

A Cross-Sectional Study to Estimate the Severity of Anxiety in Professionals Remotely Working from Home during COVID-19 Pandemic

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ABSTRACT

Background: The COVID-19 pandemic had a significant impact on public mental health besides playing havoc with one's physical health. The study aims to fill the existing gap in the research concerning the impact of COVID-19 on professionals working from homes (WFH).

Aims: To estimate the severity of anxiety in WFH Professionals during COVID-19 and to assess its impact on their financial, personal and professional lives.

Material and Methods: It was an online questionnaire designed to profile remotely working professionals to assess the anxiety levels using Becks anxiety inventory (BAI) scale and the impact of Covid-19 on the personal, professional and financial status on 255 qualified respondents (123 women & 135 men).

Statistical analysis: Chi-square test was done by using Statistical Package for the Social Sciences (SPSS) version 20 software. P-value $P < 0.05$ was considered significant.

Results: WFH during the COVID-19 restrictions increased moderate to severe anxiety levels (32.09%) with females (51.02%) suffering at higher rates than their male counterparts (15.09%). In these remotely working women, being married (64%) staying in a joint family (90.9%), having children (90.9%) heightened this anxiety. Results suggest that remotely working has adversely impacted their personal lives with females suffering at higher levels than men. It affected their financial lives adversely with females suffering at higher rates. Professional situation got severely impacted by this WFH however; women and men were similarly affected.

Conclusion: Worsening anxiety levels and adverse impact on the personal, financial and professional lives in these remotely working Professionals especially women necessitates finding solutions by employers, psychologists and psychiatrists to alleviate this indirect impact of Covid 19.

Key words: COVID-19, Coronavirus, Anxiety, WFH, Remotely working women

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INTRODUCTION

The dramatic debut of Coronavirus (Covid19) on the global stage has left everyone feeling vulnerable and helpless. It originated in a wet market of Wuhan, China and then spread to infect the whole world [1]. It has affected as of 15 November 2020 more than 60 million with more than 1 million deaths worldwide, India accounting more than 9 million cases with a death toll exceeding 1.2lakh [2].

COVID-19 outbreak was declared a global pandemic by the World Health Organization (WHO) WHO in March 2020 [3]. Many countries implemented various anti-epidemic measures, such as restricting travel for foreign nationals, closing down public spaces and offices, shutting down the

entire transit system. Lockdown was inevitable to prevent the exponential rise of COVID-19. The WHO has also expressed its concern over the pandemic's mental health and psycho-social consequences [4]. This unprecedented experience of 'home quarantine' under lockdown caused high prevalence of anxiety and depression as noted by an earlier Canadian study on the effects of quarantine after the severe acute respiratory syndrome (SARS) epidemic [5].

COVID-19 with its rapid transmission, high mortality rate and concerns about the future causes anxiety [6,7]. The recent survey by the Indian Psychiatric Society showed a 20.0% increase in mental illnesses since the Coronavirus outbreak [8].

Hence the present study to assess the anxiety levels in these WFH professionals during this COVID-19 outbreak and the consequent effect on their personal, financial, and professional lives.

MATERIAL AND METHODS

Study setting

An online survey designed using Qualtrics software, a well-accepted tool for online surveys all over the world [9]. It was sent to working professionals via various social media platforms like Twitter, WhatsApp's, Facebook, and Personal mails during the month of October 2020.

A questionnaire has been designed that includes 21 items of Becks anxiety inventory scale to assess their anxiety levels and to estimate the impact of Covid-19 on their personal, professional and financial status during this period.

Sample size

255 patients.

Tools used

BAI: This scale is a self-report measure of anxiety.

Items: 21 Reliability: Internal consistency for the BAI=(Cronbach's $\alpha=0.92$, Test-retest reliability (1 week) for the BAI=0.75 [10].

Scoring

Respondents were asked to report on each of the 21 symptoms in the week preceding the completion of the BAI. Each symptom item has four possible answer choices: Not at All; Mildly (It did not bother me much).

Moderately (It was very unpleasant, but I could stand it), and; severely (I could barely stand it). The clinician assigns the following values to each response: Not at All=0; mildly=1; moderately=2, and severely=3. The values for each item are summed yielding an overall or total score for all 21 symptoms that can range between 0 and 63 points. A total score of 0 - 7 is interpreted as a "Minimal" level of anxiety; 8 - 15 as "Mild"; 16 - 25 as "Moderate", and 26 - 63 as "Severe" [11].

The survey questionnaire takes 5-10 min to complete and a declaration of their consent to participate in the study was taken before completing the survey. The participants were assured of their confidentiality.

