Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 4 Issue 3 (2024)

Analysing the Impact of COVID-19 Pandemic on the Wellbeing of Healthcare Workers: An Examination through the Impact of Events Scale-Revised (IES-R)

[1]Pavika Bhatnagar, [2]Dr. Muktak Vyas

[1]Research Scholar, [2]Professor

Department of Management, Poornima University, Jaipur (India)

Abstract: The COVID-19 pandemic has significantly impacted the psychological well-being of both medical and non-medical individuals, influencing the overall management of the crisis. In India, the pandemic has heightened uncertainties and tested the psychological resilience of healthcare workers and the general public. As individuals adapt to new realities and grapple with fears of the virus, a range of psychological challenges has emerged, adding to the complexity of addressing the health crisis. While laboratory testing, treatment development, and infection control remain priorities, understanding and mitigating psychological distress is equally critical.

This study investigates the psychological impact of the pandemic on healthcare providers using the Impact of Event Scale-Revised (IES-R). The findings align with global research, highlighting shared challenges faced by medical professionals, including heightened stress, anxiety, and emotional exhaustion. These results emphasize the urgent need for targeted interventions to address the mental health of healthcare providers, who play a pivotal role in managing the pandemic. Addressing these psychological issues is essential not only for the well-being of medical staff but also for maintaining the efficiency and resilience of the healthcare system during this unprecedented crisis.

Keywords:-COVID-19 pandemic, psychological impact, healthcare workers, mental health, stress, anxiety, emotional resilience, Impact of Event Scale-Revised (IES-R), public health, crisis management, psychological support, India, medical professionals, mental well-being, resilience-building.

Introduction

From Wuhan, China, the COVID-19 pandemic spread swiftly to other nations and continents. Once deemed a pandemic in March 2020, the World Health Organization first categorised it as a public health emergency. The disease most often affects healthcare workers, especially those on the front lines. Long hours, harsh workloads, low supply of personal safety equipment (PPE), ongoing exposure to media coverage, and high infection rates among staff members handling the virus are among the many reasons they suffer major psychological impacts (Spoorthy, M. S. 2020).This paper shows how the situation affected Jaipur's medical staff psychologically significantly. It stresses the importance of setting up specific networks and efforts to protect their mental and general wellness.

Depression (14.5–48.3%), stress (8.1–81.9%), PTSD (7–53.8%), anxiety (6.33–50.9%), and emotional distress (34.43-28%) are among the negative psychological effects on the general public of the COVID-19 pandemic, according to several research (Xiong, J., et al. 2020). Furthermore, from 2017 (3.44%) to 2020 (25%), the global depression rate has increased significantly, showing a variety of stresses including long quarantine periods, fear of illness, anger, boredom, lack of basic resources (food, clothing, water, accommodation), a lack of knowledge, stigma and financial losses (Bueno-Notivol, J., et al. 2021; Brooks, S. K., et al. 2020).

The negative effects on healthcare systems of the COVID-19 pandemic—particularly on healthcare workers (HCWs) — emphasize the necessity of evaluating the psychological health of healthcare workers in these emergency circumstances and the potential consequences on their overall health. The extended duration of the pandemic and its continuing effects on HCWs make it imperative to admit that events such as COVID-19 can separately raise the risk of poor mental health among HCWs (Spoorthy, M. S. 2020). Ensuring the overall health of healthcare workers (HCWs) calls for attending to every aspect of their health. Information on how COVID-19 effects mental health must thus be gathered in order to start suitable steps. Evaluating how the COVID-19 pandemic was affecting medical staff comfort and health was the goal of this study.

Objective of study

The aim of this study is to find out whether exposure to the COVID-19 outbreak affects the psychological health of healthcare workers and professionals.(IES-R) Events Scale-Revised was used to assessed this relationship.

Hypothesis of study

1. **Hypothesis 1**: Healthcare workers who report higher levels of intrusion symptoms related to the COVID-19 pandemic will exhibit significantly lower levels of psychological wellbeing, as measured by the IES-R.
2. **Hypothesis 2**: Healthcare workers who engage in higher levels of avoidance behaviors in response to the COVID-19 pandemic will report significantly lower levels of psychological wellbeing, as assessed by the IES-R.
3. **Hypothesis 3**: Higher levels of hyperarousal symptoms experienced by healthcare workers due to the COVID-19 pandemic will be significantly associated with lower levels of psychological wellbeing, according to the IES-R scores.

Materials and Methods

Data Collection Instrument

In this study, we utilized two questionnaires: Event Scale-Revised (IES-R) in English and a demographic questionnaire. Personal data like age, sex, education level, job position, and marital status were collected using the demographic questionnaire. Weiss and colleagues' Effect of Event Scale Revised (IES-R) made up the second section. Three subscales—hyperarousal, intrusion, and avoidance—make up this self-report questionnaire —designed to assess post-traumatic stress responses, especially PTSD, following a stressful event.

