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Research Paper

A Study of Resilience and Coping Skills in Doctors During Covid-19 Pandemic in Kalaburagi

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ABSTRACT

Introduction: On March 11, 2020, the virus, SARS-CoV-2, was declared the COVID-19 pandemic by the WHO.2 The negativities related with COVID-19 on healthcare employees, including the disease burden on the healthcare system, as well as the infection risk can be considered as the important effects of this global pandemic. The career of a doctor can be very demanding especially in the time of a pandemic. The COVID-19 outbreak forces doctors around the world to make difficult decisions and work under extreme pressure. *Aims & objectives* 1. To measure resilience in doctors during the COVID-19 pandemic 2. To assess the coping skills among doctors amid the COVID-19 outbreak. 3.To assess the impact of demographic variables on these factors. *Materials & methods:* An online cross-sectional survey using Google forms. *Sample size:* 300 Instruments*:* The Brief Resilience Scale (BRS) comprises of six items to assess the ability to bounce back or to recover from stress (Smith et al, 2008). Items 1, 3 and 5 are positively worded, and items 2, 4 and 6 are negatively worded. Items are scored on a 5-point Likert scale, ranging from 1 to 5. The Brief-COPE scale consists of the 28-item self-report questionnaire designed to measure effective and ineffective ways to cope with a stressful life event. Each question has a 4-point Likert item. Following are the 4-point Likert item scores based on individual experience. *Results:* Out of 350 doctors, 268 of them had responded to our questionnaire. The demographic details of the study participants and their responses were analyzed by using descriptive analysis. Majority of the participating doctors were aged between 18 to 30 years, accounting for about (223)83.2%, followed by the participants aged between 31 to 40 years with the incidence of 28/268 (10.5%). 12/268(4.5%) and 5/268(1.8%) were aged 41 to 50 and >50 years respectively. There were 144 male and 124 female doctors present in the study. Out of 268 doctors present in the study, 206(76.9%) were unmarried and only 62 (23.1%) of them were married. After analysing the brief resilience score in our study population, we found 101/268(37.68%) were presented with the low resilience. 161(60.08%) and 6(2.24%) were found to be having normal and high resilience scores. The average avoidant coping score found in our study participants was 21.3±4.6. Majority of the doctors tried self distraction as the method of coping which accounted for about 23.19% of the avoidant coping. The overall average score was 29.58±5.7, among which the majority; about 19.57% of the approach coping, accepted the fact and were coping up with the situation well. The mean resilience was

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observed to be normal in range among doctors. Better resilience was observed in older age, male gender, lesser duration of patient – doctor contact, years of work experience and in doctors who were staying with family.

Keywords: Resilience, Coping, Covid 19

On March 11, 2020, the virus, severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2), was declared the COVID-19 pandemic by the World health organisation (WHO). The disease burden on the healthcare & infection risk can be considered as the important effects of this global pandemic. [1] The career of a medical professional had become immensely demanding especially in the time of a pandemic. Especially in India where the doctors: patient ratio is very less, there will be abundance of stress over the doctors.[2]

COVID-19 outbreak has forced doctors around the world to make difficult decisions and work under extreme pressure. These decisions may include how to allocate limited resources equally to the patients, how to balance their own physical and mental healthcare needs with those of the patients, how to align their desire and duty to patients with those to family and friends and how to provide care for all severely ill patients with limited resources. And how to self-quarantine themselves from their family when they test positive or during post covid duty quarantine period, these dramatic events have highlighted the importance of resilience and coping skills.[3, 4]

Resilience refers to one's ability to bounce back from adversity and view adversity as an opportunity for growth; it is an increasingly recognized protective factor against stress.[5] Psychologists have identified some of the personality factors that make an individual resilient, including positive attitudes, optimism, the ability to regulate emotions and the ability to see failure as a form of beneficial feedback.[6]

Doctors themselves need to maintain their mental composure in order to serve the society in a better way especially during demanding situations such as Covid 19 pandemic.[7] So, measuring resilience and understanding their coping strategies and addressing them required for the betterment of doctors to serve their patients efficiently. Hence the present study was aimed at measuring resilience in doctors during the COVID-19 pandemic, to assess the coping skills among doctors amid the COVID-19 outbreak and to assess the socio demographic profile of doctors.

