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Comparative Study of Psychological Impact of Covid-19 Pandemic on Patients with COVID-19 Infected and non Covid-19 Infected in Tertiary Care Hospital

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ABSTRACT

The novel coronavirus 2019 (COVID-19) is widely spreading highly infectious disease all over the world causing mental health problems for most of the people. Corona virus has affected nearly every aspect of our lives. People who are infected with covid-19 are under tremendous psychological pressures which lead them to various mental health problems such as anxiety, stress and depression. The aim of the study was to compare the psychological impact like depression, anxiety and stress on patients who were infected with covid-19 and patients who were not infected with covid-19. The study was conducted after permission from Institutional Review Board. It is institutional based cross-sectional study. Two groups were made one is covid-19 infected patient group and other is non-Covid-19 infected group. Each group comprise of 50 patients. Total 100 patients were enrolled in the study. Participants were administered a semi structured questionnaire to obtain details about socio-demographic status and DASS 21 scale was administered to identify various psychological impact like Depression, Anxiety, Stress. The findings in both groups were compared. The prevalence of anxiety among non-covid patients 16 out of 50 (32%) and covid 19 patient 35 out of 50 (70%) which was found to be statistically significant. The prevalence of depression among non-covid patients 13 out of 50 (26%) and covid 19 patient 27 out of 50 (54%) which was also found to be statistically significant. The prevalence of stress not found statistically significant in covid and non-covid patient's groups. During pandemic of covid19, patients infected with covid have shown significant psychological impact.

INTRODUCTION

Originating as a cluster of unexplained cases of pneumonia, coronavirus disease 2019 (Covid-19) was first identified in Wuhan, Hubei Province, China in December^[1]. Since then, it has affected most of the nation's globally because of its rapid spread and it has been declared as public health emergency situation by WHO and later declared as pandemic by WHO in March 2020^[2]. In past it is observed that during in economic crisis, natural disaster or pandemic people suffer from mental health problems^[3-5]. If similar patterns hold for the COVID-19 pandemic the psychological effects of persistence stress among the general population and exacerbation of several mental health disorders among the vulnerable individuals will further strain the current health care system.

As the health care workers are the frontlines to deal this pandemic conditions. They suffer from severe psychological side effects than the general population^[1] which may be attributed to extremely long working hrs, heavy work load, constant contact with covid infected patients and environment, feelings of inadequate support^[2]. As a result, health-care workers will be under overwhelming psychological pressure which may lead to various psychological problems, such as anxiety, fear, depression and stress^[5].

Many studies have been conducted on the mental health of health-care workers during the pandemic in different countries but there are very few Indian studies on the mental health of Health care Workers, hence we have conducted the study. The results of this study can provide important data to support health-care managers and the allocation mental health services for health-care workers. Moreover, understanding the mental health impacts of COVID-19 on health-care providers is important to identify possible interventions.

Therefore this study aimed to assess the mental health adverse effects of COVID-19 and associated factors of COVID-19 on health professionals working in a tertiary care hospital.

MATERIALS AND METHODS

It is an observational study done at a tertiary care hospital after Institutional Ethics Committee approval, designed in accordance with the Declaration of Helsinki. Patients in the age group of 18-60 years were included in the study. Patients of age >60 years and <18 years patients were excluded from the study.

A total of 250 study sample with. Above inclusion and exclusion criteria and who gave consent, were randomly selected for the study as cases. They were administered semi structured questionnaires to obtain details about socio-demographic status and illness

variables. Depression, Anxiety and Stress Scale-21(DASS-21) is a set of three self-report scales, consist of 21 questions designed to measure the emotional states of depression, anxiety and stress.

Statistical analysis: Qualitative data were (Age, Gender, Education etc) were described using frequency and percentage. Chi-square test used. $p < 0.05$ was considered significant.

RESULTS

In our study male participants in Non covid19 patient group were 30 (60%) and in Covid19 infected patient group were 25 (50%). Female participant in Non covid19 patient group were 20 (40%) and in Covid19 infected patient group were 25 (50%). In our study patients educated up to 10th class in non-covid-19 patient group were 4 (8%) and in covid-19 infected group were 11 (22%). HSC and diploma educated in non-covid-19 patient group were 9 (18%) and in covid-19 infected group were 8 (16%). Graduate educated in non-covid-19 patient group were 21 (42%) and in covid-19 infected group were 3 (6%). Postgraduate educated in non-covid-19 patient group were 16 (32%) and in covid-19 infected group were 1 (2%). Illiterate patients in non-covid-19 patient group were 0 (0%) and in covid19 infected group were 27 (54%).

In our study 18-34 year of age participants in non-covid-19 patient group were 29 (58%) and in covid-19 patient group were 14 (28%). 35-49 year of age participants in non-covid19 patient group were 18 (36%) and in covid-19 patient group were 14 (28%). Above 50 year of age participants in non-covid-19 patient group were 3 (6%) and in covid-19 patient group were 22 (44%).

In our study after analysing data by chi-square test it was not found statistically significant. Patients having normal range of stress in non-covid-19 patient group were 31 (62%) and in covid19 patient group were 30 (60%). Patients having mild type of stress in non-covid-19 patient group were 10 (20%) and in covid-19 patient group were 11 (22%). Patients having moderate type of stress in each non-covid-19 patient group and in covid-19 patient group were same 6 (12%). Patients having severe type of stress in non-covid-19 patient group were 2 (4%) and in covid-19 patient group were 1 (2%). Patients having extremely severe type of stress in non-covid-19 patient group were 1 (2%) and in covid-19 patient group were 2 (4%).