The scale has three categories and 22 components: "intrusion" (8 items) which describes trouble falling asleep, dissociation, and symptoms akin to flashbacks; "avoidance" (8 items) which describes the tendency to put off thinking back on the event or recalling it; and "hyperarousal" (6 items) which describes feelings of irritability, anger, and trouble falling asleep. The total IES-R score is obtained by adding up the numbers of the three subscales. Measuring from 0 (not at all) to 4 (extremely) on a 5-point Likert-type scale (Weiss DS, 2007), the scale gives a total score range of 0 to 88. Thirty-three is the cutoff score for PTSD.

Study Participants and Sample

Doctors and nurses among other healthcare workers (HCWs) were all qualified for sample. Originally meant to be a sample of 120, data collecting got answers from just 100 medical practitioners via the questionnaire. Every person got a unique number as part of the simple random sampling method that was used to choose the participants. Participants were then put into a list, from which names were chosen at random.

Data analysis

The statistical tool SPSS was used for the study of the gathered data. Psychological well-being was linked with the factors hyperarousal, intrusion, and avoidance using regression analysis. We used a 0.05 significance level, with statistical significance represented by p-values less than. Regression analysis was also used to create model diagrams that graphically show how intrusion symptoms, avoidance behaviors, Healthcare workers' psychological health has been greatly affected by the interference, avoidance, and hyperarousal symptoms during the COVID-19 outbreak.

By showing the links between predictor factors and psychological well-being, these diagrams improve the clarity and interpretability of our regression results.

Results

Demographic Profile

Data from 100 healthcare workers (HCWs) in all were evaluated in this study; 20 incomplete questionnaires were not included. See Table 1 for the demographic information.

Table 1: Demographic Characteristic

Demographic Characteristic	Category	Frequency/Percentage
Gender	Female	40
	Male	60
Age Group	20–24 years	2
	25–44 years	72
	45–64 years	26
Marital Status	Married	48
	Single	36
	Divorced	16
Healthcare workers	Doctors	50
	Nurses	50

According to the table, 60% of participants were men and 40% were women. This means that there is a little masculine bias in the group. Seventy-two percent of the responses fall within the age group of 25 to 44. Only 2% of people are aged between 20 and 24, while 26% are between the ages of 45 and 64.This means that the majority of the answers in the poll come from those in their prime working years. In the group under study, 48% are married, 36% are single, and 16% are separated. Given that the most are married, family ties and obligations may play a big part in this group. The group consists of 50 responders each, doctors and nurses split equally. With involvement from both fields guaranteed by this balance, the healthcare business may gain knowledge of the viewpoints of both groups.

