Original Research Paper

Volume - 13 | Issue - 03 | March - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Community Medicine

THE PSYCHOLOGICAL GENDER WISE IMPACTS OF COVID-19 AMONG COVID-19 AFFECTED PATIENTS DURING BOTH THE WAVES IN INDORE DISTRICT, MADHYA PRADESH

Dr. Bohare Chhaya	MBBS Post Graduate Resident, Departments of Community Medicine, MGM Medical College, Indore, MP
Dr. Yesikar Veena	MBBS, MD Professor, Department of Community Medicine, MGM Medical College, Indore, MP
Dr. Sakalle Salil	MBBS, MD Professor, Department of Community Medicine, MGM Medical College, Indore, MP
Mr. Shivam Dixit*	Assistant Professor (Statistician), Department of Community Medicine, MGM Medical College, Indore. *Corresponding Author
Dr. Sirohi Suraj	MBBS, MD, Associate Professor, Department of Community Medicine, MGM Medical College, Indore, MP

ABSTRACT Introduction-The end of the year 2019 and beginning of 2020 marked the emergence of novel coronavirus in Wuhan city in China that wreaked havoc globally. Stress, anxiety, depression, were higher among the patients of Covid-19. Objective: study to assess the psychological impact of the COVID-19 affected patients in wave 1 & wave 2 in the community of one of Districts of MP. Methodology- A comparative cross-sectional study was conducted in the community of one of the Districts of MP. Total 900 patients of both the gender were selected by Systematic random sampling method. They were administered semi-structured questionnaire based on the DASS -21 scales and correlated with use of media for assessment of the psychological impacts using SPSS 25. Result-Anxiety, Stress & Depression was experienced more by females in both the waves as compared to males. A higher grade of depression was noticed in 1st wave as compare to 2nd wave. Conclusion-Findings of our study indicate that females were more susceptible to psychological impacts and possible reasons include Job loss, Income loss, Lack of Government financial support and excessive use of all forms of Media.

KEYWORDS : Covid-19, Psychological Impact, Stress, Anxiety, Depression, and Gender

INTRODUCTION

Covid-19 was declared a pandemic on 11th march 2020, Lockdown was also implemented in India on 24th March 2020 and mini lockdowns also in between.1 The virus wasidentified as Coronavirus by 11th January 2020 when Chinese scientists and their Australian collaborators released its first complete genomic sequence, showing that it was related to SARS-COV.[2,3]

The first case of Covid-19 infection in India was reported from Kerala on January 30, 2020.4 Madhya Pradesh reported its first case of Covid-19 from Jabalpur on March 20, 2020. The first case in Indore was reported on March 24, 2020.5 The Indian government acted swiftly to impose a nationwide lockdown which lasted till 31st May 2020, when Unlock Phases began to get the trailing economy back on track.[6]

Coronavirus was initially believed to target the human respiratory system, thus causing respiratory infection and pneumonia.7 COVID-19 infection begins with the inhalation or ingestion of droplets containing SARS-CoV-2. The incubation period for COVID-19 ranges from 1-14 days. It was noted that the stress, anxiety, depression, and the risk of post traumatic stress disorder (PTSD) were higher among the patients of Covid-19 as compared to the average population though it affected all too some extent.9 Psychological morbidities have been measured using various scales from studies across the world.10-22 However gender differentials of psychological morbidity following Covid 19 infection is rarely talked about. Hence we aimed for this study in Madya Pradesh.

OBJECTIVE

To assess the psychological impact of the COVID-19 affected patients in wave 1 & wave 2 in Indore district, MP.

METHODOLOGY

An analytical cross-sectional study was conducted on Covid 19 affected patients between wave 1 and wave 2 by us through the Department of Community Medicine, MGM Medical College & M. Y. Hospital, Indore (M.P).Out of total positive cases, 900 patients in the urban and rural areas of Indore district were included by systematic random sampling method conducted during the period of one year (March 2020-March 2021).450 patients each were recruited from both the waves. Study started after the approval from Institutional Ethical Committee.

