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Research Paper

Mental Health of COVID-19 patients in Indian population

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ABSTRACT
Background: *COVID19 pandemic has not only affected people's physical health, job stability and financial security, but it has had an effect on their social life because of forced lifestyle modification. All these stressors have had an impact on the mental health of the public, and especially among those who were COVID positive. However, there are hardly any studies that have examined mental health of individuals who are under treatment after testing positive for COVID19The aim of the study was to evaluate anxiety and depression among Covid -19 positive patients , as well as it's correlates with their socio-demographics.*
Methods: *A cross-sectional study was conducted using telephonic interview. Informed oral consent was obtained from the patients. A total of 121 subjects were selected through convenient sampling. Out of 121 participants, 81 participants were administered Hamilton Rating Scale for Anxiety(HAMD-A) and remaining 40 were measured on Hamilton Rating Scale for Depression (HAM-D).*
Results: *The group in which HAM-D was administered, 80% were found to have mild depression, 17.5% found to have Moderate depression, and 2.5% were found to have severe depression. For the group in which HAM-A was administered, only 3.7% met the criteria for clinical anxiety. In both the groups, anxiety and depression was not significantly associated with socio -demographic data.*
Conclusion: *Anxiety in Covid-19 positive cases was less prevalent among Indian population and Depression was more prevalent in Covid-19 positive cases. Further to incorporate present study results larger population studies could be conducted.*
KEYWORDS: *Depression, Anxiety, Covid-19 positive cases, India*

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I. INTRODUCTION

The infectious diseases and severe acute respiratory disease outbreaks physical health but affects the mental health of covid-19 positive cases.[1, 2] It also effects social life and raises a series of important issues related to job and forced lifestyle modification. Even more this has precipitated depression and anxiety and worsens mental health of general population.[3, 4]Mostof Covid 19 positive cases had insight to their illness, and such population might have passed through the stages of acceptance. Studies conducted in the Western countries have focused primarily on Covid-19-related mental health problems in medical professionals, children, general population, pregnant women along with their husbands, person with mental disorder and self-isolated individuals[5, 6]. However, mental health of the individuals who have tested positive for covid-19 has largely been ignored. Based on the available literature, we speculate that the mental health of Covid-19positive cases may be affected, and need to be examined. Serafini et al[7]suggested that it is important to consider psycho-social impact of the current Covid pandemic situation, and provide adequate psychological services in the present situation.

Mental health professionals may give tele-psychotherapy interventions to the positive cases and who have developed mental health problems in the pandemic situation.

To best of our knowledge, there is no single study that has been conducted in India to assess depression and anxiety in Covid-19 positive cases. Therefore, we have designed research in Indian population to assess anxiety and depression in patients with Covid-19. Our clinical experience working with Covid-19 patient on telephone revealed that most of them are having mild to moderate depression or anxiety. Hence, it is relevant and useful data in Indian Population.

II. METHOD

The study was conducted at Dharwad Institute of Mental Health and Neuroscience (DIMHANS) Dharwad for period of 6 six months. The aim of the study was to assess anxiety and depression in Patients with COVID-19. The convenient sample technique was adopted**.** A total of 40 patients were administered Hamilton Rating Scale for Depression (HAM-D) and 81patients were rated on Hamilton Rating Scale for Anxiety (HAM-A). The data collection was executed through telephone using DIMHANS teleconsulting facilities. A semi structured perform was prepared to collect information on age, sex, monthly income, employment, type of family and marital status. Informed consent was obtained orally telephonically and confidentiality was maintained. Those who were unwilling to give consent those who were diagnosed with any psychiatric illness before Covid-19, and those who had recovered from the covid19 disease were not included in study. Only the active positive Covid-19patients were included in the study. Before scale administration, the study population was briefed with the aim of the study and use of data in academic literature. The research was presented before the Institutional Ethics Committee and obtained clearance for conducting research study. HAM-D is widely used to assess depression and designed to assess the severity of depression. The HAM-D consist of 21 items is valuable for both research and clinical purposes, only the first 17 are used for scoring. The higher scores indicate more the severe depression. The level of depression is categorized to: 10-13 mild, 14-17 mild to moderate, >17 moderate to severe. The data support the reliability and validity of the HAM-D to measure of severity of depression.[8] HAM-A was administered to assess the anxiety among study population. A score of 14 has been considered as the threshold for clinically significant anxiety. The HAM-A consist of 14 items, each grouped by a set of symptoms, and measures mental agitation and psychological distress, and physical complaints related to anxiety. The responses of the scale were assessed on a 5-point Likert scale: 0 =None, 1 =Mild, 2 =Moderate, 3= Severe and 4= Very severe. The total score was calculated by summing up of the 14 items. A score of > 14 is considered to indicate anxiety. [9] Statistical analysis was performed by using SPSS software version 22. The descriptive as well as inferential statistical tests were used.

