



## **Safety of health care workers pre and post COVID-19 : Lessons to be learnt**

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### **Abstract**

Health care workers are the most vulnerable to the contagious diseases arising out of attending patients and the disposal of hazardous waste generated in hospitals. The effective adoption of the safety measures by the frontline health care workers would safeguard them as well as their family members. According to the Union Ministry of Health and Family Welfare, the Government of India estimates that 1800 doctors and 974 health care workers lost their lives because of the COVID infection as of September 2023. The proper supply and adoption of safety initiatives would have saved many lives in the health care sector. The present paper investigates the proper supply and adoption of a safety kits among health care workers. Data is administered through structured questionnaires among nurses and other frontline healthcare workers in a Bangalore private hospitals. The random sampling method is being used for the study. The study reveals that there was a shortage of safety tools combined with a lack of awareness about the usage of safety kits among health care workers during the initial days of COVID spread. The situation on the supply side has drastically improved in recent days. However, improper adoption of safety measures led to infection among the health care workers. The study revealed that there is a significant relationship between the level of awareness of the usage of safety kits and the infection. The findings of the study provide deeper insight into the adoption and implementation of safety measures among health care workers. They also found that most hospitals did not learn the lessons from the previous experience and were not prepared for any such situation in the future.

**Keywords: Safety measures, Safety kits, Health care workers, COVID.**

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### **1. Introduction**

The health care industry plays a crucial role in the wellbeing of the people and the health of the nation. The required measures to protect the wellbeing of health care workers attending patients are as important as health care infrastructure. The safety initiatives are important especially while attending to patients with contagious diseases like COVID-19. The health care workers and the doctors attending infectious patients are putting their own lives as well as family members lives at risk. Any negligence in the adoption and implementation of safety measures by the hospitals would paralyse the health care sector(Vinodhini,2020). Wisemen are those who learn from other people's mistakes, while the average persons learn from their own. There is a need to assess whether our hospitals are prepared for covid like situation in

the future. In the future, there might be some viruses worse than Corona. Are we geared to face such challenges? We have seen frequent lockdowns in Chinese cities in 2023, and the number of cases is showing increasing trends in many countries, including India.

## **2. Design of the study**

The objectives of the study area are: (a) to study the awareness level of usage of safety kits among the health care workers; (b) to study the problems faced by the health care workers during pandemics and the supply and adoption of safety kits among health care workers; and (c) to study the lessons learned from the past and the preparedness of hospitals to face such challenges in the future.

**Data collection.** The primary data is collected through structured questionnaires to know the awareness levels of usage of safety kits and the availability of sufficient supplies of safety kits among the health care workers. The secondary data from various research papers to know the problems faced by the health worker during COVID.

## **3. Problems of Health care workers during pandemic:**

3.1 Lack of measures to prevent the spread of viruses: Many of the patient relatives who visited the hospitals got infections. The problem for health care workers was more than keeping in touch with the patients. Most of the protective instruments are given to doctors rather than health care workers, even though the life risk is the same for both. (Cook, 2019).

3.2 Increased stress levels among health care workers; It was not only the physical health of the health care workers that was affected but also their psychological health. The health care workers were under tremendous stress during the pandemic. Some of them perceived them as more or less untouchable in some cities. Some cities. Health care workers are concerned about their own health as well as the health of their family members (Phukan, 2014). The majority of the health care workers isolated themselves to avoid the risk to family members, which had put a lot of stress on them. That society also did not treat the health care workers as expected because of fear of infections. All these things put a lot of stress on the health care workers, and it took a long time to get over this (Gupta & Sahoo, 2020).

3.3. Non availability of health insurance: The lack of additional support and health insurance was one of the major problems faced by the health care workers. There was a lot of financial support and insurance. I made policies available for doctors but not for health care workers. Compared with two doctors, health care workers needed insurance. However, some state governments had provided health insurance for health care workers. Such an initiative need not be taken only during pandemics but also during normal times. (The Economic Times, 2020).

3.4 Shortage of supply of health care accessories: Nurses are at the forefront of the COVID-19 outbreak response team. They are exposed to the health hazards of getting infected, so it is important to support them in protecting themselves with specific infection prevention procedures and sufficient provision of protective gear at their practice settings, including ventilators, masks, robes, eye covers, face shields, and gloves (Fawaz M et al. 2020).

