

RESEARCH ARTICLE

Cyberchondria and perceived stress as mediated by fear of pandemic fear: A pandemic and post-pandemic comparative study from India

Remya Lathabhavan^{1,*}, M.P. Akhil², Arnob Banik³

¹ Department of Organisational Behaviour and Human Resource Management, Indian Institute of Management, Bodh Gaya -824234, India

² Department of Finance, Narsee Monjee Institute of Management Studies, Bangalore 560083, India

³ Vellore Institute of Technology, Vellore, 632014, India

* Corresponding author: Remya Lathabhavan, remya.l@iimb.ac.in

ABSTRACT

The present study compares the association between cyberchondria with perceived stress through fear of COVID-19 during the pandemic and post pandemic scenario. Studies were conducted in two waves among 651 and 742 Indian university students respectively. Structural equation modeling was performed for analysis. The study revealed the positive association between the cyberchondria and perceived stress, and supported the mediation of pandemic fear. A reciprocal model relationship between the cyberchondria and perceived stress also found to be significant with fear of COVID-19 as mediator. Whereas, the relations found less strong during the post pandemic scenario compare to pandemic. A collective approach, including the individuals, family and friends, psychological practitioners, institutions and authorities, may provide a betterment of current situation with proper analysis and regulations. Future studies may develop longitudinal design to explore behavioral changes over time.

Keywords: COVID-19; cyberchondria; stress; fear of COVID-19; India; mediation

1. Introduction

The COVID-19 affected global health system and hence badly on mental health of people^[1]. The high infection and morbidly rates inflicted the fear among people about the disease. Moreover, socio-economic impacts of the pandemic also raised mental health concerns among the citizens including depression, anxiety, suicidal thoughts etc.^[2,3]. Due to the social distancing norms during the pandemic, people tend to spend time with internet contents which also raised mental health issues among them^[4]. The concerns on health during the pandemic and fear about disease are common which lead to further psychological concerns due to searching information online.

Internet research for health and wellness information can be helpful in informing the public on the characteristics, syndromes, and effective prevention and therapeutic measures for diseases^[5]. The general public or the common man could feel empowered as a result of this since they are able to obtain information by their own^[6]. Online health information, therefore, may increase levels of confusion and worry because a differential diagnosis is often made using a variety of medical possibilities, and this differential diagnosis may

ARTICLE INFO

Received: 15 November 2023 | Accepted: 26 December 2023 | Available online: 1 February 2024

CITATION

Lathabhavan R, Akhil MP, Banik A. Cyberchondria and perceived stress as mediated by fear of pandemic fear: A pandemic and post-pandemic comparative study from India. *Environment and Social Psychology* 2024; 9(5): 2253. doi: 10.54517/esp.v9i5.2253

COPYRIGHT

Copyright © 2024 by author(s). *Environment and Social Psychology* is published by Asia Pacific Academy of Science Pte. Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), permitting distribution and reproduction in any medium, provided the original work is cited.

include rare but potentially fatal disorders^[7]. So, using the internet frequently for health-related queries would become difficult and anxiety-provoking, particularly for those who are anxious and health-conscious^[8]. Additionally, people may use these searches to make self-diagnoses that are inappropriate or troubling to them. Such search procedures might constitute as cyberchondria^[9]. Cyberchondria can be referred as anxiety resulting due to health-related search online^[10,11]. COVID-19 pandemic situation leads the people gather more information through online either due to fear of the disease or the information searched lead to enhancing fear^[12]. This situation may ultimately end up in more mental health problems among physically healthy individuals also. But, less studies have discussed this behaviour and its relationship with stress during the crisis time.

Cyberchondria can be conceptualized in a multitude of ways, ranging from a broad severity range that may include routinely performing online searches for health-related information to searches that cause interference that become severe enough to qualify as mental disorders. The latter choice has gained more support in recent years^[11]. Yet, cyberchondria may also be viewed as a brand-new psychiatric disorder, a unique variety of hypochondriasis, or a specific type of health-related anxiety^[13]. But, studies comparing cyberchondria during the pandemic and later period was less explored till date.