III. DISCUSSION

The discussion is presented in two sections HAM-A and HAM- D.

The present study examined anxiety and depression in a total of 121 home quarantined persons. A total of 81 covid19 patients were administered HAM-A scale and HAM-D was administered on a total of 40 patients.

The Mean age of cases on HAM- A scale was found to be 38.82 with a SD of 14.08. 49.3% of study population consisted of males, and 50.6% were females. With respect to marital status, it was found that 71.6% were married and 30.8% were unmarried. It could be understood that, out of 81, 71.6% were married and remaining 30.8 were unmarried. 93.3% of the respondents reported that they were residing in nuclear family and 44.4% were found residing in joint family. On occupation assessment, it was found that 59.2% were employed and 40.7% were unemployed. Patient's monthly income was divided in to 2 categories, one was Rs <20,000 per month income and second was Rs>20,000 per month income. 35.8% of the patients were found to belong to the first category, and 64.1% belonged to the second category. In education category, it was found that, 90.1% were educated and 7.40% were uneducated. All the samples were belonged to urban domiclile. On assessment of HAM- A scale, result was revealed that of 96.3% of patients scored <14, and 3.7% reported >14 score. Therefore, it appears that there was less prevalence of anxiety symptoms among Covid 19 cases who were home quarantined. The reason for current finding might be because of Indian social support system which is very high in Indian family system. Moreover, in Indian scenario the sub system of family easily voluntary assumes sick person role which could be because of dynamic of affective involvement or cohesive in family system. The finding of the present study was contrary to the finding of similar studies done by Wans et. al[10]&Dai LLet.al[11] which reported higher level of anxiety symptoms in Chinese population. A meta-analysis done by Dean et.al[11] in China also did not concord with present study results, where they found that the prevalence of anxiety was 47% and depression was 45%.

The Mean age of patients who were administered HAM- D scale was 38.80 with a SD of 14.53. 50.00% of study population consisted of males, and 50.00% were females, 60.00% were married and 40.00% were unmarried, and, 55.00% had income of less than 20,000 per month, and 45.00% had an income greater than 20,000. 57.5% of study population were seen employed and 42.5% of study population were found

unemployed. 80% of participants came from nuclear family and 20.00% belonged to joint family. On education account, 87.5% respondents were found educated and 12.5% was seen uneducated. On assessment of HAM -D scale, result was revealed that of 80.00% of patients had mild depression, 7.5% had moderate depression, and 2.5% had severe depression. Individuals who were home quarantined had more of mild to moderate level of depression. This could be because of negative cognition which would have led to depressed mood. These patients might have negatively perceived and interpreted Covid-19 Pandemic. This indicated that psychosocial intervention should be made available as the first line of treatment along with other pharmacological or medical treatment. This might prevent further episodes of depression in their life time. The finding of the present study was in concordance to the finding of similar studies done by Wans et. al[10]&Dai LL et.al,[11] which also reported high prevalence of moderate to severe depressive symptoms among Chinese population. However, a meta-analysis done by Dean et.al[12] in China did not concord with present study results, where they found that the prevalence of depression was 45%.

Rogers et al.[13]had predicted the developing neuropsychiatric sequelae post Covid-19 infection, including depression, dysexecutive syndrome, fatigue, anxiety, and post-traumatic stress disorder. These studies were conducted in an inpatient hospital setting, and probability of having anxiety and depressive symptoms is high when patient is in hospital in critical medical care. The present study observed more of depression symptoms than of anxiety symptoms. This study results indicated that there is a high and immediate need to provide psychosocial care to the Covid 19 patients. Our working experience reveals that, starting the session by providing clear knowledge about normal stress cycle reactions might be helpful in coping with situation. Also, supportive psychotherapy, resilience and strength-based model can be implemented in tele-psychotherapy.

