

## Mental health and self-efficacy among doctors during COVID-19 pandemic

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### ABSTRACT

In containing a pandemic, the contributions of health workers are invaluable. When the doctors lead the fight against COVID-19 from the front others should back the efforts of medical field. Aim of this research is to find factors in mental health and self-efficacy among doctors during COVID-19 pandemic. The sample of the research consisted of 113 doctors deployed in Ernakulam district of Kerala state in Indian Union. This research work is an exploratory study which explored the scope of social constructivism. To collect data semi-structured interview was used over telephone. Data collection procedure started when the researcher collected phone numbers of doctors from district office of state health mission. The total number of doctors interviewed over phone are 113. Researcher spent 15-20 minutes each with all for collecting data using a semi-structured interview. After employing content analysis following factors were identified as influencing mental health of doctors. They are work-life balancing, family relations, knowledge sharing, transportation, work location, public awareness, documentation, working history with COVID-19 positive cases/colleagues, news about COVID-19. The study concluded that there is threat to mental health of doctors but eh personal factors, social factors, and cultural factors plays a vital role in maintaining the mental health and self-efficacy of doctors during COVID-19 pandemic. Implications of the study this will help the authorities to effectively manage factors that affect mental health and self-efficacy of doctors. The medical community itself can take care of such factors that affect mental health and self-efficacy of doctors during COVID-19.

**Keywords:** Covid-19, Pandemic, Mental Health, Self-Efficacy

When interacting with patients the mental health of doctors and other health professionals has to be sounder. As other professions also the job stress can be a threat to the mental health of health workers. Stressors during a pandemic is different from stressors of other times. Stress during pandemic needs different management techniques than other. This pandemic, COVID-19 also made the health workers more alert on their work. The number of affected and deceased are increasing day by day in an alarming speed. During these hours, doctors are intact to perform the duty with utmost perfection. There can be various factors like personal, social, cultural factors contributing to maintain the momentum. Personal factors like

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cognitive ability, emotional intelligence, and spiritual intelligence are important in supporting mental health of doctors. Social factors includes conducive work atmosphere, responsible citizen, dedicated volunteers, responsible government system all these social factors are fit enough to make the doctors fight against COVID-19 pandemic. Cultural factors like reactions to emergency situations, quick updates from foreign countries as at least one family member living outside the home country, well connected communication system, concerned leaders and influential personalities are in front line to minimize the aftermath of this pandemic. Kerala has made significant gains in all domains of health. Most indices of health used for international comparisons come close to those of industrially developed, high-income countries. (Soman C.R,2007). Kerala has a relatively large capacity to produce doctors and nurses. According to the Medical Council of India, presently, Kerala has a total of 34 medical colleges teaching MBBS courses with a combined intake capacity of 4050 students. It hosts about 8% of India's medical colleges (though only 3% of the national population) (WHO, 2017).

World Health Organization declares COVID-19 as a pandemic and such move itself shows the seriousness of the situation. During pandemic the responsible medical system doesn't has enough time to do necessary things. All the systems are working tirelessly in collaboration with others to prevent the condition from becoming much worse. So all efforts to combat COVID-19 should be faster and coordinated. Faster and coordinated efforts can yield more successful outcomes and research about COVID-19 also one of its kind contribution.

Health professionals are integral part of a team fighting against pandemic like COVID-19. Mental health and self-efficacy of doctors are important psychological variables have to be researched for better contribution. This study is a by-product of mental health programme for health professionals from much concerned central and state governments. Knowledge about the factors contributing to better mental health and self efficacy of doctors are invaluable. The medical department of Kerala is reported to be one of the efficient department in the country. So this study stands out in addressing the mental health and self efficacy of the doctors in the state. When a society going through lockdown, survey method was found to be more useful method in collecting data. Collecting data using telephonic interview gave much closer look into the situation. Later the collected data were analysed using content analysis method. All these features makes this study first of its kind in latest research and will act as a sign board

### REVIEW OF LITERATURE

Review of literature is critical summary of research topic of interest, generally prepared to put a research problem in context or to identify gap and weakness in prior study. So as to justify a new investigation the research presents the review of literature that helps to study the problem in depth. It is also serves as a valuable guide to understand what has been done and what is still unknown and contested.