The positive reports from all the laboratories in Indore were collected to make a line listing of COVID-19-affected patients; randomly selected patients were administered a validated semi-structured questionnaire for relevant data collection. This questionnaire also included questions based on the DASS -21 scales for assessment of the psychological impact of COVID-19.23 Data were entered into a Microsoft Excel spread sheet and analyzed by SPSS-25 (crosstab analysis) and the P Value < 0.05 was considered as statistically significant.

DASS-21 scoring: According to DASS-21 scale normal condition is considered when scale of depression is 0-9 , for anxiety 0-7 and for stress 0-14 .Grades of severity designated as mild grade if range value for depression is between 10-13 ,for Anxiety it is 8-9 and for Stress it is 0-14. Moderate grade value ranges for depression are 14-20, for Anxiety 10-14 and 19-25 for stress. Severe grade ranges 21-27 for depression, 15-19 for anxiety and 26-33 for stress. Extremely severe grade if score is 28+ for depression , 20+ for anxiety and 37+ for stress.

RESULTS

Table 1: Distribution of the study population according to gender and age

Gender	Covid-19 1st Wave (%)	Covid-19 2nd Wave (%)	Total N (%)
Total	450 (100%)	450 (100%)	900 (100%)
Male	246 (54.7%)	252 (56.0%)	498 (55.3%)
Female	204 (45.3%)	198 (44.0%)	402 (44.7%)
Age			
18-35	186 (41.4)	213 (47.3)	399 (44.3)
36-50	114 (25.3)	97 (21.6)	211 (23.4)
>50	150 (33.3)	140 (31.1)	290 (32.2)

Table 1 shows the distribution of the study population according Gender and Age namely Males and females and age was more than 18 years during each wave separately. Males were 54.7% and females were 45.3 % in Covid-19 Wave 1 while in 2nd wave 56% in males and 44% females in Covid-19 Wave 2. 18-35 years age people were 41.4%

in wave 1 and 47.3% in wave 2, 36- 50 years age group people were 25.3% in wave 1 and 21.6% in wave 2 and >50 years age group people were 33.3% in wave 1 and 31.1% in wave 2 . So, Males were the most infected during both waves (1st wave vs. 2nd wave, 54.7% vs. 56%). Majority belonged to age 18-35 years in both waves (41.4% and 47.3% respectively).

Table 2: Gender wise distribution of grades of anxiety, depression, and stress

Grade Of Anxiety	Covid-19 1st Wave (%)		P value	Covid-19 2nd Wave (%)		Total N (%)	P-Value
	Male	Female		Male	Femal		
Total	246 (100%)	204 (100%)		252 (100%)	198 (100%)	900 (100%)	
Normal	155 (63%)	130 (63.7%)	0.585	138 (54.9%)	95 (48%)	518 (57.6%)	0.235
Mild	70 (28.5%)	60 (29.4%)		41 (16.3%)	31(15.7%)	202 (22.4%)	
Moderate	21 (8.5%)	13 (6.4%)		73 (29%)	72(36.3%)	179 (19.9%)	
Severe	-	1 (0.5%)		-	-	1 (0.1%)	
Stress							
Normal	223 (90.7%)	177 (86.8%)		241 (95.6%)	182 (91.9%)	823 (91.4%)	0.074
Mild	22 (8.9%)	27 (13.2%)	0.234	11 (4.4%)	16 (8.1%)	76 (8.4%)	
Moderate	1(0.4%)	-		-	-	1 (0.2%)	
Depression							
Normal	201 (81.7%)	159 (78%)		226 (89.7%)	171 (86.4%)	757 (84.1%)	0.512
Mild	40 (16.3%)	38(18.6%)	0.502	25 (9.9%)	26 (13.1%)	129 (14.3%)	
Moderate	5 (2%)	7 (3.4%)		1 (0.4%)	1(0.5%)	14 (1.6%)	

*Pearson's Chi-Square

In Our study table 2 shows that Moderate anxiety was experienced more by females in wave 2 as compared to wave 1 (36.3% in females and 29% in males). That is statistically not significant. Mild stress was more in female in both waves but higher in wave 1 than wave 2. In wave 1 mild stress was (13.2 % in female and 8.9% in males) in wave 2 mild stress (8.1% in female and 4.4% in male) .that is statistically not significant. Mild depression was more in female in both waves but higher in wave 1 than wave 2. In wave 1 mild depression was (18.6 % in female and 16.3% in males) in wave 2 mild depression (13.1% in female and 9.9% in male) that is statistically not significant.

