

Risk Perception and Impact of COVID-19 Outbreak on Medical Health Professionals

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Abstract— The novel coronavirus was first detected in Wuhan, China in December 2019 and approximately 9 million cases have been reported to be diagnosed with the disease. Studies have revealed that this outbreak is associated with adverse mental health crisis among individuals with and without a diagnosis of COVID-19. Evidence suggests that self-reported symptoms of depression, anxiety, situational stress have been more prevalent in relation to the pandemic. Among the frontline medical health professionals, i.e., doctors and nurses are at the highest risk than others even after maintaining preventive measures. Frontline medical health professionals may have extensive constraint including a high risk of infection, isolation, and overwork. The perception of the risk to be infected or to be the carrier of the disease to others may increase the vulnerability to emotional distress. In this study, the aim is to explore the risk perception and impact of COVID-19 outbreak on frontline medical health professionals. The survey method has been used to make risk perception and impact on frontline medical health professionals. The result reveals that the concerns are present in the frontline medical health professionals due to risk factors, but through focusing on preventive measures and engaging in activities related to the profession is mostly helping in coping with the medical and psychological impacts. Perception of workload is present in terms of their ethics, duty and financial support. According to the frontline medical health professionals, there are concerns and responsibilities in terms of an asymptomatic carrier and transmitting the virus to other family members. It can be concluded that the presence of enormous risk factors increased the concerns of medical health professionals and through different preventive measures and precautions, the medical professionals are dealing with the COVID-19 outbreak.

Keywords— COVID-19, Medical health professionals, Risk perception, mental health.

I. INTRODUCTION

The coronavirus disease 2019 (COVID-19) epidemic is an emergency of public health in international concerns and it constitutes enormous challenges to psychological flexibility. Evidence-based strategies to decrease the

adverse psychological impacts and psychiatric symptoms of illness during the pandemic period are needed.

Research revealed that, a wide and profound range of psychosocial impacts on an individual, society, and community as international levels during the COVID-19 outbreak. In an individual, experiences of fear of falling sick, or death of themselves or family members, ideas of helplessness, and social stigma.

In view of Behavioural Immune System (BIS) theory, in pandemic situations increment in negative emotions such as aversion or anxiety, cognitive decline for self-protection can be noticed.

Exposure to the threat of potential disease conditions increases avoidant behaviours such as, avoid of contact with people who have potential symptoms and conformity increases, stress theory and perceived risk theory suggests that pandemic like emergencies trigger more negative thoughts or emotions and decrement in cognition can also be seen. These negative thoughts or emotions keep them away from people.

The effect of long-term negative thoughts or emotions reduces the immune function of humans and destroys the homeostasis mechanisms. Experts of Peking University Sixth Hospital (2020) suggested for the public to cope with mental stress and reduce negative thoughts related to it.

These included the assessment of stress, the clinical dimensions of the stress, the implication on daily lives and occupational functioning and the management of these stresses, through assessing the accuracy of the disclosed information, through the enhancement of social support by family and friends, elimination of stigma linked with the pandemic, maintaining proper lifestyle under protective measures and getting help by medical and psychological professionals when needed.

Frontline medical professionals were exposed to stress both physiological and psychological in the occurrence of this demanding infectious public health event.

Across the world hospital staff are more at risk due to their work-related accumulation and which is declining their psychological resilience.

Research data suggested that medical health professionals, specially doctors and nurses were more susceptible to psychological distress due to their continuous participation in the treatment process. In

case of health professionals, work-related stress is a possible cause of concern. Association between anxiety, fear, and workload may have some impact on their psychological disequilibrium.

Anxiety or fear related to multiple activities related to clinical symptoms of COVID-19, symptoms of depression despite the coexistence of countless deaths, physiological and psychological exhaustion due to long work shifts with diverse demands in the patients with COVID-19' treatment. Evidence specified that, accurate mental health care that needs to be developed urgently to address their psychological instability, uncertainty and anxieties.

Medical health professionals' concerns and perceptions are needed to be addressed while providing psychological interventions. The most prevalent concern is bringing the virus home and infect their families. There is also a doubt that if they become infected then they will betray the health system and their patients as they will not be able to contribute. Researchers showed that, their concerns are more related to the well-being of their families and contacting COVID-19, if not proper applications of preventive measures, infectious nature of the disease and rapid spread of the disease, the fear related to be a carrier and misdiagnosis.

Health professionals are present to treat the patients, but their concerns regarding the risk factors, and impact of the perceptions of risks need to be identified. This study explores the risk perception and impact of COVID-19 outbreak on frontline medical health professionals.

II. METHODS

Participants and procedures:

- Purposive sampling was used to explore the risk perception and impact of COVID-19 outbreak on frontline medical health professionals. The total sample consisted of 10 medical health professionals of both sexes.
- The survey method was used to collect data from medical professionals.
- The focused domains are, perceived risk and impacts in functioning due to COVID-19 outbreaks, perception of being an asymptomatic carrier of the virus and transmitted to the family members, the perception of contamination, perceptions of workload and risk, the perception of isolation or quarantine, perception regarding the dilemma of work ethics, duty, financial crisis and risk factors, the perception of healthy measures to avoid medical and psychological threats.
- The domains were explored and analysed.

III. RESULTS

Domains and findings:

- ***Perceived risk and impacts in functioning due to COVID-19 outbreak-***

In the present study, it has been found that, the health professionals perceive there are enormous risk factors related to their profession, due to COVID-19 outbreak than other individuals and it has impacted on their occupational functioning. They have become more concerned and cautious about maintaining the preventive measures to ensure their wellbeing.