The present study concerned with finding the mental health and self-efficacy among doctors during COVID-19 pandemic.

Huang JZ and et.al. (2020) conducted a study titled "Mental health survey of 230 medical staff in a tertiary infectious disease hospital for COVID-19". The Objective: To investigate the mental health of clinical first-line medical staff in COVID-19 epidemic and provide theoretical basis for psychological intervention. 246 medical staff were investigated who participated in the treatment of COVID-19 using cluster sampling , and received 230

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responses. Self-rating Anxiety Scale (SAS) and Post-Traumatic Stress Disorder Self-rating Scale(PTSD-SS) was used to collect data. The study concluded that, the incidence of anxiety and stress disorder is high among medical staff.

Liu and et. al. (2020) carried out a study entitled Mental Health Status of Doctors and Nurses During COVID-19 Epidemic in China. The aims of this study were to investigate the mental health status of health staff and to identify the key population of psychological intervention. Health staff were invited to attend an anonymous WeChat-based survey between Feb 17 to 24, 2020. Sample was collected based on a non-probability sampling procedure. Three mental health problems during the past week including psychological distress, anxious symptoms, and depressive symptoms were evaluated by WHO 20-item Self-Reporting Questionnaire (SRQ-20), the Zung Self-rating Anxiety Scale (SAS), and the Zung Self-rating Depression Scale (SDS) respectively. Totally 4679 doctors and nurses from 348 hospitals in 31 provinces of mainland China completed the survey. The study concluded that Those with features of high-risk mental health problems should be set as priority for psychiatric interventions, especially when mental health professionals are not sufficient in China.

Zhang W and et. al (2020) carried out a study named “Mental Health and Psychosocial Problems of Medical Health Workers during the COVID-19 Epidemic in China”. The aim of the study was to explored whether medical health workers had more psychosocial problems than nonmedical health workers during the COVID-19 outbreak. online survey was run from February 19 to March 6, 2020; a total of 2,182 Chinese subjects participated. Tools used were the Insomnia Severity Index (ISI), the Symptom Check List-revised (SCL-90-R), and the Patient Health Questionnaire-4 (PHQ-4), which included a 2-item anxiety scale and a 2-item depression scale (PHQ-2). The study concluded that During the COVID-19 outbreak, medical health workers had psychosocial problems and risk factors for developing them.

Yingjian Liang, Meizhu Chen, Xiaobin Zheng, and Jing Liu (2020) carried out a research entitled “Screening for Chinese medical staff mental health by SDS and SAS during the outbreak of COVID-19” the aim of the study was to get insight into the mental health of Chinese medical staff. The tools used were Zung's self-rating depression scale (SDS) and Zung's self-rating anxiety scale (SAS). 23 doctors and 36 nurses participated in the study. The study reminds not to neglect the mental health of the other medical department staff during the pandemic, including younger medical staff.

### *Studies about self-efficacy among doctors*

Yongcheng Yao,Wei Wang, Faxuan Wang & Wu Yao (2014) conducted a study titled “General self-efficacy and the effect of hospital workplace violence on doctors’ stress and job satisfaction in China”. The study aimed at exploring associations of general self-efficacy (GSE), workplace violence and doctors’ work-related attitudes. In this study a cross-sectional survey design was applied. Questionnaires were administrated to 758 doctors working in 9 hospitals of Zhengzhou, Henan province, China, between June and October 2010. Enhancing General Self-Efficacy in combination with stress reduction may lead to facilitating health care workers’ recovery from workplace violence, and thereby improving their work-related attitudes.