METHODOLOGY

We conducted a cross sectional, online study. After obtaining the institutional ethics committee clearance, an online questionnaire spread via social networks to 350 doctors working in hospitals equipped with wards for COVID 19 patients and who provided consent to participate in the study. The doctors who were not working in the covid hospital at the time of study and those who were not on social media platforms were excluded from the study. The validated structured questionnaire of us had included two sections, the primary component was socio-demographic details of the recruited doctors and their COVID-19-related experience. The second component was analysing the Brief Resilience scale and Brief-COPE scale among the study participants.

The Brief Resilience Scale (BRS) [8] comprises six items to assess the ability of an individual to bounce back or to recover from stress. Items 1, 3 and 5 are positively worded and items 2,

4 and 6 are negatively worded. Items are scored on a 5-point Likert scale, ranging from 1 to 5. The maximum score is 5.

The Brief-COPE scale[9] consists of the 28-item self-report questionnaire designed to measure effective and ineffective ways to cope with a stressful life event. Each question has a 4-point Likert item. Following are the 4-point Likert item scores based on individual experience.

Score	Question
1	I have not been doing this at all
2	I have been doing this a little bit
3	I have been doing this a medium amount
4	I have been doing this a lot

The maximum score is 112 (28 questions x 4 point likert score).

The coping was also categorized as follows:
1. **Avoidant coping:** Characterised by the subscales of denial, substance use, venting, behavioural disengagement, self-distraction, and self-blame. Avoidant coping is associated with poorer physical health among those with medical conditions.
2. **Approach coping:** Characterised by the subscales of active coping, positive reframing, planning, acceptance, seeking emotional support, and seeking informational support.
3. **Neither/or:** Characterised by the subscales of humour and religious ways of coping with stress. The collected data was tabulated in the Microsoft excel and analysed by using descriptive statistics.

RESULTS

Out of 350 doctors, 268 of them had responded to our questionnaire. The demographic details of the study participants and their responses were analysed by using descriptive analysis. The results are as follows;

Table 1: Frequency distribution of age of the study participants

Age (In years)	Number of patients (N: 268)	%
18-30	223	83.2
31-40	28	10.5
41-50	12	4.5
>50	5	1.8

Majority of the participating doctors were aged between 18 to 30 years, accounting for about (223)83.2%, followed by the participants aged between 31 to 40 years with the incidence of 28/268 (10.5%). 12/268(4.5%) and 5/268(1.8%) were aged 41 to 50 and >50 years respectively.
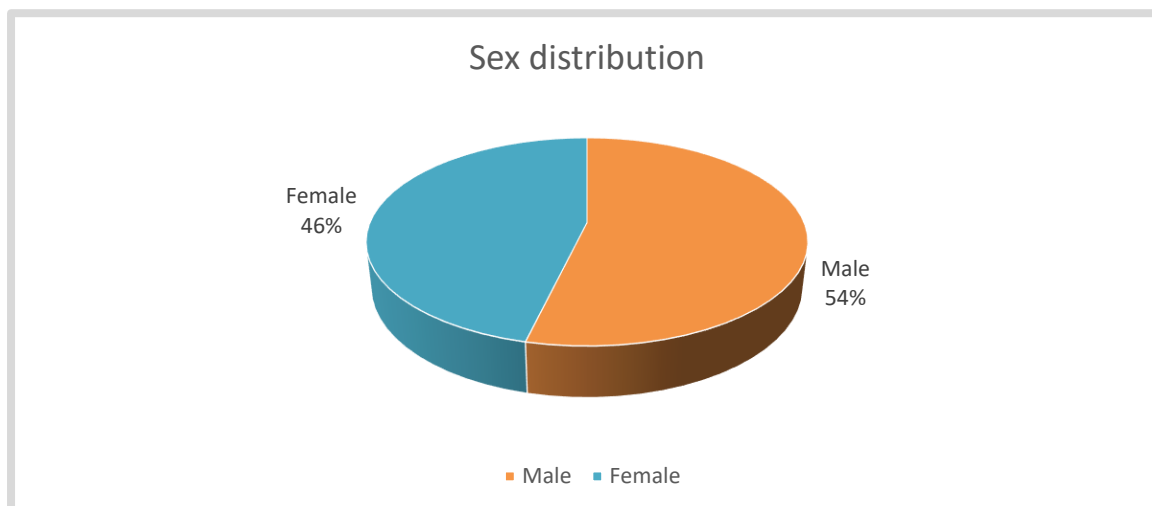
Figure 1: Distribution of gender among the study participants.