Actual and hypothetical concerns, coupled with real and perceived uncertainty, appear to play a significant role in the development of psychological distress during pandemics^[14]. The transmission and advancement of COVID-19, its management and containment, as well as its short- and long-term effects on human and public health, way of life, and the economy, are all unresolved questions^[15]. The virus is also uncertain and unpredictable. Also, as soon as one particular fact in official information appears in some government or some reliable sources, a new ambiguity appears. As a result, the constant availability and access to various, frequently conflicting, online information can help to partially explain why cyberchondria and Problematic Internet Use may both become risk factors for psychological discomfort during COVID-19.

The fear towards the pandemic was prevalent due to the various reasons such as increased infection rates and mortality rates^[16]. This also gave way to introduction of a new construct in the literature i.e. fear of COVID-19 and this was validated in different geographical domains^[2,17]. Many studies had explored that pandemic fear inflict stress among the individuals^[15,18]. Stress arises when someone believes that something is dangerous or scary and does not have the necessary coping mechanisms to deal with it^[19,20]. Because stress is so common in today's environment and has a tendency to negatively impact wellbeing, recent studies have focused a great deal of attention on this topic^[21]. Stress-inducing is the fear related to COVID-19, such as the fear of contracting the virus or of loved ones being impacted^[22]. Precautionary measures during a pandemic have been demonstrated to increase stress among those using them, even if they may stop the epidemic from spreading by reducing social connections and physically separating people^[22]. Similarly, the post-pandemic situation sees people become anxious about the different kinds of viruses, which in turn causes stress in them^[23].

It more likely to report a minimum one mental health consequence the longer they spent viewing COVID-19 data; also, reporting at least one result was related with lower-quality data^[8]. The availability of conflicting or ambiguous information from various sources rises with excessive Internet use; this information may be more or less useful, may vary in quality, and may further enhance perceived dangers and uncertainties, causing psychological discomfort^[19]. In fact, social media platforms like the Internet allow for the extraordinarily quick broadcast of various types of information about particular subjects, which accelerates the spread of false information and disinformation while amplifying uncertainty^[8]. As a result, it is obvious that the quality of the information is significant in the relationship between excessive internet searching and confusion^[7].

Considering the huge research gap, the present study investigates the relationship of cyberchondria with

perceived stress through fear of COVID-19 during the pandemic as well as post pandemic scenario. A reciprocal model also studied to check how stress related to cyberchondria through fear of COVID-19 for both times.

2. Methods

2.1. Participants and procedures

Data were collected in two time waves- June 2021 (T1) and September 2022 (T2). In May 2021, the second wave of COVID-19 effects were severe in India and we considered it as the pandemic scenario for the study. In September 2022, situation were under control after pandemic, institutions were re-opened and we considered it as post pandemic scenario for the study. The sample consisted of 651 students during the first time wave study (T1) and 742 during the second time wave study (T2) from different universities in India. We conducted an online survey and cross-sectional design was conducted for both waves. The age group of participants was 17 to 23 in both studies. Among the respondents, 338 were males and 313 were females during T1. And there were 398 males and 344 females during T2. All the constructs were measured using a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

2.2. Measures

Fear of COVID-19 scale (FCV-19S) was measured using 7-items scale as developed by Ahorsu et al.^[17]. Sample items were “I am most afraid of Corona” and “My heart races or palpitate when I think about getting Corona”. The Cronbach’s alpha was 0.84 for T1 and 0.87 for T2.

Perceived stress. The short version of Perceived Stress Scale^[20] was used for this study. A sample item is ‘In the last month how often have you felt you were unable to control the important things in your life?’. The scale exhibited good reliability (α T1 = 0.91 and α T2 = 0.88).