- ***Perception of being an asymptomatic carrier of the virus and transmitted to the family members-***

It has been reported to have more concerns and apprehensions regarding being infected as well as being a carrier of the virus in regard with profession. It has been found that, medical health professionals who are having family members aged above 50 years and below 10 years are more bothered than other health professionals. They mentioned to provide protection to themselves and their family members can reduce their overall distress regarding this.

- ***Perception of contaminations-***

It has been seen that, in the present study, health professionals are not negatively apprehended about the contaminations. According to them, maintenance of guidelines properly can remove the risks of being contaminated.

- ***Perceptions of workload and risk-***

It has been found that, there are different perception between the health professionals, 4 out of 10 health professionals reported that, there are probabilities of being infected due to excessive exposure but other 6 health professionals reported that, repetitive exposure might not be the cause of infection, if preventive measures are not taken.

- ***Perception of isolation or quarantine-***

In the present study, it has been seen that, the health professionals are providing positive connotations towards isolation or quarantine. It has been reported that, the process of isolation or quarantine is needed to prevent the disease condition.

- ***Perception regarding the dilemma of work ethics, duty, financial crisis and risk factors-***

It has been reported that, the health professionals were having dilemma regarding their work ethics, duty, financial concerns and the risk factors of being infected in the in initial phase of the pandemic. As they reported, gradually their dilemmas have been resolved and they are more concerned about their patients' wellbeing and recovery through maintaining protective measures.

• **Perception of healthy measures to avoid medical and psychological threats-**

In the present study, the health professionals reported to perceive the need of healthy measures to deal with physiological and psychological threats are present. They mentioned to take measures like, using masks, PPEs, gloves, face shield and being cautious while disposing it, taking precautionary medications for decreasing the risks. To cope with the psychological distress or threat, they prefer to be vigilant about the changes of psychological health, engaging in functional activities more and educating themselves about the outbreak and disease conditions.

IV. DISCUSSION

Medical health professionals experience high levels of work stress even under normal circumstances, but many would be reluctant to disclose mental health difficulties or seek help for them, with stigma an often-cited reason. The COVID-19 outbreak crisis intrudes additional pressure on them and on the whole healthcare system in general and research shows that such pressure brings a greater risk of psychological distress as well. In the present study, conducted with medical health professionals, the result suggests that, due to enormous risk factors, concerns are present in the frontline medical health professionals and they are cautious through practicing on preventive measures.

There are different perceptions regarding the exposure to the disease conditions and perceived risks. It has been found that, the frontline medical health professionals apprehended about being an asymptomatic carrier and transmitting the virus to other family members and the perceptions of responsibilities in terms of providing preventive measures to them are also present.

Medical health professionals showed several concerns for carrying the disease to their families and expected support from seniors and administration to monitor clinicians' wellbeing and control over the concerns related to the safety of clinicians and their families.

It has also been seen that, they mentioned about dilemma regarding their work ethics, duty, financial support and risk factors at initial phase but gradually they resolved it.

To avoid medical menaces taking all measures given by guidelines and engaging in activities, being aware about changes in psychological health and gaining knowledge about disease conditions are the mechanisms they are taking to elude psychological threats.

However, the coping strategies that frontline medical staff can use during disease epidemics. Personality traits, such as optimism, resilience, and altruism, have

previously been shown to have positive effects on reducing psychological stress.

There are certain high-risk factors, and vulnerabilities within medical responders, as well as certain risk factors for adverse outcomes psychological threats.

Adapting preventive measures and mitigation strategies aimed at high-risk groups would be beneficial in decreasing negative consequences.

Rapidly spread of COVID-19 overwhelmed the health services all over the world. Need of time is to consider as well as plan before hand and to consider views of our doctors as pertinent.

Table 1: showing some statements given by health professionals in regards with specified domains.

Domains	Statements
Perceived risk and impacts in functioning due to Covid 19 outbreak	“I am very much cautious about the risk factors. Risk factors are related to the measures we are taking like, repetitive hand washing or wearing PPE or taking proper preventive medicines. Yes, we have high risks in our field as we have exposures to the patients.”
Perception of being an asymptomatic carrier of the virus and transmitted to the family members	“I don't really have any anxieties regarding this, as we are dealing with many other infectious diseases also for years. Yes, this time it's different but concerns are there. I have my parents who are above 55 years, so I have to take extra measures for them. I can be a carrier that's why I am extra cautious.”
Perception of contaminations	“I have no such worries about contaminations, if you have contact with a person with covid, then only you are having risks, otherwise if you're maintaining distances, it's nothing to worry about.”
Perceptions of workload and risk	“It's my profession so, I have to take the risk whatever the workload is, I can be affected. So, its better to focus on solution not on negative consequences as it is my duty.”
Perception of isolation or quarantine	“It's a procedure; it should be practiced if we have to avoid unnecessary outcomes of covid 19 in family.”

Perception regarding the dilemma of work ethics, duty, financial crisis and risk factors	“I have to be exposed and I have to continue my duty in any cost. Yes, at times there are thoughts about getting infected but not going to duties is not a choice. “
Perception of healthy measures to avoid medical and psychological threats	“I am taking all possible preventive measures, discussing with my professors and seniors regarding this and I think yoga, meditation and focusing on work and services can help us to avoid threats.”

V. CONCLUSIONS

It can be concluded that, presence of enormous risk factors increased the concerns of medical health professionals and through different preventive measures and precautions, the medical professionals are dealing with the COVID 19 outbreak.

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