3.5 Lack of coordination among the supply chain stakeholders: The supply chain model proposed can be applied to all forms of supplies and services affecting the global response to COVID-19, avoiding misrepresentation and miscommunication relating to stock levels of personal protection accessories for various reasons (Finkenstadt & Handfield 2021).

3.6 Shortage of health care workers: there were fixed working hours for the doctors but there are limit on working hours for health care workers. Thus health workers are not only psychologically stressed but also physically. There was no proper rest for them.

3.7 Discrimination in supply of health care accessories: Even though both doctors and health care workers face same type of risks, doctors were given more preference in supply of health care accessories compared to health care workers. The data also available about the doctor's death during pandemic and the exact data is not available regarding deaths of infected health care workers.

3.8 Poor treatment by neighbors of health care workers: Majority of health care workers faced risks in the hospitals, poor treatment with the neighbors and friends. There were cases where these people were treated like untouchables

3.9 Lack of financial incentives for health care workers. Majority of the doctors were paid double the salaries due to their risk exposure. However, the same is not true in case of health care workers. There are cases where some of the female health care workers had tough time in dealing with male patients during covid.

3.10 Lack of training in usage of health care accessories: There was no proper training for the health care workers in usage of new health care accessories. They are forced to use the same PPE kit throughout the day.

#### 4. Data analysis:

There is awareness about usage of safety kits among health care workers compared to the level of awareness during initial period of the COVID outbreak. The most of health care workers are better prepared to face new challenges in the future. The majority of health care workers are not satisfied with the supply of health safety kits during the pandemic. The majority of health care workers opined that there is discrimination in the supply of safety kits depending on rank and position in the hospitals. Because of pandemic health care workers better understood the need for health insurance for themselves. The majority of health care workers expect the hospital management to take care of their health insurance. The majority of health care workers experienced discrimination at home and in society during the pandemic situation. In some places, health care workers were treated as untouchables.

The availability of health accessories was one of the challenges, and using these accessories correctly was another. As the pandemic was unprecedented, there was no proper training or orientation for the health care workers.

#### HYPOTHESIS: 1

**Null Hypothesis ( $H_0$ ):** There is no significant relationship between Orientation on usage and adoption of personal protection and spread of COVID among health care workers based on their cadre.

**Alternate Hypothesis( $H_1$ ):** There is significant relationship between Orientation on usage and adoption of personal protection and spread of COVID among health care workers based on their cadre.

Source of variation	Sum of Squares	df	Mean Square	F – Value	P- Value
Between Groups	13.651	3	4.550	2.950	.034

<b>Within Groups</b>	302.349	196	1.543		
<b>Total</b>	<b>316.000</b>	<b>199</b>			

**Inference:** The significance level of 0.034 is less than the standard significance level of 0.05, thus we reject null hypothesis. Therefore, there is a significant relationship between the Orientation on usage and adoption of personal protection and spread of COVID among health care workers based on their cadre. Trained and qualified health care workers are less prone to COVID spread compared to lower cadre healthcare workers.

The following hypothesis have been tested to examine whether there is a discrimination in supply of safety accessories depending on the cadre of the health care workers. The findings are in line with the common finding from the various other literature reviews.

## **HYPOTHESIS: 2**

**Null Hypothesis ( $H_0$ ):** The supply of safety accessories does not significantly differ based on the cadre of health care workers.

**Alternate Hypothesis ( $H_1$ ):** The supply of safety accessories significantly differs based on the cadre of health care workers.

<b>Source of variation</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig</b>
<b>Between Groups</b>	28.288	2	14.144	11.575	<b>&lt;.001</b>
<b>Within Groups</b>	240.732	197	1.222		
<b>Total</b>	<b>269.020</b>	<b>199</b>			

**Inference:** The significance level is less than 0.05, thus we reject the null hypothesis. Therefore, the supply of safety accessories significantly differs based on the cadre of the health care workers. Scarcity of safety accessories in the initial period of COVID outbreak lead to preferential allocation of safety accessories.