Norgaard, Ammentorp, Kyvik, and Kofoed (2012) did a study named “Communication skills training increases self-efficacy of health care professionals”. The aim of this study was to

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investigate the impact of this training course on participants' self-efficacy with a focus on communication with both colleagues and patients. The total number of participants were 181 and The staff members attended a 3-day training course in patient-centered communication and communication with colleagues. The effect of the training was evaluated by means of a questionnaire filled out before, immediately after, and 6 months after the course. The study concluded that a communication course produced an increase in self-efficacy. This result was observed for doctors, nurses, nursing assistants, and medical secretaries.

Ammentorp, Sabroe, Kofoed, and Mainz (2007) conducted a research to To investigate the effect of communication skills training on doctors' and nurses' self-efficacy, to explore how training courses influence the initial experience of self-efficacy and to identify determinants of health professionals' self-efficacy. The study was conducted as a randomized trial. Clinicians in the intervention group received a 5 day communication course and the control group received no intervention. Study concluded that Communication skills training can improve clinicians' evaluation of his or her ability to perform a specific communication task - measured as self-efficacy. Communication courses can be used to improve doctors' and nurses' ability to perform some of the essential communicative demands they are facing in daily praxis.

### **METHOD**

This chapter presents the details of the method. It includes the procedure for the selection of the sample, the description of the tools, data collection procedures and statistical techniques used for analysis.

#### *Sample*

The sample of the study consisted of 113 doctors working in Ernakulam district of Kerala state in Indian Union. This is an exploratory study which explored the scope of social constructivism. Semi-structured interview was used to collect data over phone. Data collection procedure started when the researcher collected phone numbers of doctors from district office of state health mission. The total number of doctors interviewed are 113. Researcher spent 15-20 minutes each with all for collecting data using a semi-structured interview. The phone calls started with acknowledging the efforts of medical team in handling the pandemic effectively. After that questions about work-life balancing, family relations, knowledge sharing, transportation, work location, public awareness, documentation, working history with COVID-19 positive cases/colleagues, news about COVID-19, self-efficacy. Collected data were used for content analysis to get more insight into the topic.

### **RESULTS AND DISCUSSIONS**

*Table shows the percentage of doctors reported following factors as threat to mental health during COVID-19 pandemic.*

Sl.No.	Challenges faced	Percentage
1	Work force management	60%
2	Family relations	11%
3	Knowledge acquisition and sharing	2%
4	Work location	1%
5	Transportation	1%
6	Public awareness	5%
7	Documentation	10%
8	Continuous duty	3%
9	Work history with positive colleagues/cases	6%
10	News	1%

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### ***Work force management***

Since its a novel virus, Medical Officers in each hospital got new task different from routine activities. The way Officers approached the task was more productive, like putting efforts to have a clear understanding of pandemic, awareness about the responsibility. Technologies in this millennium, like faster internet connectivity, availability of smart phones, and staff groups in social media helped a lot in managing workforce. Higher order staffs like doctors were also involved in assignments of low order staffs after finishing own assignments.

### ***Family relations***

Family of 98% of doctors are comprised of spouse, children, and parents. Children and elderly people are found to be vulnerable to COVID-19. Getting back from work to house made the professional and workers stressful. Where there is children and old age people in the house one can see increase in the stress. When the health worker back from duty, feel more anxious about spreading the pandemic to vulnerable members in the family. Staying apart from family in the quarters also found to be a challenge among health workers. In some cases it doubled the tension of health workers staying in quarters, when a family member especially children studying abroad or other states are unable to move because of lockdown.

### ***Knowledge acquisition and sharing***

Authentic information can act as a stress reducer when the lack of genuine information disturbs the health workers. Scientific details about COVID-19 yet to reach bottom level of health workers. Exposure to immature information about COVID-19 can increase anxiety and which is inevitable in this well connected digital world. Dealing with individuals who is having limited or half-baked information about COVID-19 were more demanding. The urge to seek information about COVID-19 always got rewarded with effective workforce management.

### ***Work location***

Ernakulam district is having a busy airport and a team of health workers were deployed to do clinical examination on all passengers arriving at the airport. When any passengers tested positive, the medical team especially doctors become more vigilant. Since its a special team, all members of the team is constituted with staffs of various hospitals in the district. Sudden change in work location due to COVID-19 demanded some adjustments from the staffs. The adjustments can be because of the work place is identified as a hot spot.