Table 3: Age wise distribution of grades of depression, anxiety, and stress

	Covid 19 wave 1					Covid 19 wave 2				
Depression	Age in year			Total	p-value	Age in year			Total	P value
	18-35	36-50	>50			18-35	36-50	>50		
Total	186 (100.0%)	114 (100.0%)	150 (100.0%)	450 (100.0%)		213 (100.0%)	97 (100.0%)	140 (100.0%)	450 (100.0%)	
Normal	145 (78.0%)	92 (80.7%)	123 (82.0%)	360 (80.0%)	0.006	180 (84.5%)	90 (92.8%)	127 (90.7%)	397 (88.2%)	0.124
Mild	40 (21.5%)	14 (12.3%)	24 (16.0%)	78 (17.3%)		32 (15.0%)	7 (7.2%)	12 (8.6%)	51 (11.3%)	
Moderate	1 (0.5%)	8 (7.0%)	3 (2.0%)	12 (2.7%)		1 (0.5%)	-	1 (0.7%)	2 (0.4%)	
Anxiety										
Normal	106 (57.0%)	77 (67.5%)	102 (68.0%)	285 (63.3%)	0.003	95 (44.6%)	64 (66.0%)	74 (52.9%)	233 (51.8%)	0.003
Mild	70 (37.6%)	22 (19.3%)	38 (25.3%)	130 (28.9%)		34 (16.0%)	10 (10.3%)	28 (20.0%)	72 (16.0%)	
Moderate	10 (5.4%)	14 (12.3%)	10 (6.7%)	34 (7.6%)		84 (39.4%)	23 (23.7%)	38 (27.1%)	145 (32.2%)	
Severe	-	1 (0.9%)	-	1 (0.2%)		-	-	-	-	
Stress										
Normal	168 (90.3%)	103 (90.4%)	129 (86.0%)	400 (88.9%)	0.501	204 (95.8%)	91 (93.8%)	128 (91.4%)	423 (94.0%)	0.236
Mild	18 (9.7%)	11 (9.6%)	20 (13.3%)	49 (10.9%)		9 (4.2%)	6 (6.2%)	12 (8.6%)	27 (6.0%)	
Moderate	-	-	1 (0.7%)	1 (0.2%)		-	-	-	-	

*Pearson's Chi-Square

Table 3 shows that mild depression was more in 18-35yrs age group in both the waves but more in the 1st wave than the 2nd wave in wave 1 mild depression 21.5% in 18-35yrs age group , 12.3% in 36-50 yrs. age group and 16% in > 50 yrs. age group. In wave 2 mild depression 15% in 18-35yrs age group , 7.2% in 36-50 yrs. age group and 8.6% in >50yrs age group . That is statistically not significant**.**

Mild anxiety more in 18-35yrs age group in both the waves but more in wave 1 than in wave 2. In wave 1 mild anxiety 37.6% in 18-35yrs age group, 19.3% in 36- 50 yrs. age group and 25.3% in >50 yrs. age group.in wave 2 mild anxiety 16% in 18-35yrs age group, 10.3% in 36-50 yrs. age group and 20% in >50yrs age group. That is statistically significant.

Mild stress more in >50yrs age group in both the waves. In wave 1 mild stress 9.7% in 18-35yrs age group ,9.6% in 36-50yrs age group and 13.3% in >50yrs age group. In wave 2 mild stress 4.2% in 18-35yrs age group, 6.2% in 36-50 yrs age group and 8.6% in >50yrs age group. That is statistically significant.

