



A CROSS SECTIONAL STUDY ON FACTORS HAVING PSYCHOLOGICAL IMPACT ON COVID 19 PATIENTS IN AN URBAN POPULATION OF BENGALURU

Community Medicine

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ABSTRACT

SARS-CoV-2 outbreak was declared as a Public Health Emergency of International Concern on the 30th Jan 2020 and a pandemic on the 11th March 2020. The pandemic has caused increasing public panic and mental health stress. Patients diagnosed with COVID-19 are more likely to have psychological concerns in the form of fear, fear of progression of their illness, disability, or premature death. The study aimed to assess the prevalence and factors associated with symptoms of anxiety among COVID-19 patients. A cross sectional study was conducted among COVID 19 patients admitted to Covid care unit of tertiary care centre. Based on the prevalence of anxiety being 34.7%, totally 102 subjects were interviewed by simple random sampling technique. Study tool contained demographic profile, psychosocial factors and severity of anxiety assessed using GAD-7 scale. Out of 102 patients, 69.6% were male and 30.4% were female. Majority, 36.3% were in the age group of 40 to 59 yrs, 85.3% belonged to nuclear family and 38.2% belonged to Upper middle class. The prevalence of anxiety was 27.5%, where 60.7% had mild, 39.2% had moderate to severe anxiety. Social stigmatization, financial burden and those belonging to nuclear and BPL families were predicting factors for anxiety. The study showed that 27.5% of Covid patients had symptoms of anxiety. Hence there is a need for Psychological preparedness, awareness programs and community based strategies stressing on mental health in order to build resilience among psychologically vulnerable groups for future pandemics.

KEYWORDS

COVID 19, cross sectional survey, Psychological health, urban population

INTRODUCTION

In December, 2019, Wuhan, Hubei province, China, became the centre of an outbreak of pneumonia of unknown cause, now termed COVID 19 caused by Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2), a new virus in humans causing respiratory illness which can be spread from person-to-person^{1,2}. After SARS and Middle East respiratory syndrome (MERS) outbreaks, and influenza H1N1 pandemic in 2009, the risk of a spread of a new pandemic has re-emerged by a new strain of coronavirus that has not been identified previously in humans.

The World Health Organization (WHO) declared the SARS-CoV-2 outbreak as a Public Health Emergency of International Concern on the 30th of January 2020 and then a pandemic on the 11th of March 2020, as a result of the worldwide spread of COVID-19³. The COVID-19 has affected **215 countries and territories** around the world and 2 international conveyances. Globally, there have been 665 million cases followed by 6.7 million deaths and 636 million recovered till date as per the World meter (Dec 2022). In India 44.6 million cases have been confirmed with 530 thousand deaths and 44.1 million have been recovered⁴.

The pandemic has caused an increased public panic and mental stress. Mental health is becoming an issue that cannot be ignored, while trying to control the pandemic⁵. This unpredictable, fast spreading infectious disease has been causing universal awareness, anxiety and distress, all of which according to WHO are natural psychological responses to the randomly changing condition. The fear of contracting the virus, lack of treatment, higher mortality associated with the virus, and uncertainty about the disease are the major factors that were found to be highly responsible in increasing psychological distress, adjustment, and even more serious mental health problems⁶.

Rapidly expanding mass hysteria and panic regarding COVID-19 may beget enduring psychological problems in public from all the socioeconomic domains, which could potentially be even more detrimental in the long run than the virus itself⁷. Patients diagnosed with COVID-19 have more likely to have psychological concerns in the form of fear, concerns such as fear of progression of their illness, disability, or premature death. Hence it is essential to investigate the factors having psychological impact on patients infected with COVID-19. In view of limited studies done in India, the present study aimed to

explore the prevalence of anxiety and factors linked to anxiety among COVID-19 positive patients admitted to Covid care unit of a tertiary care centre, Bengaluru.

METHODOLOGY

A hospital based- cross sectional study was conducted among participants diagnosed with Covid 19 admitted to Covid care unit of a tertiary care centre attached to a Medical college, Bengaluru for 2 months from Oct-Dec 2020. Based on the prevalence of symptoms of anxiety among COVID 19 positive patients being 34.7% in a study conducted by Kong X et al⁸ at 10% of absolute precision, the sample size was estimated to be 91, and taking 10% for non respondents the minimum sample size came up to 100, totally 102 participants tested positive for COVID 19 and who gave consent to be a part of the study were included and those patients with severe Covid disease were excluded. A simple random sample technique was used to interview the study participants. The first patient with Covid 19 admitted during the study period was selected randomly by using computer generated random numbers, then the consecutive patients tested positive for Covid 19 was selected until the desired sample size was reached.

