

Impact of COVID 19 on resident doctors

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ABSTRACT

Background: COVID 19 possess a serious threat to the physical as well as their mental health of Resident Doctors as they are one of the front-line warriors of this pandemic. This present study has been done to quantify the mental health issues of the resident doctors to address their needs.

Methodology: A cross sectional study done on resident doctors in Chengalpattu Medical College & Hospital with purposive sampling for 2 months during the early phase of the COVID pandemic in 2020. Participants were assessed with Depression Anxiety and Stress Scale – 21 (DASS – 21)

Results: 51.9% of the resident doctors had depressive symptoms. 55.5% reported with anxiety symptoms, 12.3% of felt stressed. History of mental illness and hypothyroidism had a significant association with depressive symptoms. There is a significant positive association between Depression & Anxiety symptoms, Depressive symptoms & Stress and Stress & anxiety symptoms.

Conclusion: COVID 19 has a direct effect in the mental well-being of the resident doctors as significant number of them presenting with complaints of depressive symptoms and anxiety symptoms. These symptoms need to be assessed by an in-person diagnostic interview for further management.

Keywords: Resident Doctors, Stress, Depression, Anxiety, COVID 19

Running Title: Impact of COVID on resident doctors

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INTRODUCTION

In December, 2019, a novel coronavirus outbreak of pneumonia emerged in Wuhan, Hubei province, China and has subsequently garnered attention around the world.¹ The COVID-19 pandemic continues extensively in India with infections on the rise. Limited and uneven accessibility to healthcare in India is likely to be a major impediment in its fight against the pandemic.² Public opinion in India towards doctors has always been ambivalent.^{3,4}

Doctors are amongst the people most at risk of getting the disease. It is causing undue stress and restlessness when colleagues are sick or on ventilator in ICU due to coming in contact with Covid-19.⁵ In the fight against the 2019 novel coronavirus (2019-nCoV), Resident Doctors have been facing enormous pressure, including a high risk of infection and inadequate protection from contamination, overwork, frustration, discrimination, isolation, patients with negative emotions, a lack of contact with their families, and exhaustion.⁶ Most of the doctors have no one else to take care of their children or families during times of self-isolation or quarantine. As every time a doctor falls ill the already strained health system gets a blow.⁷ These mental health problems not only affect the resident doctor's attention, understanding, and decision arriving ability, which might hinder the fight against 2019-nCoV, but could also have a lasting

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effect on their overall wellbeing. Protecting the mental health of these resident doctors is thus important for control of the epidemic and their own long-term health.

Tamil Nadu is one of the highly affected state in India ranking second only to Maharashtra. The most severely affected districts in Tamilnadu are Chennai, Chengalpattu, Kancheepuram and Thiruvallur. Hence, we conducted a Study on the impact of COVID 19 among the resident doctors in Chengalpattu medical college and hospital which is functioning as a COVID center in Chengalpattu district in Tamilnadu.

Objectives:

- 1 To determine the prevalence of depression & anxiety symptoms, and stress among resident doctors
- 2 To correlate it these symptoms with socio-demographic details.
- 3 The find the association between depression, anxiety, and stress.

METHODOLOGY:

This was a cross-sectional, observational study done on resident doctors of Chengalpattu medical college and hospital. An online survey using google forms was conducted in the early phase of the pandemic in 2020. Forms were sent to 117 resident doctors working in Chengalpattu medical college hospital and 81 of them responded. Sample size was calculated using the formula Purposive sampling technique is used, as the study in confined to resident doctors of Chengalpattu medical

college hospital. The survey questionnaire consisted of four sections like information sheet, consent form, socio-demographic details, Depression Anxiety and Stress Scale (DASS-21). The survey questionnaire was shared through email and WhatsApp and data was directly collected into an excel sheet for analysis

Depression Anxiety and Stress Scale - 21: The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. It uses a 4-point Likert scale ranging from 0 - did not apply to me at all to 3 - applied to me very much or most of the time. Scores for depression, anxiety and stress are calculated by adding the scores for the relevant items.

Statistical Analysis: Data was analysed using SPSS version 16. Discrete variables were computed as frequencies and percentages. Groups were compared using Chi square test. The significance level was set as P value <0.05.

RESULTS:

Prevalence of Depression, Anxiety and Stress during COVID

About 51.9% of the resident doctors had depression, 55.5% had anxiety and 12.3% had stress. Depression was predominantly mild (17.3%) to moderate (25.95%) and predominant of them had moderate (18.5%) and severe anxiety (17.3) whereas, the stress was predominantly moderate (4.9%). (Table 1)

Table 1: Severity of depression, anxiety and stress among resident doctors.