## **5. Findings and suggestions:**

**Health insurance for health care workers:** There was a lot of discussion regarding the health insurance for health care workers during the pandemic. Some state governments have come forward to finance the health insurance. However, the insurance for health care insurers did not come into practise in reality. The majority of hospitals are happy to serve their patients with health insurance, but they are not ready to provide the same coverage to their health care workers. It is time to have health insurance as part of human resources policy. The state government can also make health insurance mandatory for the health care workers.

**Supply chain management of safety accessories to health care workers** The availability of safety kits was the biggest challenge during the pandemic. Are we prepared for any unforeseen challenges in the future? The use of masks did not get accepted among the rural areas during the pandemic, either (Behera & Behera ,2020). However, there is a change in attitude among the public and health care workers regarding the use of masks. In the urban area, the usage of masks is well accepted, and people understand it better. Some people use masks as precautionary measures even today. Haryana's government made it mandatory to

wear masks in public meetings. Today, we are far better than yesterday at accepting and utilising safety accessories. The only problem is supplying the accessories at the right time to the right person at the right place.

Stress management for health care workers: during the pandemic, not only physical health is affected but also the psychological health. The majority of the stakeholders discussed the physical health of the health care workers but not their psychological health. The majority of the health care workers suffered many health problems in the long run due to the psychological pressure they underwent during the pandemic situation (Gammon,1998). Health administrators failed to compensate for and find solutions to psychological problems. There is a need for training on how to overcome stress for health care workers (Rajkumar,2020).

Requirement of more staff: the common known problem is that doctors worked in shifts during the pandemic time while such facilities were not available for the health care workers. Some of the health care workers did not go home for weeks together to their homes during pandemic time. It is the right time to address this problem so that it will not repeat itself in the future. It is right to direct the hospital administrators to keep some trained health care employees in reserve to avoid such problems in the future.

**6. Conclusion:** We are able to address some of the problems of health care workers during the pandemic, but there are some important problems that need to be addressed. Providing health insurance to health care workers, better training of health care workers, not discrimination in the supply of health care accessories, and better supply chain management of health care accessories. If necessary steps are not taken now, few may be interested in joining as health care workers in the future, which is a danger signal for the future.

### References:

1. Behera D, Praveen D, Behera MR. Protecting Indian health workforce during the COVID- 19 pandemic. *J Family Med Prim Care* 2020; 9:4541- 6.
2. Cook, T. M. (2020). Personal protective equipment during the coronavirus disease (COVID) 2019 pandemic—a narrative review. *Anaesthesia*, 75(7), 920-927
3. Fawaz, M., Anshasi, H., & Samaha, A. (2020). Nurses at the front line of COVID-19: Roles, responsibilities, risks, and rights. *The American journal of tropical medicine and hygiene*, 103(4), 1341.
4. Finkenstadt, D. J., & Handfield, R. (2021). Blurry vision: Supply chain visibility for personal protective equipment during COVID-19. *Journal of Purchasing and Supply Management*, 27(3), 100689
5. Gupta, S., & Sahoo, S. (2020). Pandemic and mental health of the front-line healthcare workers: a review and implications in the Indian context amidst COVID-19. *General psychiatry*, 33(5).
6. Gammon, J. (1998). Analysis of the stressful effects of hospitalisation and source isolation on coping and psychological constructs. *International journal of nursing practice*, 4(2), 84-96.
7. Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian journal of psychiatry*, 52, 102066.

8. Phukan P. Compliance to occupational safety measures among the paramedical workers in a tertiary hospital in Karnataka, South India. *Int J Occup Environ Med*. 2014 Jan;5(1):40-50. PMID: 24463800; PMCID: PMC7767592.
9. The Economic Times. Maharashtra govt mulls insurance for staff treating COVID- 19 patients. Updated on March 27, 2020 [cited on 2020 April 19]. <https://economictimes.indiatimes. co m/news/politics - and - nation/Maharashtra - govt-mulls-insurance-for-staff-treating-COVID-19-patients/ article show/74843717.cms>.
10. Vinodhini K, Devi AB. Study on infection control practices among healthcare workers in a speciality hospital, Chennai. *Poll Res* 2016; 35:549-55.