Inclusion criteria

- All subjects that complete the online survey.
- Subjects will have spent most of their time remotely working during COVID-19 pandemic.

Exclusion criteria

- Subjects who did not complete the survey.
- Subjects with past psychiatric history.
- Subjects with past substance abuse.

Sampling method

The study team started to recruit participants by a snowball like convenient sampling method. First, research team members sent out recruitment advertisement, which contained a welcome note and a link to the on-line questionnaire, on two online social media platforms in India, Facebook and Twitter, mobile messaging application WhatsApp's and Personal emails. The first wave participants from diverse geographical locations of origin were directly from research team members' social network based on Facebook Timeline or Twitter News Feed service or through personal contacts, and the research team was based in India. Once finished the survey, participants were encouraged to disseminate the advertisement through their social network on Facebook or Twitter to recruit the next wave of participants who would be the 2nd, 3rd and even 4th degree contacts of the first wave participants. The recruitment procedure continued till the team terminated on October 2020.

Sampling frame

Participants remotely working In India.

Sampling period

October 2020.

Screening/Survey

A total of 328 responses were received, 40 were rejected as they didn't complete the survey or were not working or not working remotely while 33 were excluded as had prior psychiatric history and finally 255 subjects were found fit according to inclusion criteria.

Staff qualification and training

All the responses were evaluated by expert Psychiatrists to assess their responses and to measure the anxiety level on professionals working remotely from homes.

Statistical analysis

Descriptive analysis using SPSS 20 software was done by calculating frequency and percentages for categorical variables and mean and standard deviation for continuous variables. Chi-square test was used to determine the association between categorical independent variables and categorical dependent variables. P-value $P<0.05$ was considered significant for all the tests.

Ethical clearance

Permission from Institutional Ethics Committee was granted.

OBSERVATION/RESULTS

A total 255 subjects were included in our study to study the impact of COVID-19 on professionals working remotely from homes and their anxiety levels out of

which 123 (48.2%) were females and 132 (51.8%) were males. In females 75 were married while 48 were unmarried. In married females 42 were residing in nuclear family while 33 were in joint family. 42 of these married females had no children, 24 had one child and 9 of them had 2 or more children.

Results from the analyses suggest that remotely working from homes adversely impacted these professionals' personal lives (129/255, 50.6%) with females reporting much worse and somewhat worse at higher levels than men (84/123 68.3% vs. 45/132 34.1% $P < 0.05$, 0.015) (Table 1).

Professional situation got severely impacted by this WFH (159/255 62.4%) affecting men and women at same levels (72/123 58.5% vs. 87/132 65.9% $P > 0.05$, 0.694) (Table 2).

WFH affected their financial lives adversely (47/255 18.4%) with females reporting much worse and somewhat worse at higher rates (36/123 29.3% vs. 11/132 8.3% $P < 0.05$, 0.011).

Financial situation got paradoxically better in few of these females and males (75/255 29.4%) with both sexes showing improvement in almost equal proportions (39/123 31.7% vs 36/132 27.3% $P > 0.05$, 0.437) (Table 3).

WFH during the COVID-19 restrictions increased moderate to severe anxiety levels (84/255 32.9%) with females suffering at higher rates than their male counterparts (63/123 51.2% vs. 21/132 15.9% $P < 0.001$, 0.000) (Table 4 and Figure 1).

In these remotely working women, being married (48/75 64% vs. 12/38 31.6% $P < 0.01$, 0.002), staying in a joint family (30/33 90.9% vs. 18/42 42.8% $P < 0.001$, 0.0001), having children (18/42 42.8% vs. 30/33 90.9% $P < 0.01$, 0.001) had moderate to severe anxiety levels (Tables 5 and 6).

All the symptoms except Feeling Hot ($p = 0.295$), and Face flushed ($p = 0.368$) were consistently higher in the subjects with moderate to severe levels of anxiety ($P < 0.05$).

Table 1: Effect on the personal life of males and females due to work from home in the COVID-19 pandemic.

Personal Life	Male (n=132)	Female (n=123)	Total (n=255)
Much Worse (MW)	12 (9.09%)	33 (26.83%)	45 (17.6%)
Somewhat Worse (SW)	33 (25.0%)	51 (41.46%)	84 (32.9%)
Somewhat Better (SB)	21 (15.91%)	21 (17.07%)	42 (16.55%)
Much Better (MB)	9 (6.82%)	3 (2.44%)	12 (4.7%)
MW+SW	45 (34.1%)	84 (68.3%)	129 (50.6%)
SB+MB	30 (22.7%)	24 (19.5%)	54 (21.2%)

Table 2: Effect on the professional life of males and females due to work from home in the COVID-19 pandemic.