Cyberchondria Severity Scale (CSS-12). The Cyberchondria Severity Scale–Short Form (CSS-12)(10) consists of 12-item self-report scale used for the study. The sample item is “If I notice an unexplained bodily sensation, I will search for it on the Internet”. The Cronbach’s alpha was 0.87 for T1 and 0.89 for T2.

2.3. Data analysis

Structural equation modeling (SEM) method implemented using AMOS 24.0^[21] were used to test the research model. Confirmatory Factor Analysis was performed with maximum likelihood estimation to examine the goodness of the model. The relative χ^2 : (χ^2/df) < 3 criteria were used to assess the models’ goodness of fit, along with the following standards: standardized root mean square residual (SRMR): ≤ 0.06 , normed fit index (NFI): ≥ 0.90 , comparative fit index (CFI): ≥ 0.90 , and Tucker-Lewis index (TLI): ≥ 0.90 . The validity and reliability of the instruments were further assessed using Cronbach’s α , average loadings (AL), composite reliability (CR), average variance extracted (AVE), and average loadings (AVE).

2.4. Mediation analysis

SEM with 2000 bootstrapping and a 95% CI for indirect effects was used for the mediation study. Two SEM models were looked at after the measurement models were fitted to the data. The first SEM investigated the possible mediating role of fear of COVID-19 in the link between perceived stress and cyberchondria (an independent variable). We looked at the reciprocal model in the second SEM. It looked at the possible mediating role that fear of COVID-19 may have in the link between perceived stress (an independent variable) and cyberchondria.

3. Result

3.1. Descriptive statistics

In **Table 1**, the descriptive statistics are displayed. Every important association followed the predicted path.

Table 1. Mean, standard deviation and correlation of the study variables (N_{T1} = 651, N_{T2} = 742).

	Mean	SD	1	2	3	4	5	6
1. Fear of COVID-19 T1	3.79	1.43	0.729					
2. Fear of COVID-19 T2	3.99	1.33	0.446	0.770				
3. Cyberchondria T1	4.31	1.25	0.393	0.212	0.745			
4. Cyberchondria T2	4.21	1.04	0.431	0.412	0.012	0.819		
5. Perceived Stress T1	3.73	1.32	0.175	0.218	0.115	0.231	0.758	
6. Perceived Stress T2	3.89	1.29	0.392	0.512	0.384	0.132	0.142	0.802

3.2. Common method bias analysis

To investigate the potential for common technique bias, Harman’s single factor test was used. Utilizing SPSS 25.0, we put all of the items into a single factor and conducted factor analysis. The findings demonstrated that one component accounts for 23.77% of the total variance retrieved during T1 and 21.28% during T2, both of which are less than 50%. This suggests that common technique bias is not a significant problem for this study.

3.3. Reliability and validity measurement

Table 2 shows the specifics of convergent validity and reliability. With values more than 0.7, every variable exhibited a sufficient degree of internal consistency. Additionally, it met the requirements that CR > 0.60 and AVE > 0.50. Therefore, the study model met both the convergent validity and reliability requirements.

Table 2. Reliability and convergent validity (N_{T1} = 651, N_{T2} = 742).

	CR	AL	AVE	Cronbach’s α
Cyberchondria T1	0.934	0.737	0.555	0.934
Cyberchondria T2	0.895	0.812	0.672	0.894
Fear of COVID-19 T1	0.887	0.753	0.532	0.886
Fear of COVID-19 T2	0.867	0.804	0.593	0.902
Perceived stress T1	0.839	0.813	0.574	0.830
Perceived stress T2	0.872	0.794	0.643	0.881

CR: composite reliability; AVE: average variance extracted; AL: average loading.

3.4. Mediation analysis

With $\chi^2/df = 2.37, p < 0.01, CFI = 0.91, TLI = 0.93, RMSEA = 0.05,$ and $SRMR = 0.04$ for the T1 period and $\chi^2/df = 1.97, p < 0.01, CFI = 0.93, TLI = 0.95, RMSEA = 0.05,$ and $SRMR = 0.04$ for the T2 period, it is determined that the suggested model (**Figure 1**) properly fits the data.