DISCUSSION

The present study conducted on Covid-19-affected patients during the first and second waves in the Indore district of Madhya Pradesh (Central India) to assess psychological impact of the Covid-19 pandemic among gender. Males were more commonly affected in both waves in comparison to females. The apparent reason for this disparity was related to the existing gender differences in work patterns in India, where females are primarily homemakers and males venture out for jobs, making them more vulnerable to infection. Chandra A, et al.,[24] and Chand ran N, et al.,[25] both reported similar results to our study with males being the dominant subset getting infected. (67% and 57.8%), On the contrary, Wang M, et al.,[26] reported females as the most dominant gender among their study population. This was probably because the study was conducted in China with gender-independent work profiles.

During the 1st wave, moderate anxiety was recorded more in males than in females. (8.5% vs. 6.4%), while mild and severe anxiety was more in females. During 2nd wave, mild anxiety was more among males, while moderate anxiety was more prevalent in females. Prakash J et al., in their study also reported higher proportion of depression, anxiety and stress in first wave of Covid infection and higher proportion of females had elevated scores on anxiety and stress.[22] Our study observed that females experienced more stress during both waves than males. The association of stress with gender was statistically significant. Our

study noted that females experienced significantly higher grades of depression than males during both waves. Algurashi E et al., in their study during first wave from Saudi Arabia reported moderate -severe depression among 34% and it was higher among females.[20] This was much higher as compared to current study (22%). Quarantine and fear of contracting the infection is the probable reason of anxiety and depression. Stress emerged due to financial and job losses. Our findings and experiences suggest that active intervention is needed in psychological domains at the time of the pandemic in the form of financial security measures and diagnosing and treating psychological conditions so that the negative impact can be reduced and the transition toward recovery progresses unhindered.

CONCLUSION

Mild and severe grades of anxiety were experienced more during the 1st wave. The association of anxiety with the gender of the patient (mild and moderate in males and severe in females),was found to be statistically significant. Stress-related features (difficulty in relaxation, nervousness) and severity were more during the 1st wave. Higher grades of depression were recorded during the 1st wave of the Covid-19 pandemic.