Initially a pilot study was done among 30 Covid 19 positive patients admitted to Covid care unit to check for the feasibility of study tool. The study tool contained details of socio demographic profile and factors affecting psychological health of COVID 19 positive patients. The symptoms of anxiety was assessed using Generalized Anxiety Disorder 7-item (GAD-7) scale. The study participants were interviewed using a pretested semi structured questionnaire after obtaining a informed verbal consent. The data was collected through Google forms. A link of online copy of questionnaire was shared to health care professionals (PGs and faculties) posted to Covid duties during the study period. Anonymity of the study participants was maintained.

Operational Definition:

Generalized Anxiety disorder scale (GAD-7)⁸

The Generalized Anxiety Disorder Scale-7 (GAD-7) is a 7-item, self-rated scale developed by Spitzer and colleagues as a screening tool and severity indicator for GAD. Generalized anxiety disorder scale is used to assess the degree of symptoms of anxiety disorders. Scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate and severe anxiety, respectively. A cutoff score of 10 was identified as the optimal point for sensitivity (89%) and specificity (82%) for anxiety.

Statistical Analysis:

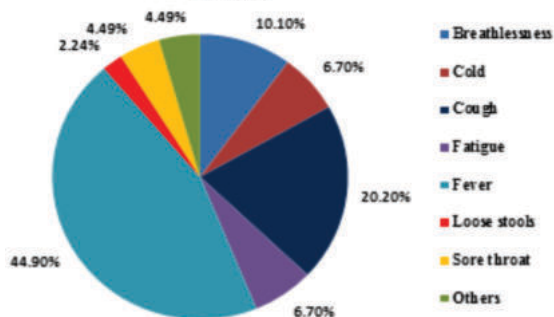
The collected data from Google forms was transferred to Microsoft excel sheet. After initial data cleaning the data was analysed using SPSS version 20.0. The collected information was presented using descriptive statistics such as frequency, mean, percentages. The inferential statistics was done using chi-square test for categorical variables. Mean scores were calculated for continuous variables. A p value of < 0.05 was considered to be significant. The study was approved by Institutional Ethics committee (IECNO: SIMS&RC/IEC/13/2020).

RESULTS

The findings of the study reflected on 102 Covid 19 positive patients admitted to Covid care unit during the study period; where 36.3% of them belonged to 40 to 59 yrs of age group and nearly 70% were females. Majority, 85.3% belonged to Nuclear families and 45.1% were BPL card holders. Out of 102 participants, 12.7% were illiterates, 38.2% belonged to Upper middle class family as per Mod. B G Prasad classification and 76.5% of them did not have any social security schemes. Among social habits, 19.6% of them had history of smoking and alcohol consumption (Table.1).

Table.1: Demographic characteristics of patients with COVID 19

Demographic variable	Frequency, N(102)	Percentage (%)
Sex		
Male	31	30.4
Female	71	69.6
Age		
<20yrs	3	2.9
20-39yrs	38	27.3
40-59yrs	37	36.3
>60yrs	24	23.5
Type of family		
Joint	15	14.7
Nuclear	87	85.3
Card holders		
APL	42	41.2
BPL	46	45.1
NIL	14	13.7
Socio economic status		
Class I	25	24.5
Class II	39	38.2
Class III	21	20.6
Class IV	12	11.8
Class V	5	4.9
Social security schemes		
Yes	24	23.5
No	78	76.5
Literacy		
Graduate	35	34.3
Higher secondary	17	16.7
High school	25	24.5
Primary	12	11.8
illiterate	13	12.7
h/o Smoking		
Yes	20	19.6
No	82	80.4
h/o Alcohol consumption		
Yes	20	19.6
No	82	80.4

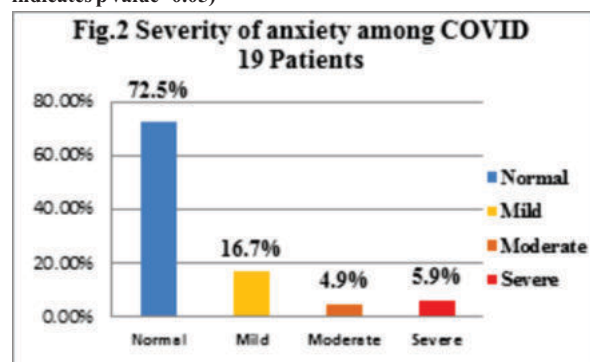
Fig.1 :Depicts the symptoms in COVID 19 Patients

Out of 102, 13 (12.7%) were asymptomatic and remaining 89 (87.3%) had symptoms of COVID-19. The most common symptoms was fever; 40 (40.4%), cough 18 (20.2%), breathlessness, 9 (10.1%) and less than 10% had symptoms of fatigue, loose stools, sore throat etc. Severity of anxiety assessed using GAD-7 scale showed 74 (72.5%) of patients being normal and the rest 28 (27.5%) had symptoms of anxiety. Among the patients with anxiety 17 (60.7%) had mild, 5 (17.8%) had moderate and rest 6 (21.4%) had symptoms of severe anxiety (Fig.1&2). Patients belonging to BPL and nuclear families, those with h/o financial burden and those facing social stigmatization due to COVID-19 were the predicting factors that showed a significant association with symptoms of anxiety disorders ($p<0.05$). (Table.2)