Severity	Depression	Anxiety	Stress
Mild	14 (25.9%)	9 (11.1%)	3 (3.7%)
Moderate	21 (4.9%)	15 (18.5%)	4 (4.9%)
Severe	4 (3.7%)	7 (8.6%)	3 (3.7%)
Extreme	3 (3.7%)	14 (17.3%)	0 (0%)
Total	42 (51.8%)	45 (55.5%)	10 (12.3%)

Socio demographic Profile and its correlation with Depression, Anxiety and Stress during COVID:

Out of those 81 responders, predominant of them were females (55.6%), aged between 26 to 30 years (46.9%), unmarried (77.8%), pursuing second year of

Postgraduation (53.11%). 3.7% had hypothyroidism. Among those with history of substance use, 8.6% (7), 3 had an increase and 4 had a decreased substance use. 3.7% of the residents had a known history of psychiatric illness and 6.2% of them had a family history of

psychiatric illness. (Table 2a). The socio demographic variables have no significant association with anxiety and stress.

Correlation between Depression, Anxiety and Stress during COVID:

History of mental illness ($P=0.04$) and hypothyroidism ($P=0.04$) had a significant association with depression.

(Table 2b)

There was a significant (70.2%) positive association between Depression and Anxiety ($p=0.0001$). There was also a significant (73.8%) positive association between Depression and Stress ($p=0.0001$). There was a significant (82.1%) positive association between Stress and anxiety as well ($p=0.0001$)

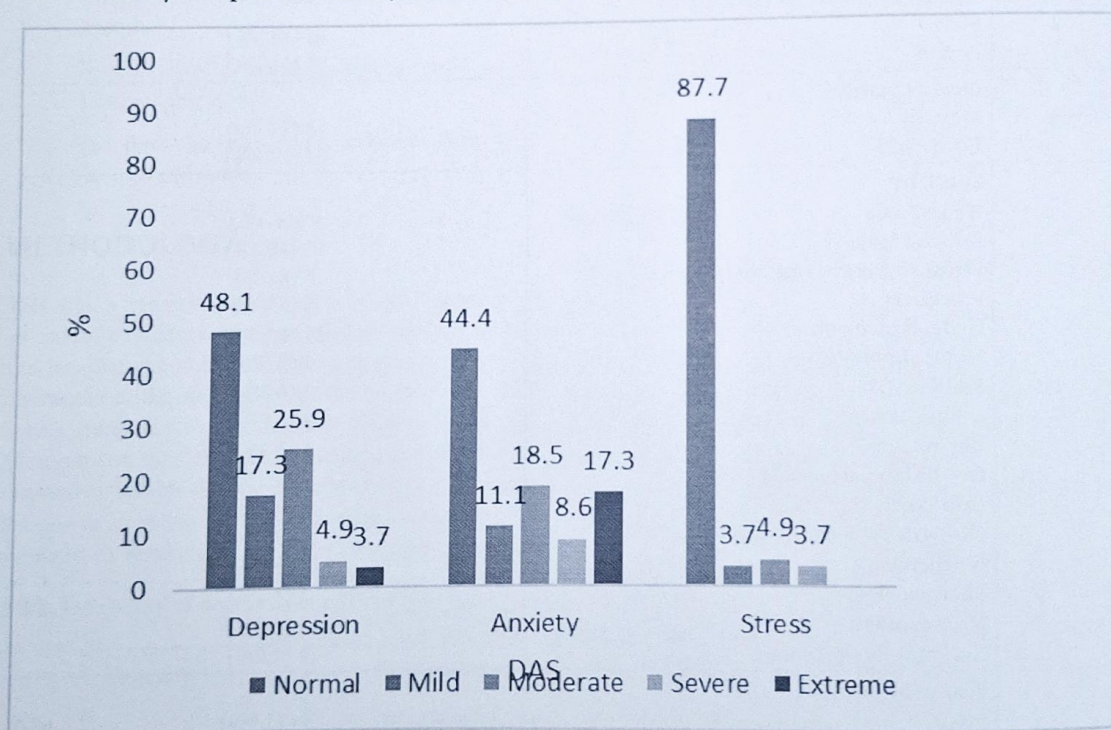
Table 2a: Socio-demographic details of participants