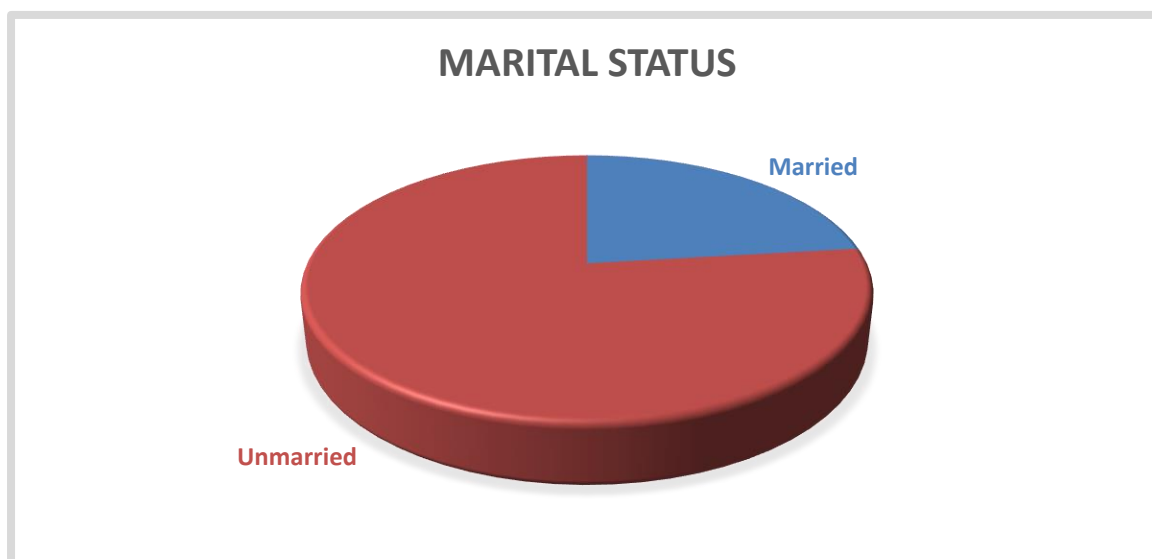There were 144 male and 124 female doctors present in the study.

Figure 2: Pie chart explaining the distribution of marital status of the study population.

Out of 268 doctors present in the study, 206(76.9%) were unmarried and only 62 (23.1%) of them were married.