### ***Transportation***

Reaching work place comfortably on time was not an issues before COVID-19 outbreak or lockdown. Outbreak of this pandemic changed the rhythm of life as this virus is novel one to medical field. Driving own vehicle for long distances became stressful among doctors and other health workers residing in other district and other areas of the same district. Driving long distance in the morning to reach the work place and back in the evening asked to put more efforts. When using the transportation facility by the hospital or the local body the staffs had to be ready on time for the vehicle. This transportation runs on particular time so others had to rearrange things in accordance the timing of the vehicle.

### ***Public awareness***

When prevention plays a vital role in managing outbreak of COVID-19 the importance of public awareness about the pandemic is also crucial. The heterogeneity of the public alerted about the nature of awareness programmes and acceptability of the programme. Public with good awareness about the condition and its ways of transmitting is vital part in fight against

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COVID-19. Rumour driven public is find it difficult to follow the directions from medical department in prevention. Messages from influential public personalities in the community has got wide acceptance.

### ***Documentation***

Documentation was pivotal in minimizing spread of COVID-19 to a larger number. As a productive reaction to pandemic of the government departments, health workers were asked to provide information about patients who are vulnerable to COVID-19, individuals who had domestic or international travel history. All these were asked within a short notice and had to to put extra effort to make avail the needed information to each departments. Sorting the information online in a desired manner helped to draw an effective action plan to bring the condition under control.

### ***Continuous duty***

When the workload was increasing the work schedule also got changed. Even after signing off from hospital after the normal duty, most of the workers were forced to work online too. Assignments like supervising subordinates, preparing summery of work done, and allotting works for other day were done through online. When other issues like staying away from family made the health workers in trouble. Superiors were strict to make work schedule with enough rest for all health workers. Even though the staffs were asked to attend work in emergency situation with a short notice. But the commitment towards the profession made all the workers available.

### ***Work history with positive cases/colleagues***

Staffs in the health care system are working tirelessly to bring COVID-19 under control. To some extent the system is successful in the effort. This is because of the alertness from the one and all related with the system. Doctors who had worked with positive cases or colleagues had some anxiety regarding getting affected. Medical staffs worked in the airport and other hotspots reported the concern. Still the understanding about the duty and support from superiors, other colleagues, acknowledgment from the society made them to work with maximum dedication.

### ***News***

If the news maintain and follow its framework, it will be good for the audience. When the news breaks all limits such news will bring negative effects on audience. Positive news like success story of doctors treating COVID-19 patients, responsible citizen, philanthropic behaviours from individuals, and policies of concerned governments reported had good effects. There are some negative news which affected were exaggerating certain isolated events with doctors.

### ***Table shows the factors indicating self-efficacy of doctors***

Sl.No.	Opportunities
1	Division of labour
2	Family support
3	Hospital/own transportation
4	Acquired knowledge got shared
5	Assuming it as responsibility
6	Concern from immediate superiors helped
7	Experience with Nipah virus
8	Supporting government
9	Nearby employees contributed more
10	Appreciation demanded more commitment

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### ***Division of labour***

The willingness of each hospital's staff made dividing tasks among them easy and effective. Piling up of tasks were not an issue when the hospital staffs are ready to work beyond the work schedule. Dividing works among all also showed the spirit of team work and workers' commitment towards the profession. 98% health workers enjoyed the new work schedule as they are prepared to contain the pandemic. Conventional communication method replaced by new one and got things done in a fairly good manner. 1% of hospitals also maintained the state wide pace of COVID-19 management with staff shortage.

### ***Get connected***

Members in the family helped to follow the hygiene protocol to make all safe from COVID-19. Such support from family members powered the confidence level of health workers to reach further heights. In the case of Kerala, people value family relations more strongly than others and get reciprocated. 100% of the health workers reported that family is vital in working under emergency situation like COVID-19 pandemic. And staffs made sure that they are get connected with family members through video/audio call at least once in a day. Such concern to the members of family can be the connecting thread to concern about the diseased.