S.No	Socio-Demographic Data	Frequency (%)
1.	Age	
	<25 years	28 (34.6%)
	26 to 30 years	38 (46.9%)
	≥31 years	15 (18.5%)
2.	Gender	
	Male	36 (44.4%)
	Female	45 (55.6%)
3.	Marital Status	
	Married	18 (22.2%)
	Unmarried	63 (77.8%)
4.	Specialty	
	Anaesthesia	9 (11.1%)
	General Surgery	15 (18.5%)
	Dermato Venero Leprology	7 (8.6%)
	Psychiatry	6 (7.4%)
	General Medicine	19 (23.5%)
	Ophthalmology	2 (2.5%)
	Paediatrics	5 (6.2%)
	Orthopaedics	3 (3.7%)
	Physiology	1 (1.2%)
	Oto Rhino Laryngology	3 (3.7%)
	Pathology	3 (3.7%)
	Obstetrics & Gynaecology	3 (3.7%)
	Biochemistry	1 (1.2%)
	Pharmacology	1 (1.2%)
Microbiology	2 (2.5%)	
	Community Medicine	1 (1.2%)
5.	Year of Study	
	I year	9 (11.1%)
	II year	43 (53.1%)
	III year	29 (35.8%)
6.	History of Psychiatric Illness	
	Yes	3 (3.7%)
	No	78 (96 %)
7.	Family History of Mental Illness	
	Yes	5 (6.2%)
	No	76 (93.8%)
8.	Physical Comorbidities (Hypothyroidism)	
	Yes	3 (3.7%)
	No	78 (96 %)

Table 2b: Association between depression and other factors

S.No	Particulars	Chi Sq	p value
1	Age	6.97	0.5
2	Sex	5.43	0.2
3	Marital Status	1.92	0.8
4	Speciality	51.63	0.8
5	Year of Study	4.84	0.8
6	H/o Psychiatric illness	9.57	0.04
7	Family history of psychiatric illness	0.71	0.9
8	Physical comorbidities	11.9	0.01
9	History of substance use	3.84	0.4
10	Increase or decrease substance use	2.1	0.4

FIG 1: Severity of depression, anxiety and stress among residents



DISCUSSION:

The prevalence of depression India among resident doctors is 18.5% which is significantly higher than normal population with the same age by Sahoo et al.⁸ This is probably due to the fact that resident doctors have a dilemma whether they have to concentrate on their specialities or COVID.

Our results revealed that about 51.9% of the residents had depressive symptoms, 55.5% had anxiety symptoms 12.3% felt stressed (Fig. 1). Earlier studies addressed

the prevalence of depression anxiety and stress among doctors revealed 35%, 33%, 39.5% respectively by Chatterjee, et al.⁹ Even though our study period being early phase of pandemic, (COVID duties for resident doctors started by March 2020 itself) it revealed even a higher prevalence of depression and anxiety whereas the prevalence of stress was reduced as compared to the previous studies. This was probably due to the increase in workload of resident doctors as the number of cases were increasing day by day. A study by Dave S et al in 2018 revealed that the prevalence of depression in resident doctors was about 27.7%, 36.6% had anxiety,

and 24.2% had stress in 2018.¹⁰ Our study as well that by Chatterjee, et al revealed an increased prevalence of depression and anxiety compared to Dave S et al. The pandemic scenario might have contributed to this finding as most of the resident doctors worked extensively in COVID wards rather than doing their routine work. Thus COVID 19 might had a direct effect on the mental well-being of the resident doctors.

There was also a significant association between hypothyroidism (p 0.01) and history of mental illness (p 0.04) with depressive symptoms. Results also revealed that there was a significant association between depression, anxiety and stress and if depression increases stress and anxiety will increase and vice versa which will result in a serious impairment and dangerous consequences. Hence it is a high time to pay special attention to the mental wellbeing of the resident doctors, thereby doing justice to those professionals who are toiling hard during this COVID pandemic.

Limitations:

Individual differences in coping strategies and resilience could contribute to variations noted. The time point of

observation during the pandemic might affect results due to factors like familiarity, case-load, fatigue etc., Since this is a study is designed with a web-based questionnaire, the attention, mood and concentration of the resident doctors might both positively and negatively affect the results directly. Finding the confounding factors that attributes to depression, anxiety and stress would give a better picture.

Future Directions:

Addressing the day-to-day issues of resident doctors and a long term follow up with psychological support is required to safe guard the mental health of the resident doctors.

CONCLUSION:

Resident doctors are under enormous stress as significant number of them presenting with complaints of depressive symptoms and anxiety symptoms. The findings of the study need to be validated by an in person diagnostic interview. An interventional programme has to be initiated to safe guard the mental well-being of the resident doctors.

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