Table 2: Distribution of mode of accommodation

Accommodation	N	%
Home	151	56.3
Hostel	90	33.6
Others	27	10.1

151 out of 268 study participants were living at their home. Whereas 90(33.6%) and 27(10.1%) of them were studying at hostels and other modes of accommodation respectively.
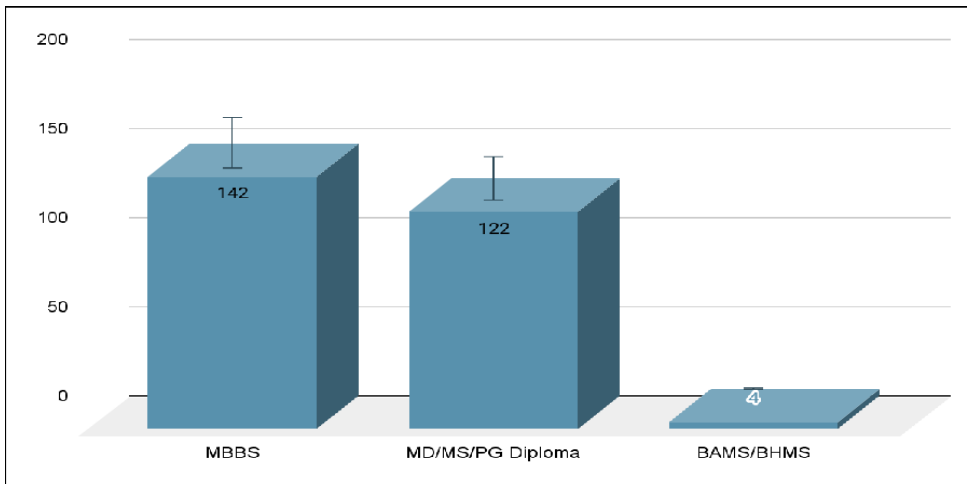
Figure 3: Bar diagram indicating the distribution of the qualification of the participated doctors.

Majority of the study participants were found with an MBBS degree accounted for about 142(53%) followed by 122 (45.5%) of them were with MD/MS or the PG diploma course. Only 4 doctors who participated in the study were found to be with BAMS and BHMS degrees.

Table 3: Distribution of the Brief Resilience score (BRS) among the study population

Score	Interpretation	N	%
1.00-2.99	Low	101	37.68%
3.00-4.30	Normal	161	60.08%
4.31-5.00	High	6	2.24%

After analysing the brief resilience score in our study population, we found 101/268(37.68%) were presented with the low resilience. 161(60.08%) and 6(2.24%) were found to be having normal and high resilience scores. The below bar diagram illustrates the distribution of the brief resilience score.

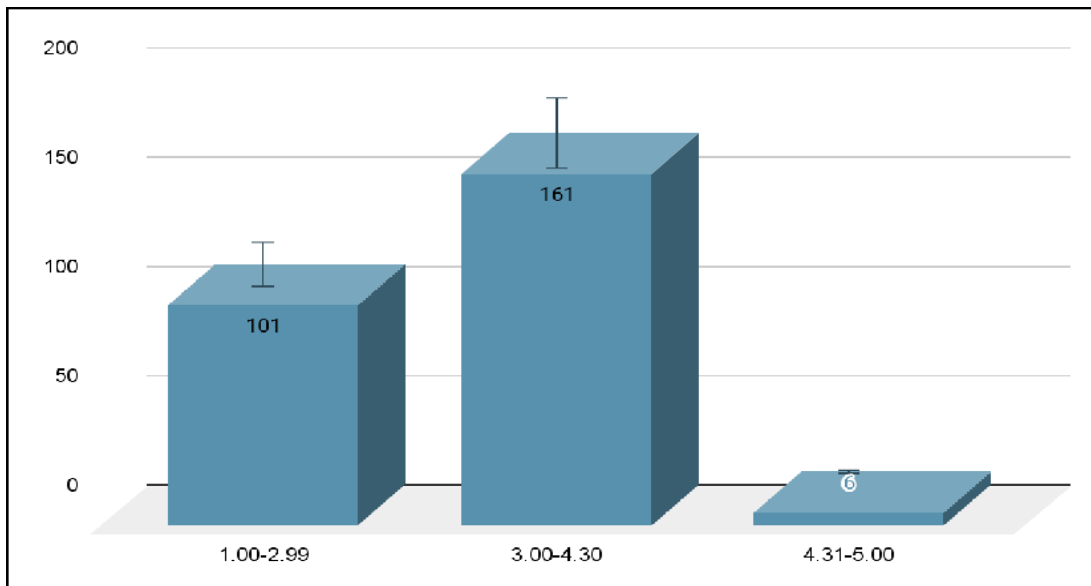*Figure 4: Distribution of the BRS among the study population*

Table 4: Distribution of components of avoidant coping

Different aspects of avoidant coping	Mean ± SD	% score
Substance Abuse	2.65±0.96	12.44
Venting	4±1.1	18.77
Behavioural Disengagement	3.38±1.2	15.86
Self Distraction	4.94±1.27	23.19
Self Blame	3.17±1.2	14.88
Denial	3.18±1.25	14.93
Average avoidant coping: 21.3±4.6		

The average avoidant coping score found in our study participants was 21.3±4.6. Majority of the doctors tried self distraction as the method of coping which accounted for about 23.19% of the avoidant coping. The mean value of which was about 4.94±1.27. Followed by 18.77% of the study population, with mean score of 4±1.1, who opted for expression of their feelings which is considered as the venting. Whereas, the mean value for the behavioral disengagement was 3.38±1.2 with the percentage score of 15.86%.