REFERENCES

1. Lu H, Stratton CW, Tang YW. Outbreak of pneumonia of unknown etiology in Wuhan, China: The mystery and the miracle. J Med Virol. 2020; 92:401–2.
2. Gorbalenya AE, Baker SC, Baric RS, Groot RJ, de Drosten C, Gulyaeva AA, et al. The species severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it SARS-CoV-2. Nat Microbiol.2020;5:536–44
3. Coronavirus (COVID-19) Events as They Happen, 2020 (n.d.). https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen (accessed April 17, 2022)
4. Andrews MA, Areekal B, Rajesh KR, Krishnan J, Suryakala R, Krishnan B, Muraly CP, Santhosh PV. First confirmed case of COVID-19 infection in India: A case report. Indian J Med Res. 2020 May;151(5):490-492.
5. "Madhya Pradesh records first COVID-19 cases; 4 from Jabalpur test positive". Deccan Herald. 20 March 2020.
6. Soni P. Effects of COVID-19 lockdown phases in India: an atmospheric perspective. Environ Dev Sustain. 2021;23(8):12044-12055.
7. Roberts CM, Levi M, McKee M, Schilling R, Lim WS, Grocott MPW. COVID-19: a complex multisystem disorder. Br J Anaesth. 2020 Sep;125(3):238-242.
8. McKee D.L., Sternberg A., Stange U., Laufer S., Naujokat C. Candidate drugs against SARS-CoV-2 and COVID-19. Pharmacol Res. 2020; 157:104859.
9. Passavanti M, Argentieri A, Barbieri DM, Lou B, Wijayaratna K, Foroutan Mirhosseini AS, Wang F, Naseri S, Qamhia I, Tangerås M, Pelliciari M, Ho CH. The psychological impact of COVID-19 and restrictive measures in the world. J Affect Disord. 2021 Mar 15; 283:36-51.
10. Ahmed NN, Juber NF, AlKaabi R, AlShehhi F, AlObeidli M, Salem A, Galadari A, Wanigaratne S, Ahmad A. The Psychological Impact of Isolation on Hospitalised Patients with COVID-19 Infection in the UAE. J Epidemiol Glob Health. 2022 Oct 15:1–8.
11. Zandifar A, Badrfam R, Yazdani S, Arzaghi SM, Rahimi F, Ghasemi S, Khamisabadi S, Mohammadian Khonsari N, Qorbani M. Prevalence and severity of depression, anxiety, stress and perceived stress in hospitalized patients with COVID-19. J Diabetes Metab Disord. 2020 Oct 29;19(2):1431-1438.
12. Zarghami A, Farjam M, Fakhraei B, Hashemzadeh K, Yazdanpanah MH. A Report of the Telepsychiatric Evaluation of SARS-CoV-2 Patients. Telemed J E Health. 2020 Dec;26(12):1461-1465.
13. Parvar SY, Ghamari N, Pezeshkian F, Shahriarirad R. Prevalence of anxiety, depression, stress, and perceived stress and their relation with resilience during the COVID-19 pandemic, a cross-sectional study. Health Sci Rep. 2021 Jan 6;5(1):e460.
14. Jafri, M.R., Zaheer, A., Fatima, S. et al. Mental health status of COVID-19 survivors: a cross sectional study. Virol J .2021;19:3
15. Kancherla N, Garlapati SKP, Raparla YK, Jamil M, Jamil J, Mannava SM. Survey of Stress in COVID Patient Post Treatment: A Qualitative Research. J Pharm Bioallied Sci. 2021 Nov; 13(Suppl 2): S1646-S1649.
16. Lu X, Xie Y, Feng H, Liu Z, Ouyang K, Hou B, Wang M, Kong Z, Zhu Z, Dao W, Zhou Y, Cao J, Long J, Xu Y, Liu Y, Yin X. Psychological impact on COVID-19 patients during the outbreak in China: A case-control study. Psychiatry Res. 2021 Nov; 305:114180.
17. Rahman MH, Banik G, Ahmed A, et al. Anxiety and depressive symptoms among COVID-19 patients admitted to three isolation facilities in Bangladesh. Health Psychology Open. 2021;8(2).
18. Bo HX, Li W, Yang Y, Wang Y, Zhang Q, Cheung T, Wu X, Xiang YT. Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. Psychol Med. 2021 Apr;51(6):1052-1053.
19. Kheradmand, M., Moosazadeh, M., Assadi, T., Shafizad, M., Hedayatizadeh-Omran, A., Hosseini, S. H, et al. Comparing mental health status and COVID-19 event impact between survivors and the general population during the second wave of the pandemic in Iran. Nursing Open.2021. 00, 1–16.
20. Alqurashi E, Aldobyany A, Touman A, Alqahtani A, Alsaggaf R, Alnashiwaaty O, Ghaleb N, Mabar H, Albanna AS. Prevalence of depression and its associated factors among patients with confirmed COVID-19 in Makkah, Saudi Arabia. Front Psychiatry. 2021; 13:863215.
21. Zarghami A, Farjam M, Fakhraei B, Hashemzadeh K, Yazdanpanah MH. A Report of the Telepsychiatric Evaluation of SARS-CoV-2 Patients. Telemed J E Health. 2020 Dec;26(12):1461-1465.
22. Prakash J, Dangi A, Chaterjee K, Yadav P, Srivastava K, Chauhan VS. Assessment of depression, anxiety and stress in COVID-19 infected individuals and their families. Med J Armed Forces India. 2021 Jul;77(Suppl 2):S424-S429.
23. Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales. (2nd Ed.) Sydney: Psychology Foundation. (Available from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://maic.qld.gov.au/wp-content/uploads/2016/07/DASS-21.pdf) [Last accessed on 12 April 2022]
24. Chandra A, Sarda R, Kumar A, Bir M, Parija PP, Pal A, et al. Impact of COVID-19 on the patients' income and work in Delhi, India. J Family Med Prim Care 2021; 10:3047-50
25. Chandran N, Vinuprasad V.G., C. Sreedevi, Sathiadevan S and K. S. Deepak. COVID-19-related Stigma Among the Affected Individuals: A Cross-Sectional Study from Kerala, India. Indian J Psychol Med. 2022;44(3):279–284.
26. Wang, M., Hu, C., Zhao, Q. et al. Acute psychological impact on COVID-19 patients in Hubei: a multicenter observational study. Transl Psychiatry. 2021; 11:133