Cyberchondria was found to be substantially correlated with perceived stress across both direct and indirect pathways, according to the first SEM mediation study. The fear of COVID-19 was one possible moderator. With $\beta = 0.32, P < 0.01$ for T1 and $\beta = 0.13, P < 0.05$ for T2, the standardized overall effect of cyberchondria on perceived stress was statistically significant. Additionally, a strong correlation was

discovered between the cyberchondria and fear of COVID-19 ($\beta = 0.39, P < 0.01$ for T1 and $\beta = 0.21, P < 0.01$ for T2). Additionally, there is a positive correlation between dread of COVID-19 and felt stress ($\beta = 0.27, P < 0.001$ for T1 and $\beta = 0.11, P < 0.01$ for T2). The model's standardized route coefficients in both T1 and T2 are shown in **Figure 1**.

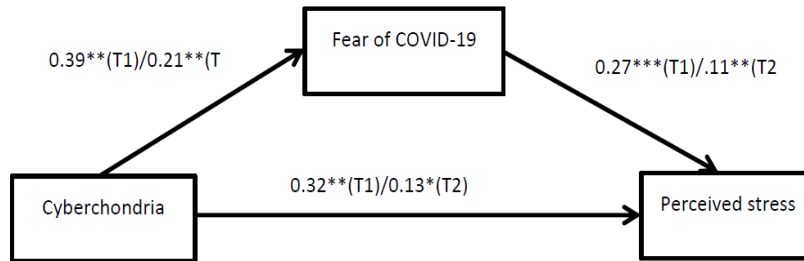


Figure 1. Research model with standardized path coefficients ($N_{T1} = 651, N_{T2} = 742, ***p < 0.001, **p < 0.01, *p < 0.05$).

Additionally, in the reciprocal scenario, cyberchondria through fear of COVID-19 was highly correlated with felt stress. The immediate consequences of the connections shown in **Figure 2**. The study revealed a substantial correlation between perceived stress and cyberchondria ($\beta = 0.29, P < 0.001$ for T1 and $\beta = 0.21, P < 0.01$) as well as fear of COVID-19 ($\beta = 0.24, P < 0.01$ for T1 and $\beta = 0.13, P < 0.001$). Covid-19 fear is also associated with cyberchondria ($\beta = 0.31, P < 0.05$. for T1 and $\beta = 0.14, P < 0.05$).

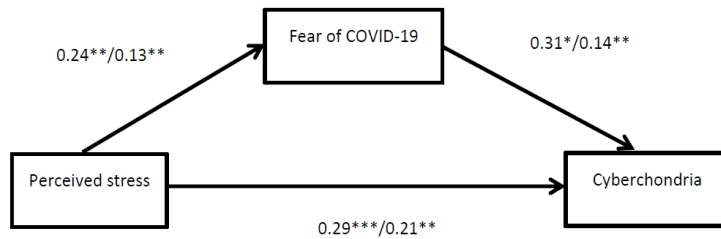


Figure 2. Reciprocal model with standardized path coefficients ($N_{T1} = 651, N_{T2} = 742, *** p < 0.001, **p < 0.01, *p < 0.05$).

Table 3 reports the indirect effects of both mediation models. It was discovered that there is little correlation between cyberchondria and felt stress as a result of fear of COVID-19.

Table 3. Standardized indirect effects of model paths ($N_{T1} = 651, N_{T2} = 742$).