Almost similar mean value was for the doctors who were self blaming and in the stage of denial, with the values of 3.17±1.2 and 3.18±1.25, accounting for about 14.88% and 14.93% of the avoidant coping scores. Hardly 12% of them were presented with substance abuse, with a mean score of 2.65±0.96. The same findings are depicted in the line graph below. (Figure 5)
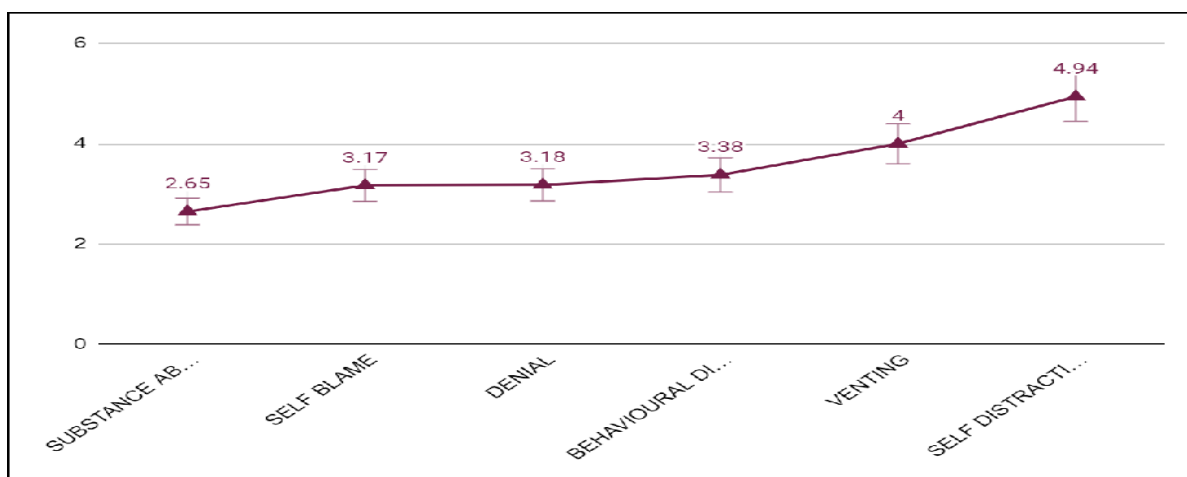

Figure 5: Graph illustrating the mean values of each components in the avoidant coping

Table 5: Distribution of component of approach coping

Components	Mean ± SD	% Score
POSITIVE REFRAMING	5.01±1.3	16.93
ACTIVE COPING	5.17±1.2	17.47
PLANNING	4.88±1.2	16.5
ACCEPTANCE	5.79±1.4	19.57
EMOTIONAL SUPPORT	4.47±1.4	15.11
INFORMATIONAL SUPPORT	4.26±1.4	15.1
Average approach coping: 29.58±5.7		