Hypothesis Testing

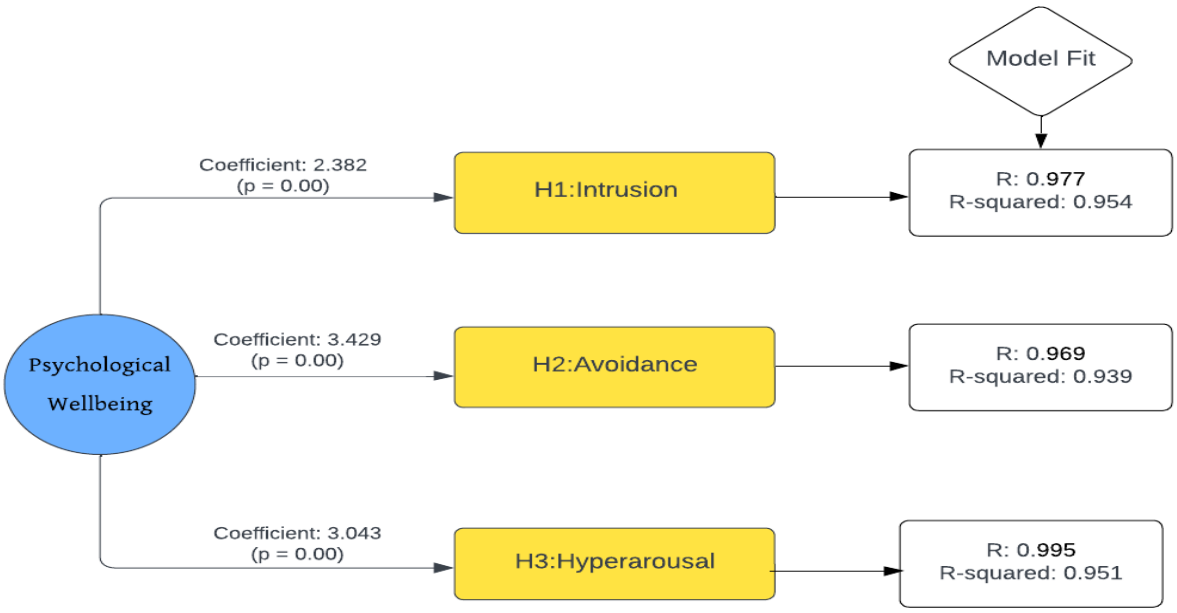

Figure explain example of the regression model and hypotheses to show the connections between predictor variables (Intrusion Symptoms, Avoidance Behaviours, Hyperarousal Symptoms) and the outcome variable (Psychological Wellbeing).Therefore the result as follows:

1. **Intrusion (Hypothesis 1):**

The model shows that intrusion symptoms account for approximately 95.4% of the variance in psychological wellbeing, showing a strong predictive link. The coefficient for intrusion symptoms (B = 2.382) is statistically significant (t = 45.231, p = 0.00), showing that higher intrusion symptoms predict significantly lower psychological satisfaction and higher presence of PTSD among healthcare workers.

1. **Avoidance Behaviors (Hypothesis 2)**:

The model explains about 93.9% of the variation in psychological health. The coefficient for avoidance behaviors (B = 3.429) is statistically significant (t = 38.733, p < 0.001), showing that higher levels of avoidance behaviors are significantly related with lower psychological wellbeing and higher presence of PTSD among healthcare workers and professionals.

2. **Hyperarousal Symptoms (Hypothesis 3)**:

The model explains approximately 99.5% of the variation in psychological health. The coefficient for hyperarousal symptoms (B = 3.043) is highly statistically significant (t = 101.303, p < 0.001), suggesting that higher levels of hyperarousal symptoms are strongly associated with lower psychological wellbeing and higher presence of PTSD among healthcare workers and professionals.

Discussion

Our study included 100 healthcare workers from Jaipur. The sample skews towards males (60%) and individuals aged 25–44 years (72%), with a majority married (48%). Balanced representation of doctors and nurses (50 each) ensures insights from both professions, and the regression analysis, supported by strong statistical significance (p < 0.001), reveals that intrusion symptoms (B = 2.382), lower psychological well-being among healthcare professionals during COVID-19 is substantially predicted by avoidance behaviors (B = 3.429), and hyperarousal symptoms (B = 3.043).

Luo et al's (2020) comprehensive meta-analysis and review showed comparable incidence rates of anxiety and depression among healthcare workers and the general population, at 56% (with a range of 39-73%) and 55% (with a range of 48-62%), respectively. Psychological problems including worry, sleeplessness, and sadness were recorded by Huang and Zhao (2020), and stress was also documented by Liu et al. (2020).

Using a questionnaire, Tian et al. (2020) looked at anxiety, psychological stress, and depression among COVID-19 pandemic workers, both medical and non-medical. Part of this evaluation were the Depression, Anxiety, and Stress Scale and the Impact of Event Scale Revised (IES-R). Reviewing anxiety, depression, stress, and post-traumatic stress disorder levels was the main goal of the study.

Within this study, it was shown that 14.5% of people had anxiety symptoms, 8–9% had depression symptoms, 6.6% had stress symptoms, and 7.7% had post-traumatic stress disorder. Political and clinical steps to help healthcare workers—especially medical professionals—are desperately needed as long as the COVID-19 outbreak last. Furthermore, non-medical workers should have access to educational support networks to handle their mental health needs in this demanding setting.

In a study carried out in the Liaoning area of China during the start of the outbreak, before the shutdown was applied, Zhang and Ma (2020) found that 7.6% of participants had an IES-R score of >26, IES-R mean score overall of 13.6 ± 7.7, suggesting a mild stressful event. Mean scores for the avoidance subscale were 13.4 ± 2.9 and for the intrusion subscale were 12.7 ± 2.6. The time of the study—it was carried out over the Chinese festival break season, when people would have had significant family support—may be the reason for this disparity in results.

Conclusion

The psychological problems faced by both medical and non-medical people have a big effect on how COVID-19 is managed. India has been badly affected by the COVID-19 epidemic, which has raised uncertainties and tried the psychological fortitude of both the general people and medical staff. People are dealing with a wide range of psychological problems as they adapt to their new lives and fear of the illness, even if laboratory testing, finding a cure, and stopping spread are still the key objectives. In the present study, we used the IES-R to analyze how the pandemic has affected the psychological health of healthcare providers. Our results support the many researchers' stories from throughout the world, showing the common difficulties faced by medical practitioners during this epidemic.

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