Model	Path coefficient	SE	t value	95% CI
Model 1(T1): Cyberchondria → Fear of COVID-19 → Perceived stress	0.06***	0.02	2.13	0.03–0.12
Reciprocal model (T1): Perceived stress → Fear of COVID-19 → Cyberchondria	0.07***	0.01	3.67	0.04–0.11
Model 1(T2): Cyberchondria → Fear of COVID-19 → Perceived stress	0.02 ^{ns}	0.01	1.82	0.01–0.09
Reciprocal model (T2): Perceived stress → Fear of COVID-19 → Cyberchondria	0.06***	0.02	1.99	0.02–0.12

Bootstrap sample size = 2000; CI, confidence interval.

4. Discussion

The main aim of the present study was to investigate and compare the role of fear of COVID-19 on the relationship between cyberchondria and perceived stress during the pandemic and post pandemic scenario. An online survey was conducted among 651 and 742 students respectively in two time waves and structural

equation modeling was performed for the analysis. The study found out that the cyberchondria positively related to perceived stress and also mediated by fear of COVID-19 in both times. Thus this reinforced previous studies in this area^[15,16,22]. A reciprocal model also tested on predicting cyberchondria though fear of COVID-19, as perceived stress as independent variable. This relationship also found to be significant and supported previous studies^[23,24].

The post covid analysis shows that the relationship between cyberchondria, fear of COVID-19 and perceived stress is getting weaker. The reason is, in the initial year of the pandemic, the people were very much panic about the situation^[18]. But after the introduction of vaccine and prevention measures by the government, the fear levels came down^[25]. In the second wave (T2) of pandemic, the situation improved significantly. The public were adapted with the 'new normal', and the educational institutions started functioning in hybrid or blended mode, i.e.; both online and offline. The opening of physical offices and educational institutions led to engagement in work related activities and classes more. This result is reduction in cyberchondria and perceived stress as the students are returned to their busy academic and curricular world. That could have resulted in weak relationship between cyberchondria, fear of COVID-19 and perceived stress in the post pandemic scenario^[26]. Later, many variants of COVID-19 such as delta, omicron, alpha etc. emerged in different parts of the world. But those things not affected the normal course of life of common people as the initial waves^[26].

The societal implications of the study draw more attention in the discussion. Continuous watching of information sources regarding COVID-19 inflict fear and anxiety and thus enhances the stress among individuals. On crisis situation or on an unfavorable situation, individuals tend to think negatively, these negative thoughts lead to more negative outcomes^[27]. Since digital platforms and internet appear as an easy and intimate access for information, the time spend on it also increased tremendously, and lead to more mental health concerns among the people^[28]. Though social media and internet search act as a supporting factor in many occasions of current situation such as keeping relations and supporting each other, the over-search of disease information and related anxiety will lead to hampering effects^[29]. A self-check and self-regulation can work better to understand and work on a cope up mechanism. Family and closed ones can consider each other and check their sensitivity towards internet usage, so that mental health issues can be identified on time and work accordingly. A holistic approach may work better including the kin and kith, psychological practitioners, medical institutions, media and authorities^[24]. Measures such as counseling and awareness also can provide betterment of the problems. Regulations on wrong and panic information from both media and government side can also be a supportive factor.

The study has some limitations also which need to be addressed in discussion. First, the study has used self-reported questionnaire. Future studies can concentrate on longitudinal design with more than two waves to check behavioral changes over time. Second, data were collected from only one geographical area where spread and impact of COVID-19 was severe. Future works can concentrate on different geographical locations and also areas with varying effects of COVID-19. Third, the study limited with investigation of only three variables. Further investigations can be done considering more variables.

5. Conclusion

The aim of the study was to investigate the relationship of cyberchondria with perceived stress through fear of COVID-19 during pandemic and post pandemic scenario. The cross-sectional study among 651 and 742 students found out that cyberchondria enhances the perceived stress among individuals through pandemic fear, whereas the effects found less sever during post pandemic scenario. Analyzing and understanding mental health issues in introspective way, and with support of beloved ones can reduce the ill-effects of the mental health concerns. Support from authorities and media with regulations on false and panic information also can

control the bad effects.