Table 5 and figure 6 illustrate the mean values of components of the approach coping among our study population. The overall average score was 29.58±5.7, among which the majority; about 19.57% of the approach coping, accepted the fact and were coping up with the situation well. Followed by the active coping with the mean value of 5.17±1.2, 17.47% of the approach coping. 5.01±1.3 and 5.17±1.2 were the mean scores of positive reframing and the planning scores. The emotional and informational support seeking approach was found among 15% each of the approach coping score with the mean values of 4.47±1.4 and 4.26±1.4 respectively.
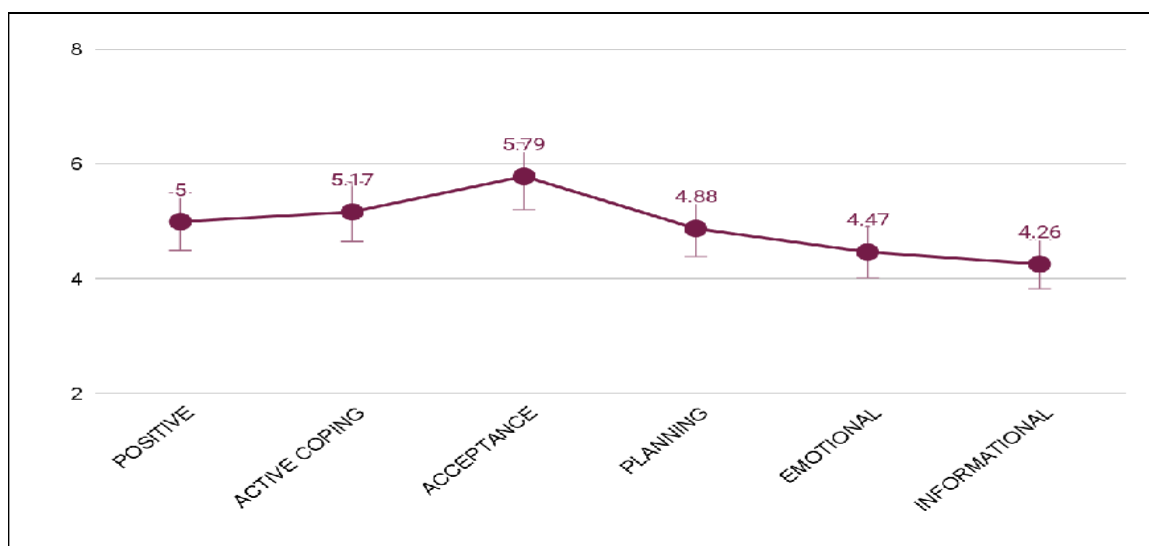

Figure 6: Distribution of mean scores of the approach cope components.

Table 6: The mean values of components of neither/or of the coping score

NEITHER/OR	Mean ± SD
HUMOUR	3.35±1.4
RELIGION	4.25±1.5
	7.59±2.2

Further analysis showed the clinical and statistically significant correlation between the accommodation afforded by the participants and the resilience. The doctors staying at home were found to be having correlation factor r = 0.258, and p values <0.05 indicating the better resilience and coping scores. Whereas resilience and coping was found to be lesser among female study participants compared to male.

DISCUSSION

The COVID-19 pandemic is an urgent health concern worldwide that greatly affects the mental health, well-being, and possibly work effectiveness of healthcare workers. Mounting evidence indicates that healthcare workers have suffered a deterioration in their mental and psychological health during the coronavirus pandemic, with reports from individual and review studies showing higher prevalence rates of anxiety, burnout, depression, PTSD, and psychological distress among healthcare workers compared to the general public.10 Support from peers, colleagues, family, and friends has also been shown to help individuals sustain emotional balance in the face of threats and stress inducing events.[11]

Earlier studies conducted during other infectious disease outbreaks such as SARS, Ebola, and MERS-CoV identified a protective role for psychological resilience, coping behaviours,

and social support in healthcare workers against the psychological and mental health burden of caring for infected patients. Hence the present study was conducted to analyse and help to improve the resilience and coping skills of the frontline workers in the covid pandemic at our epidemiological area.[12-14]

Majority of the participating doctors; (223)83.2% in our study were aged between 18 to 30 years with 144 male and 124 female doctors. In Croghan et al, 15 62 participants out of 302 respondents were medical doctors and there was increased stress and resilience found among doctors compared to other frontline warriors. They found almost similar frequency distribution as our study population. Another study by Vagni et al16 also found the average score of 42.53 years in the medical professionals included in their study, but they had female predominance with the incidence of 57.1% In our study, 206(76.9%) were unmarried and only 62 (23.1%) of them were married.