Professional Life	Male (n=132) (%)	Female (n=123) (%)	Total (n=255) (%)
MW	6 (4.55)	9 (7.32)	15 (5.9)
SW	81 (61.36)	63 (51.22)	144 (56.4)
SB	21 (15.91)	15 (12.2)	36 (14.1)
MB	0 (0.0)	0 (0.0)	0 (0.0)
MW+SW	87 (65.9)	72 (58.5)	159 (62.4)
SB+MB	21 (15.9)	15 (12.2)	36 (14.1)

Table 3: Effect on the financial life of males and females due to work from home in the COVID-19 pandemic.

Financial Life	Male (n=132) (%)	Female (n=123) (%)	Total (n=255) (%)
MW	0 (0.0)	6 (4.88)	6 (2.4)
SW	11 (8.33)	30 (24.39)	41 (16.1)
SB	24 (18.18)	30 (24.39)	44 (17.3)
MB	12 (9.09)	9 (7.32)	31 (12.2)
MW+SW	11 (8.33)	36 (29.3)	47 (18.4)
SB+MB	36 (27.3)	39 (31.7)	75 (29.4)

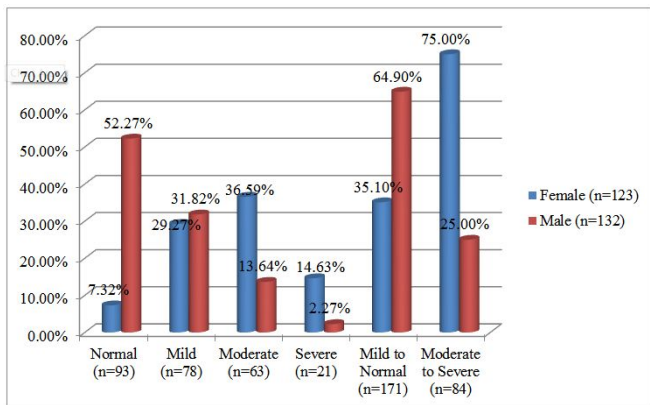


Figure 1: Males and females on the basis of severity level of anxiety.

Table 4: Severity of anxiety according to their gender.

Gender	Minimal	Mild	Moderate	Severe	Grand Total
Males	78 (59%)	33 (25%)	18 (13.6%)	3 (2.3%)	132
Females	27(22%)	33(26.8%)	45(36.6%)	18(14.6%)	123
Grand Total	105	66	63	21	255

Table 5: Distribution of male’s severity levels of Anxiety according to their life characteristics.

Anxiety level in male		Severe (n=21)	Moderate (n=63)	Mild (n=66)	Normal (n=105)	Moderate to Severe	Mild to Normal
Marital status	Married (n=72)	3(4.1%)	0 (0%)	15(20.8%)	54(78.3%)	3 (4.1%)	69(95.8%)
	Unmarried (n=60)	0 (0%)	18 (30%)	18(30%)	24(40%)	18 (30%)	42(70%)
Type of family	Nuclear family (n=102)	3(2.9%)	12(11.8%)	21(20.6%)	66(64.7%)	15(14.7%)	87(85.3%)
	Joint family (n=30)	0	6(20%)	12(40%)	12(40%)	6(20%)	24(80%)
Number of children	None (n=96)	3(3.1%)	18(18.6%)	21(21.7%)	54(56.3%)	21(21.9%)	75(78.1%)
	One (n=21)	0	0	3(14.7%)	18(85.3%)	0	21(100%)
	Two or more (n=15)	0	0	9(67%)	6(33%)	0	15(100%)

Table 6: Distribution of female’s severity levels of Anxiety according to their life characteristics.

Anxiety level in female		Severe (n=21)	Moderate (n=63)	Mild (n=78)	Normal (n=93)	Moderate to Severe	Mild to Normal
Marital status	Married (n=75)	12 (16.0%)	36 (34.7%)	18 (24.0%)	9 (12.0%)	48 (64.0%)	27 (36.0%)
	Unmarried (n=38)	6 (12.5%)	6 (12.5%)	6 (12.5%)	20 (42.5%)	12 (31.6%)	26 (68.4%)
Type of family	Nuclear family (n=42)	6 (14.3%)	12 (28.6%)	15 (35.7%)	9 (21.4%)	18 (42.9%)	24 (57.1%)
	Joint family (n=33)	6 (18.2%)	24 (72.7%)	3 (9.1%)	0 (0.0%)	30 (90.9%)	3 (9.1%)
Number of children	None (n=42)	9 (21.4%)	9 (21.4%)	18 (42.9%)	6 (14.3%)	18 (42.9%)	24 (57.1%)
	One (n=24)	3 (12.5%)	18 (75.0%)	-	3 (12.5%)	21 (87.5%)	3 (12.5%)
	2 or more (n=9)	-	9 (100.0%)	-	-	9 (100.0%)	0 (0.0%)