Author contributions

Conceptualization, paper writing, data analysis and final editing, RL; conceptualization, paper writing and final editing, AMP; data collection and paper writing, AB. All authors have read and agreed to the published version of the manuscript.

Data availability' statement

The data available on request for research purpose.

Ethical statement

The research confined to the highest level of ethics. All procedures performed in this study involving human participation are conducted according to the ethical standards of 1975 Helsinki Declaration. Electronic consent received from all participants for participation.

Conflict of interest

The authors declare no conflict of interest.

References

1. Tandon R. COVID-19 and mental health: Preserving humanity, maintaining sanity, and promoting health. *Asian Journal of Psychiatry*. 2020, 51: 102256. doi: 10.1016/j.ajp.2020.102256
2. El-Bardan MF, Lathabhavan R. Fear of COVID-19 scale: Psychometric properties, reliability and validity in Egypt. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*. 2021;
3. Lathabhavan R, Barami.A N, Kurikkal MPMM, Manoj N. Mental health concerns of small business entrepreneurs in India due to COVID-19 financial distress. *Asian Journal of Psychiatry*. 2021, 64: 102774. doi: 10.1016/j.ajp.2021.102774
4. Kayis AR, Satici B, Deniz ME, et al. Fear of COVID-19, loneliness, smartphone addiction, and mental wellbeing among the Turkish general population: a serial mediation model. *Behaviour & Information Technology*. 2021, 41(11): 2484-2496. doi: 10.1080/0144929x.2021.1933181
5. Budd J, Miller BS, Manning EM, et al. Digital technologies in the public-health response to COVID-19. *Nature Medicine*. 2020, 26(8): 1183-1192. doi: 10.1038/s41591-020-1011-4
6. Daraz L, Morrow AS, Ponce OJ, et al. Can Patients Trust Online Health Information? A Meta-narrative Systematic Review Addressing the Quality of Health Information on the Internet. *Journal of General Internal Medicine*. 2019, 34(9): 1884-1891. doi: 10.1007/s11606-019-05109-0
7. McMullan RD, Berle D, Arnáez S, et al. The relationships between health anxiety, online health information seeking, and cyberchondria: Systematic review and meta-analysis. *Journal of Affective Disorders*. 2019, 245: 270-278. doi: 10.1016/j.jad.2018.11.037
8. Soroya SH, Farooq A, Mahmood K, et al. From information seeking to information avoidance: Understanding the health information behavior during a global health crisis. *Information Processing & Management*. 2021, 58(2): 102440. doi: 10.1016/j.ipm.2020.102440
9. Starcevic V. Cyberchondria: Challenges of Problematic Online Searches for Health-Related Information. *Psychotherapy and Psychosomatics*. 2017, 86(3): 129-133. doi: 10.1159/000465525
10. McElroy E, Kearney M, Touhey J, et al. The CSS-12: Development and Validation of a Short-Form Version of the Cyberchondria Severity Scale. *Cyberpsychology, Behavior, and Social Networking*. 2019, 22(5): 330-335. doi: 10.1089/cyber.2018.0624
11. McElroy E, Shevlin M. The development and initial validation of the cyberchondria severity scale (CSS). *Journal of Anxiety Disorders*. 2014, 28(2): 259-265. doi: 10.1016/j.janxdis.2013.12.007
12. Sun Y, Li Y, Bao Y, et al. Brief Report: Increased Addictive Internet and Substance Use Behavior During the COVID-19 Pandemic in China. *The American Journal on Addictions*. 2020, 29(4): 268-270. doi: 10.1111/ajad.13066
13. Laato S, Islam AKMN, Islam MN, et al. What drives unverified information sharing and cyberchondria during the COVID-19 pandemic? *European Journal of Information Systems*. 2020, 29(3): 288-305. doi: 10.1080/0960085x.2020.1770632