In our study after analysing data by chi-square test it was found statistically significant. Patients having normal range of anxiety in non-covid-19 patient group were 34 (68%) and in covid-19 patient group were 15 (30%). Patients having mild type of anxiety in non-

Table 1: Comparison of gender distribution in Covid-19 patients and non-Covid-19 patients

Gender	Non covid-19 patients	Covid-19 patients
Male	30 (60%)	25(50%)
Female	20(40%)	25(50%)
Total	50(100%)	50(100%)

Table 2: Comparison of education in Covid-19 patients and Non Covid-19 patients

Education	Non- Covid-19 patients	Covid-19 patients
Up to 10 th	4 (8%)	11(22%)
HSC/ diploma	9(18%)	8(16%)
Graduate	21(42%)	3(6%)
Postgraduate	16(32%)	1(2%)
Illiterate	0(0%)	27(54%)
Total	50 (100%)	50(100%)

Table 3: Comparison of age in Covid-19 patients and non-Covid-19 patients

Age (Year)	Non-Covid-19 Patients	Covid-19 patients
18-34 year	29 (58%)	14 (28%)
35-49 year	18 (36%)	14 (28%)
Above 50	3 (6%)	22 (44%)
Total	50 (100%)	50 (100%)

Table 4: Comparison of stress in Covid-19 patients and non-Covid-19 patients

Stress category	Non-Covid-19 patients	Covid-19 patients
Normal	31 (62%)	30 (60%)
Mild	10 (20%)	11 (22%)
Moderate	6 (12%)	6 (12%)
Severe	2 (4%)	1 (2%)
Extremely Severe	1 (2%)	2 (4%)
Total	50 (100%)	50 (100%)

$\chi^2 = 0.73$, $p > 0.05$, statistically not significant

Table 5: Comparison of anxiety in Covid-19 patients and Non-Covid-19 patients

Anxiety category	Non-Covid-19 patients	Covid-19 patients
Normal 34 (68%)	15 (30%)	
Mild 3 (6%)	1 (2%)	
Moderate	4 (8%)	16 (32%)
Severe 0 (0%)	6 (12%)	
Extremely Severe	9 (18%)	12 (24%)
Total 50 (100%)	50 (100%)	

$\chi^2 = 21.99$, $p < 0.01$, statistically significant

Table 6: Comparison of depression in Covid-19 patients and Non Covid-19 patients

Depression category	Non-Covid-19 patients	Covid-19 patients
Normal 37 (74%)	23 (46%)	
Mild 3 (6%)	7 (14%)	
Moderate	5 (10%)	11 (22%)
Severe 2 (4%)	6 (12%)	
Extremely Severe	3 (6%)	3 (6%)
Total 50 (100%)	50 (100%)	

$\chi^2 = 9.11$, $p < 0.05$, statistically significant

covid-19 patient group were 3 (6%) and in covid-19 patient group were 1 (2%). Patients having moderate type of anxiety in non-covid-19 patient group were 4 (8%) and in covid-19 patient group were 16 (32%). Patients having severe type of anxiety in non-covid-19 patient group were 0 (0%) and in covid-19 patient group were 6 (12%). Patients having extremely severe type of anxiety in non-covid-19 patient group were 9 (18%) and in covid-19 patient group were 12 (24%).

In our study after analysing data by chi-square test it was found statistically significant. Patients having normal range of depression in non-covid-19 patient group were 37 (74%) and in covid-19 patient group were 23 (46%). Patients having mild type of depression in non-covid-19 patient group were 3 (6%) and in covid-19 patient group were 7 (14%). Patients having

moderate type of depression in non-covid-19 patient group were 5 (10%) and in covid-19 patient group were 11 (22%). Patients having severe type of depression in non-covid-19 patient group were 2 (4%) and in covid-19 patient group were 6 (12%). Patients having extremely severe type of depression in each non-covid-19 patient group and in covid-19 patient group were same 3 (6%).

DISCUSSION

We found in this study that anxiety and depression are significantly high in covid infected patients. Anxiety in covid infected patient was 70%. Depression in covid-19 patients was 54%. During pandemic uncertainty about the disease, treatment of illness, miss belief about illness and uncertainty about life may contribute to increase in psychological impact over covid-19 patients. Zhang *et al.* conducted study in China, comparing covid-19 patients with the general population. The prevalence of depression was higher in their study (29.2%) for covid-19 patients, but lower in noncovid infected patient (9.8%)^[6]. As per study published in Lancet psychiatry on 9 November 2020 psychological impact like depression, anxiety risk was doubled compared to people who did not have covid-19 infections^[7]. In other study done by Ortiz Prado *et al.* there was no significant difference of anxiety and depression found in covid-19 patient and non-covid patients^[8]. This pandemic has affected physical as well as mental health thus it has been presumed that there is need to increase psychiatric counselling and intervention like cognitive behaviour therapy may help in such patients.

CONCLUSION

In summary, COVID-19 patients displayed a high incidence of anxiety, depression and somatization. Early identification and intervention of the psychological problems in COVID-19 patients should be adopted to avoid extreme events such as self harming or suicidal behaviour of the patients.

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