? Journal of Consumer Health on the Internet. 2013;17(4):439-45.

McElroy E, Kearney M, Touhey J, Evans J, Cooke Y, Shevlin M. The CSS-12: Development and validation of a short-form version of the cyberchondria severity scale. Cyberpsychology, Behavior, and Social Networking. 2019;22(5):330-5.

Starcevic V, Berle D. Cyberchondria: towards a better understanding of excessive health-related Internet use. Expert review of neurotherapeutics. 2013;13(2):205-13.

Bajcar B, Babiak J. Self-esteem and cyberchondria: The mediation effects of health anxiety and obsessive–compulsive symptoms in a community sample. Current Psychology. 2021;40(6):2820-31.

Bottesi G, Marino C, Vieno A, Ghisi M, Spada MM. Psychological distress in the context of the COVID-19 pandemic: the joint contribution of intolerance of uncertainty and cyberchondria. Psychology & health. 2022;37(11):1396-413.

Khazaal Y, Chatton A, Rochat L, Hede V, Viswasam K, Penzenstadler L, et al. Compulsive health-related internet use and cyberchondria. European addiction research. 2021;27(1):58-66.

Starcevic V, Schimmenti A, Billieux J, Berle D. Cyberchondria in the time of the COVID-19 pandemic. Human Behavior and Emerging Technologies. 2021;3(1):53-62.

Agrawal V, Khulbe Y, Singh A, Kar SK. The digital health dilemma: Exploring cyberchondria, well- being, and smartphone addiction in medical and non-medical undergraduates. Indian Journal of Psychiatry. 2024;66(3):256-62.

Yorulmaz M, Göde A, Aydoğdu A, Dilekçi R. Investigation of the effect of internet addiction on cyberchondria. Psychology, Health & Medicine. 2025:1-12.

Bidmon S, Terlutter R. Gender differences in searching for health information on the internet and the virtual patient-physician relationship in Germany: exploratory results on how men and women differ and why. Journal of medical Internet research. 2015;17(6):e156.

Sansakorn P, Mushtaque I, Awais-E-Yazdan M, Dost MKB. The Relationship between cyberchondria and health anxiety and the moderating role of health literacy among the Pakistani public. International journal of environmental research and public health. 2024;21(9):1168.

Abdulrahman KAB, Musfir SKA, Alforaih AS, Alshehri AM, Aldossari AK, Dawood FDB. The prevalence of cyberchondria and the impact of skepticism on medical decisions among Imam Mohammed Ibn Saud Islamic University students, Riyadh, Saudi Arabia. Journal of family medicine and primary care. 2024;13(11):5334-40.

Hashemi SGS, Hosseinnezhad S, Dini S, Griffiths MD, Lin C-Y, Pakpour AH. The mediating effect of the cyberchondria and anxiety sensitivity in the association between problematic internet use, metacognition beliefs, and fear of COVID-19 among Iranian online population. Heliyon. 2020;6(10).

McElroy E, Shevlin M. The development and initial validation of the cyberchondria severity scale (CSS). Journal of anxiety disorders. 2014;28(2):259-65.

El-Zoghby SM, Zaghloul NM, Tawfik AM, Elsherbiny NM, Shehata SA, Soltan EM. Cyberchondria and smartphone addiction: A correlation survey among undergraduate medical students in Egypt. Journal of the Egyptian Public Health Association. 2024;99(1):7.

Alberts NM, Hadjistavropoulos HD, Jones SL, Sharpe D. The Short Health Anxiety Inventory: A systematic review and meta-analysis. Journal of anxiety disorders. 2013;27(1):68-78.

Rahim A, Naz H. Efficacy of CBT in the Management of Cyberchondria: A Comparative Study. Human Nature Journal of Social Sciences. 2023;4(3):265-75.

Sabir S, Naqvi I. Prevalence Of Cyberchondria Among University Students: An Emerging Challenge Of The 21st Century. JPMA The Journal of the Pakistan Medical Association. 2023;73(8):1634- 9.

Makarla S, Gopichandran V, Tondare D. Prevalence and correlates of cyberchondria among professionals working in the information technology sector in Chennai, India: A cross-sectional study. Journal of postgraduate medicine. 2019;65(2):87-92.

Srivastava SP, Tiwari SK, Negi M. Prevalence and predictors of cyberchondria and depression amid COVID-19 pandemic in adult population of Uttar Pradesh, India. Archives of Medicine and Health Sciences. 2022;10(2):200-6.

Shaji S, Sripriya S. A study on the prevalence of cyberchondriasis among patients with metabolic syndrome and its impact on their psychological health. J Diabetes Metab Disord Control. 2017;4(3):90-3.

Gupta K, Thakur B, Narula A. A Study on Cyberchondria and Health Anxiety among College Students. International Journal of Interdisciplinary Approaches in Psychology. 2025;3(1):57: 68-57: 68.

Mrayyan MT, Al-Atiyyat N. Does cyberchondria predict Internet addiction among students during the COVID-19 pandemic? A web-based survey study. 2022;57(3):337-43.

Gu C, Qian L, Zhuo X. Mindfulness Intervention for Health Information Avoidance in Older Adults: Mixed Methods Study. JMIR Public Health and Surveillance. 2025;11(1):e69554.

Kobryn M, Duplaga M. Cyberchondria severity and utilization of health services in Polish society: a cross-sectional study. BMC Public Health. 2024;24(1):902.