14. Lathabhavan R. COVID-19 and Mental Health Concerns Among Business Owners: a Cross-Sectional Study from India. *International Journal of Mental Health and Addiction*. 2022, 21(6): 3810-3820. doi: 10.1007/s11469-022-00824-y
15. Lathabhavan R. Fear of COVID-19, psychological distress, well-being and life satisfaction: A comparative study on first and second waves of COVID-19 among college students in India. *Current Psychology*. 2022, 42(23): 20203-20210. doi: 10.1007/s12144-022-03207-7
16. Lathabhavan R. A Psychometric Analysis of Fear of COVID-19 Scale in India. *International Journal of Mental Health and Addiction*. 2021, 21(2): 1256-1263. doi: 10.1007/s11469-021-00657-1
17. Ahorsu DK, Lin CY, Imani V, et al. Fear of COVID-19 Scale. *PsycTESTS Dataset*. Published online 2020. doi: 10.1037/t78404-000
18. Lathabhavan R, Sudevan S. The Impacts of Psychological Distress on Life Satisfaction and Wellbeing of the Indian General Population During the First and Second Waves of COVID-19: A Comparative Study. *International Journal of Mental Health and Addiction*. 2022, 21(4): 2526-2537. doi: 10.1007/s11469-021-00735-4
19. Lathabhavan R, Padhy PC. Role of fear of COVID-19 in the relationship of problematic internet use and stress: A retrospective cohort study among Gen X, Y and Z. *Asian Journal of Psychiatry*. 2022, 67: 102937. doi: 10.1016/j.ajp.2021.102937
20. Cohen S, Kamarck T, Mermelstein R. A Global Measure of Perceived Stress. *Journal of Health and Social Behavior*. 1983, 24(4): 385. doi: 10.2307/2136404
21. Arbuckle JL. IBM® SPSS® User's Guide AmosTM 24. IBM, Chicago, IL. Available online: <ftp://public.dhe.ibm.com> (accessed on xxx)
22. Varma R, Das S, Singh T. Cyberchondria Amidst COVID-19 Pandemic: Challenges and Management Strategies. *Frontiers in Psychiatry*. 2021, 12. doi: 10.3389/fpsy.2021.618508
23. Lathabhavan R, Vispute S. Examining the Mediating Effects of Stress on Fear of COVID-19 and Well-being Using Structural Equation Modeling. *International Journal of Mental Health and Addiction*. 2021, 20(5): 2681-2689. doi: 10.1007/s11469-021-00541-y
24. Lathabhavan R. First and Second Waves of COVID-19: A Comparative Study on the Impact of Pandemic Fear on the Mental Health of University Students in India. *Journal of Loss and Trauma*. 2021, 27(2): 194-195. doi: 10.1080/15325024.2021.1950432
25. Lathabhavan R, Hosseini Marznaki Z. COVID-19 PTSD Predicts Positive Effects among Healthcare Professionals in Iran: Investigating the Roles of Self-Efficacy and Resilience in a Follow-Up Study. *Iranian Journal of Psychiatry*. Published online June 24, 2023. doi: 10.18502/ijps.v18i3.13016
26. Łaskawiec D, Grajek M, Szlacheta P, et al. Post-Pandemic Stress Disorder as an Effect of the Epidemiological Situation Related to the COVID-19 Pandemic. *Healthcare*. 2022, 10(6): 975. doi: 10.3390/healthcare10060975
27. Balasubramanian SA, Lathabhavan R. Women's glass ceiling beliefs predict work engagement and burnout. *Journal of Management Development*. 2017, 36(9): 1125-1136. doi: 10.1108/jmd-12-2016-0282
28. Lathabhavan R. People and social media platforms for positive mental health- A paradigm shift: A case on COVID-19 impact from India. *Asian Journal of Psychiatry*. 2021, 56: 102460. doi: 10.1016/j.ajp.2020.102460
29. Lathabhavan R. Covid-19 Effects on Psychological Outcomes: How Do Gender Responses Differ? *Psychological Reports*. 2021, 126(1): 117-132. doi: 10.1177/00332941211040428