Table.2: Comparison of factors associated with anxiety among patients with COVID-19:

Determinants	Anxiety status N(%)		Total N=102 (100%)	p value
	Yes n=28	No n=74		
Sex				0.168
Female	11(39.3)	20(27)	31(30.4)	
Male	17(60.7)	54(73)	71(69.6)	
Card holders				0.035*
APL	12(44.4)	30(40.5)	42(41.2)	
BPL	16(55.6)	30(40.5)	46(45.1)	
NIL	0(0)	14(18.9)	14(13.7)	
Type of family				0.020*
Joint	8(28.6)	7(9.5)	15(14.7)	
Nuclear	20(71.4)	67(90.5)	87(85.3)	
Financial burden				0.033*
No	13(46.4)	64(86.4)	77(75.4)	
Yes	15(53.6)	10(13.6)	25(24.5)	
Social security schemes				0.136
No	24(30.8)	54(69.2)	78(100)	
Yes	4(16.7)	20(83.3)	24(100)	
(* fig in parenthesis indicate % of row total)				
h/o stigmatization				0.012*
No	20(22.7)	68(77.3)	88(100)	
Yes	8(57.1)	6(42.9)	14(100)	
(* fig in parenthesis indicate % of row total)				
Covid related symptoms				0.497
No	3(10.7)	10(13.5)	13(12.7)	
Yes	25(89.3)	64(86.5)	89(87.3)	

(*Note: Figures in parenthesis indicate % of column total, * indicates p value <0.05)

**DISCUSSION**

The study aimed to evaluate the status of anxiety and its associated factors among patients with COVID 19. The findings of the study showed nearly 70% of female participants, 36.3% belonged to middle aged group and 85.3% belonged to nuclear families. The prevalence of symptoms of anxiety among COVID 19 patients was 27.5% which reflected statistics of India with 28% of people with anxiety disorders. Similarly, the study by Kong et al also reported symptoms of anxiety being 34.7%⁵. A study done by Yadav et al in India showed prevalence of anxiety being 67%⁹.

The grim and unpredictable pandemicity of COVID 19 could be the reason for mass hysteria among the patients and also anxiety and depression are being interlinked with many diseases. Anxiety was

more prevalent among males, 60.7% in comparison with females, being 39.3%. A similar study in India also reported anxiety among males being 70.14% and females, 29.8%⁹. However a contradictory finding was reported in studies by X-D Nie et al where 76.7% of female patients suffered from anxiety symptoms¹⁰. Social isolation, financial impacts, pervasive loneliness and separation from loved ones could be few reasons for anxiety prevalent among the males.

Stigma is a major social determinant of health that drives morbidity, mortality and health disparities¹¹. Social stigmatization for contracting COVID infection was seen among 57.1% of the participants and this reflected in a similar research done by Adhikari et al where 40.2% of Covid patients, faced stigmatization due to the disease. Lack of reliable information about the virus transmission and prevention, and apprehension about contracting it resulted in stigma and discrimination against people infected with or vulnerable to COVID 19¹².

Among the participants with anxiety disorders, 53.6% of them faced financial burden due to Covid-19 and 55.6% of them belonged to BPL families and these factors were found to be statistically significant. Similar findings were seen in research by Rahman et al where psychological distress was seen among subjects whose financial status was negatively affected due to COVID 19¹³. Majority of the patients, 71.4% with anxiety belonged to nuclear families which reflected findings of Purushothaman et al where 76% of patients belonged to nuclear families¹⁴. Lack of social support, emotional stability and perceived distress for contracting infection in nuclear families could be one of the reasons for increased prevalence of anxiety. Due to limited sample size determinants like Age, Occupation, literacy status, marital status, family members with positive status, comorbidities, smoking and alcohol consumption were not found to be significant with symptoms of anxiety.

CONCLUSION AND RECOMMENDATION

The present study showed 28 (27.5%) of Covid patients having symptoms of anxiety, out of which 60.7% had mild anxiety and the rest 39.2% showed symptoms of moderate to severe anxiety. Among the factors, those belonging to nuclear and BPL families, social stigmatization, financial hardships and absence of social security schemes showed a significant association with symptoms of anxiety. There is a need to look beyond the physical symptoms and stress upon mental health among hospitalized patients and assessment of the same is needed for planning and management at the global level. Psychological assistance through telephone, internet and application based counselling have to be deployed by local health institutions. Psychological preparedness and awareness program is a must and there is a need to set up mental health organisations specific for future pandemic.

Limitations Of The Study:

One of the major limitations is that, the current study being a single centered cross sectional study, the findings of the study cannot be extrapolated and it would limit the causal interpretation of results. There could also be a possibility of self-reported bias on assessing generalized anxiety disorders as only self-rated scales were used to screen for anxiety.

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