### ***Acquired knowledge got shared***

Available knowledge about the pandemic was shared widely among the medical professionals. Knowledge about medium through which the condition spread also demanded doctors to design preventive measures. Latest researches about COVID-19 equipped the doctors to sharpen their skills. Creative doctors got opportunity to showcase their skills on creating awareness tools. Doctors with teaching experience were used to educate public and staffs in the other departments like police, fire and rescue, and administrative level staffs.

### ***Taking it as responsibility***

When other professionals stays at home during lockdown doctors and other health workers had to attend their work. In this situation doctors were well aware about their responsibility as an emergency response worker in a pandemic situation. Healthy attitude towards handling workload made doctors more efficient. Doctors were aware that no one can replace them at this health emergency. With much needed seriousness all performed the assigned duties to hold an upper hand on COVID-19.

### ***Hospital or own arrangements***

Reaching the workplace was a concern for doctors who depended on public transportation and private drivers. But sensitive authorities made alternative arrangements to tackle the issue. Using such special arrangements also provided so insight into the prevailing situation in health field. Doctors who had a routine of self drive enjoyed more on roads during lockdown. Doctors with own arrangements of transportation spent more hours than the usual duty hours in hospitals.

### ***Concern from immediate superiors helped***

A phone call from superiors that too from immediate superiors boosted the energy of doctors during this pandemic. Such gestures from superiors yielded more outcome when the staffs were in observation or quarantine. The troublesome quarantine or observation time for an energetic health worker were manageable with concern from the superiors. Not only in observation or quarantine but during work scheduling the concern of superiors reflected the care for the members in the team.

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### *Experience with Nipah virus*

COVID-19 is a novel virus to the medical field, but the situation created by this virus was similar to that of Nipah virus. Doctors in charge of prevention of pandemic were able to refer the behaviour of public, response of the administrative staffs, and patients during situation of Nipah.

### *Supporting government*

A responsible government accelerated the efficiency of doctors in slow down the spread of this pandemic. Well connected departments worked jointly to prevent community spread of COVID-19. Government supported the doctors with law enforcements and execution of laws. When the public misbehaved with health workers government acted quickly to contain such mishap. Packages for the welfare of health workers and others also fuelled the efforts to bring COVID-19 under control.

### *Nearby employees contributed more*

Distance between workplace and residence had reportedly influenced the efficacy of doctors. Doctors living in the same panchayths/municipality/corporation limits worked more effectively. These doctors were found to be more influential when educating public about this pandemic. Nearby residence helped the doctors to spend more hours in work like joining early as possible and leaving late as possible. In case of a local emergency in the hospital these doctors were able to rush to duty.

### *Appreciation demanded more commitment*

Recognition for the work done by doctors from the responsible authorities, governments, and public doubled the commitment towards duty. Even though doctors are not paying much attention to such things appreciation from each corners helped them. When working on unusual schedule, when working at infectious environment these acknowledgments facilitated. Doctors can get appreciation from all walks of life in a civilized society but when one individual showering his gratitude after recovering from COVID-19 pandemic is priceless.

## **SUMMARY AND CONCLUSION**

This part of the study provides summary and conclusion of the research work. The aim of the study was to investigate about the mental health and self-efficacy of doctors during COVID-19. Collected data presented for content analysis and following factors are threat to mental health of doctors, they are as follows work force management, family relations, knowledge acquisition and sharing, work location, transportation, public awareness, documentation, continuous duty, work history with positive colleagues/cases, and news. Following factors indicated self-efficacy of doctors division of labour, family support, hospital/own transportation, acquired knowledge got shared, assuming it as responsibility, concern from immediate superiors helped, experience with Nipah virus, supporting government, nearby employees contributed more, appreciation demanded more commitment. The study concludes that the factors that related with mental health and self-efficacy have influenced the mental health and self-efficacy of doctors during COVID-19.

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### **Conflict of Interest**

The author declared no conflict of interest.

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