IV. CONCLUSION

This study examined the rates of having risks of anxiety and depressive symptoms among patients in Indian population who were home quarantined due to COVID19 disease. Less anxiety symptoms were found, whereas depressive symptoms were found to be common among the Covid-19 patients. This study indicates providing psychosocial care can reduce the adverse psychological impact of the Covid-19 pandemic in the future.

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Tables

Results

Socio- demographic variables on HAM-A.

Table 1 Socio demographic details of respondents (*n*=81).

Variables	Category	Frequency %/m(Sd)	
Age		38.82±14.08	
		Number *n*	Percentage
Gender	Male	40	49.3
	Female	41	50.6
Marital status	Married	58	71.6
	Unmarried	25	30.8
Type of family	Nuclear	69	93.3
	Joint	15	44.4
Occupation	Employed	48	59.2
	Unemployed	33	40.7
Monthly income	< Rs. 20.000	29	35.8
	>Rs. 20.000	52	64.1
Education status	Educated	73	90.1
	Uneducated	6	7.40
Domicile	Urban	81	100
	Rural	-	

Table 2- Sores on HAM-A.

Particulars	Frequency	Percent
<14 (Non anxious)	78	96.3 (96.3%)
>14 (Anxious)	3	3.7 (3.7%)
Total	81	100 (100%)

Out of 81 subjects, 3 were scored >14 HAM-A rating and rest that was 78 subjects scored <14.

Socio- demographic variables on HAM-D.

Table 3 Socio demographic details of respondents (*n*=40).

Variables	Category	Frequency %/m(Sd)	
Age		38.80±14.53	
		Number *n*	Percentage
Gender	Male	20	50
	Female	20	50
Marital status	Married	24	60
	Unmarried	16	40
Type of family	Nuclear	32	80
	Joint	8	45
Occupation	Employed	23	57.5
	Unemployed	17	42.5
Monthly income	< Rs. 20.000	22	55
	>Rs. 20.000	18	45
Education status	Educated	35	87.5
	Uneducated	5	12.5
Domicile	Urban	81	100
	Rural	-	

Table 4- Score on HAM-D.

Particulars	Frequency	Present
10 - 13 Mild	32	80 (80%)
14-17 Mild to Moderate	7.5	17.5 (17.5%)
17 > Moderate to Severe	1	2.5 (2.5%)

This table indicates score on HAM-D. Maximum of person i.e 32 (80%) were seen in mild category that score of scale is 10-13. 7.5 (17.5%) of the cohort found under scores of 14-17 that is Mild to Moderate category. 1 person was observed in Moderate to Severe group

Table 5 -Correlation between the socio -demographic and HAM-D.

Particulars		Mild	Mild to Moderate	Moderate to Severe	$\chi 2$	P
Gender	Male	14	6	0	5.071	0.079
	Female	18	1	1		
Marital status	Married	21	2	1	3.969	0.137
	Unmarried	11	5	0		
Occupation	Employed	18	5	0	1.929	0.381
	Unemployed	14	2	1		
Income	Rs 20,000	16	5	1	1.905	0.386
	Rs> 20,000	16	2	0		
Family	Nuclear	26	6	0	4.174	0.124
	Joint	6	61	1		

There was no significant correlation between on HAM-D and socio-demographic variable

Table 6 -Correlation between the socio -demographic and HAM-A.

Particulars		Score 14	Score >14	X2	P
Gender	Male	39	1	0.321	0.571
	Female	39	2		
Marital status	Married	48	01	0.962	0.327
	Unmarried	30	02		
Occupation	Employed	60	01	3.247	0.197
	Unemployed	17	02		
Income	Rs 20,000	36	02	0.488	0.486
	Rs> 20,000	42	01		
Family	Nuclear	67	2	1.059	0.589
	Joint	11	1		

There was no significant correlation between on Hamilton Anxiety scale and socio-demographic variable.