DISCUSSION

The COVID-19 pandemic has become a double-edged sword. Besides physical illnesses mental health is impacted consequent to physical distancing, self-isolation, fear, uncertainty, and a prolonged period of WFH. Coronavirus doesn't affect the mind directly but is catastrophic to mental health of all especially women in this situation [12].

Evidence suggests that individuals may experience symptoms of psychosis, anxiety, trauma, suicidal thoughts, and panic attacks [13]. Recent studies have similarly shown that COVID-19 affects mental health outcomes such as anxiety, depression, stress and post-traumatic stress symptoms [14-17]. According to the Microsoft's latest Work Trend Index one-third of workers in India are facing increased burnout due to lack of separation between work and personal life [18]. Anxiety, when above normal, weakens body's immune system and consequently increases the risk of contracting the virus [19].

In recent studies, the prevalence of anxiety and depression and stress during COVID-19 pandemic is shown to be higher in women than in men [12,20,21]. In a study by CARE, reported in Times, women were almost three times more likely than men to suffer from significant mental health consequences including anxiety worldwide (27.0% vs.10.0%) with nearly all women surveyed in developing country like Bangladesh reporting increased anxiety and mental health issues during these Covid times [12]. A study by Hayes et al. [22] reported that during the pandemic, average perceived stress increased for all participants, but significantly increased for females as in present study.

The main reason behind women been hit hard by the pandemic is due to their trying to strike a balance between office duties and household chores. Increased expectations of females sharing the burden of care of elderly and children at home, meal planning and cooking is prevalent worldwide but more so in developing countries [12].

In our study WFH adversely impacted these professionals personal lives (50.6%) with females suffering at significantly higher levels than men ($P<0.05$). WFH during the COVID-19 restrictions increased moderate to severe anxiety levels (32.9%) with females suffering at higher rates than their male counterparts ($P<0.001$). In these remotely working women, being married ($P<0.01$), staying in a joint family ($P<0.01$) and having children ($P<0.001$) heightened this increased moderate to severe anxiety risk.

In our study some of the attributable causes of increased anxiety levels and worsening personal lives in these remotely working from home women were a increased and disproportionate share of household chores, care of children and elderly in the absence of domestic helps. Lack of personal space, time also added to their woes. The biggest fallout of WFH was blurring of working hours and personal time with expectations to be on call late

into the night or on weekends. Strained interpersonal relationships and domestic physical and sexual abuse were also reported even by these professionally qualified educated females as has also been documented in previous studies [23-25].

WFH affected their financial lives adversely (18.4%) with females suffering at higher rates ($P<0.05$). Salary cuts and a fear of losing jobs affected their financial situation adversely. Financial situation got paradoxically better significantly in few of these females and males (29.4%) with both of sexes showing improvement ($P>0.05$). Continuance of regular salaries along with a marked decrease in transport costs, lack of luxury shopping, eating out, savings on domestic help salaries and savings on tuition fees of children were the reasons highlighted for this paradoxical improvement.

Professional situation also got severely impacted by this working from home (62.4%) affecting both sexes similarly ($P>0.05$). Lack of proper dedicated office space, support facilities, internet connectivity, absence of demarcation of professional and personal household duties and lack of effective interpersonal communications were highlighted by many respondents.

The impact of COVID-19 on mental health is well documented in various countries among different populations. However, evidence regarding the impact of the COVID-19, pandemic on WFH is not widely documented in India.

Public health regulatory bodies and policy makers have failed to assess the gendered impacts of massive disease outbreaks in past [26]. The recognition of how much women and men are affected differently is a first step to evaluate the effects of health epidemics on different individuals to create effective policies and efforts to alleviate them [27].

To sum up as eloquently put by Jeffery Kluger that during this corona outbreak "Less visible, but no less terrible, is the quieter emotional pain of so many millions of people —too many of whom are paying a higher price simply because of their gender" [12].

LIMITATIONS

There might have been the introduction of selection bias as those professionals without internet access, older health workers, and those who might have been busy in their work duties might not have participated in the study.

Geographic factors may have influenced results due to unique social and cultural contexts amongst the study locations where research was conducted.

STRENGTHS

Large sample size.