In our study, 151 out of 268 study participants were living at their home. Whereas 90(33.6%) and 27(10.1%) of them were studying at hostels and other modes of accommodation respectively. We found a statistically significant correlation with this parameter.

The doctors staying at home were found to have better resilience and coping score as compared to others. This is because of the emotional support obtained from the family, which is one of the better approach components.

Majority of the study participants were found with an MBBS degree accounted for about 142(53%) followed by 122 (45.5%) of them were with MD/MS or the PG diploma course. Only 4 doctors who participated in the study were found to be with BAMS and BHMS degrees.

101/268(37.68%) were presented with low resilience. 161(60.08%) and 6(2.24%) were found to be having normal and high resilience scores. Also in Bozdag et al, 15 mean BRS score was

18.43 out of 30. Better quality of sleep, positive affective state, age and life satisfaction showed the raised level of psychological resilience.

The average avoidant coping score found in our study participants was 21.3±4.6. Majority of the doctors tried self distraction as the method of coping which accounted for about 23.19% of the avoidant coping. The mean value of which was about 4.94±1.27. Followed by 18.77% of the study population, with mean score of 4±1.1, who opted for expression of their feelings which is considered as the venting. Whereas, the disengagement was 3.38±1.2 with the percentage score of 15.86% Mean score of 3.17±1.2 and 3.18±1.25, found among self blaming and denial avoidant coping scores. Hardly 12% of them were presented with substance abuse, with a mean score of 2.65±0.96.

Babore et al, [18] based on their cope score suggested that the lower positive attitude, higher social support, working with COVID-19 patients and higher avoidance strategies predicted higher levels of distress. Similar to our study, Chew et al11 found that the stress was positively predicted by the use of avoidance as a coping strategy and it was negatively predicted by the use of positive thinking. They also observed that problem-solving ability

and seeking social support as coping strategies were negative and positive predictors of traumatic stress. As found in our study. **Kock et al[19]** also found the social support being negatively affecting the anxiety and stress levels and positively affected their self-efficacy.

Average score was 29.58±5.7, among which the majority; about 19.57% of the approach coping, accepted the fact and were coping up with the situation well. Followed by the active coping with the mean value of 5.17±1.2, 17.47% of the approach coping. 5.01±1.3 and 5.17±1.2 were the mean scores of positive reframing and the planning scores. The emotional and informational support seeking approach was found among 15% each of the approach coping score with the mean values of 4.47±1.4 and 4.26±1.4 respectively. Similar to our study, **Balanco et al[20]** also found the negative avoidant coping and approaching coping among their study population. This might be due to lower levels of support from co-workers which will be amplifying the negative effect of social pressure from work on traumatic stress.

In **Vagni et al[16]** the "Health Group," consisted of 121 participants (57.6%), among which 57 doctors (50%), 47 nurses (37.3%), 9 psychologists (7.14%), and seven healthcare assistants (5.56%). High resilience and the bad coping skill was found among their participants due to lack of resources including the lack of PPE kit. This would have increased the stress and fear of getting positive among them. The doctors staying at home were found to be having correlation factor r = 0.258, and p values <0.05 indicating the better resilience and coping scores. Whereas resilience and coping was found to be lesser among female study participants compared to male. Even a similar observation was found among the doctors who participated in our study.

Limitations
As we had conducted an online survey, the majority of the sample in our study consists of predominantly younger age groups. Hence we would like to conduct further analysis including the elder doctors with much more experience in the management of these pandemic situations. And the current study is a cross-sectional research, it is necessary to conduct longitudinal studies that examine long-term effects of the pandemic. The study was conducted in only one district so the results of the study cannot be generalised. But internal validity of which remains significant as we have discussed comparing our observations with the other studies too.

CONCLUSION
The mean resilience was observed to be normal in range among doctors. Better resilience was observed in older age, male gender, lesser duration of patient – doctor contact, years of work experience and staying with family. The coping strategy which was used most commonly was approach coping characterised by the subscales of active coping, positive reframing, planning, acceptance, seeking emotional support, and seeking informational support. Approach coping is associated with more helpful responses to adversity, better physical health outcomes, and more stable emotional responses.

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