Despite limitations, this study provides early evidence on the mental health status among remotely working Professionals especially women during this COVID-19 pandemic which should be of interest to policymakers,

human resource managers, psychiatrists and those involved in the response to COVID-19 or any future epidemic.

RECOMMENDATIONS

We suggest that more research is needed to establish if WFH affects men and women differently in influencing their day-to-day life adversely and their heightened anxiety levels.

CONCLUSION

COVID-19 pandemic has created an emergency like state globally. This contagious virus has not only raised concerns over general public health, but on causing a number of psychological and mental disorders. Lockdowns and remotely working from homes has adversely impacted the mental health of these professionals and disproportionately so of women.

It is imperative to assess how much women and men are affected differently and it's impact on their mental health to create effective and just policies to develop targeted working modifications, psychological and therapeutic interventions to improve the mental health of vulnerable groups during the COVID-19 pandemic.

CONFLICT OF INTEREST

Nil.

FUNDING/SPONSORSHIP

Nil.

REFERENCES

Nishiura H, Jung S, Linton NM, et al. The extent of transmission of novel coronavirus in Wuhan, China, 2020. *J Clin Med* 2020; 9:330.

- <http://srv1.worldometers.info/coronavirus/coronavirus-cases/>
- <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020>.
- <https://www.who.int/publications/i/item/WHO-2019-nCoV-MentalHealth-2020.1>
- Hawryluck L, Gold WL, Robinson S, et al. SARS control and psychological effects of quarantine, Toronto, Canada. *Emerg Infect Dis* 2004; 10:1206-12.
- Banerjee D. The COVID-19 outbreak: Crucial role the psychiatrists can play. *Asian J Psychiatry* 2020; 50:102014.
- Kumar A, Nayar KR. COVID 19 and its mental health consequences. *J Mental Health* 2020.
- <https://www.indiatoday.in/india/story/20-percent-increase-in-patients-with-mentalillness-since-coronavirus-outbreak-survey-1661584-2020-03-31>
- <https://www.qualtrics.com/uk/?rid=ip&prevsite=en&newsite=uk&geo=IT&geomatc h=uk>
- Beck AT, Epstein N, Brown G, et al. An inventory for measuring clinical anxiety: Psychometric properties. *J Consulting Clin Psychol* 1988; 56:893.
- Beck A, Steer R. Manual for the beck anxiety inventory. San Antonio, TX: Psychological Corporation 1990.
- <https://time.com/5892297/women-coronavirus-mental-health/>
- Salari N, Hosseinian-Far A, Jalali R, et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Globalization Health* 2020; 16:57.
- Ahmed MZ, Ahmed O, Aibao Z, et al. Epidemic of COVID-19 in China and associated psychological problems. *Asian J Psychiatr* 2020; 51:102092.
- Cao W, Fang Z, Hou G, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res* 2020; 287:112934.
- Rehman U, Shah Nawaz MG, Khan NH, et al. Depression, anxiety and stress among Indians in times of Covid-19 lockdown. *Community Mental Health J* 2021; 57:42-8.
- Chakraborty K, Chatterjee M. Psychological impact of COVID-19 pandemic on general population in West Bengal: A cross-sectional study. *Indian J Psychiatry* 2020; 62:266-272.
- <https://yourstory.com/herstory/2020/10/world-mental-health-day-work-home-women>
- <https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf>
- Moghanibashi-Mansourieh A. Assessing the anxiety level of Iranian general population during COVID-19 outbreak. *Asian J Psychiatry* 2020; 51:102076.
- Zhou SJ, Zhang LG, Wang LL, et al. Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. *Eur Child Adolesc Psychiatry* 2020; 29:1-10.
- <https://psyarxiv.com/vnkwa/>. 2021 [cited 12 July 2021]. Available from https://www.researchgate.net/publication/344753563_The_Impact_of_COVID-19_Pandemic_and_Emergency_Distance_Teaching_on_The_Psychological_Status_of_University_Teachers_A_Cross-Sectional_Study_in_Jordan
- <https://www.apa.org/topics/covid-19/domestic-violence-child-abuse>
- <https://www.thehindu.com/news/national/covid-19-lockdown-spike-in-domestic-violence-saysncw/article31238659.ece>

24. <https://apps.who.int/iris/bitstream/handle/10665/331699/WHO-SRH-20.04-eng.pdf?ua=1>
25. Smith J. Overcoming the 'tyranny of the urgent': Integrating gender into disease outbreak preparedness and response. *Gender Develop* 2019; 27:355-69.
26. Wenham C, Smith J, Morgan R. COVID-19: The gendered impacts of the outbreak. *Lancet* 2020; 395:846-848.