



Impact of Covind-19's effects on women sanitary workers ' health and safety precautions: An analysis of Chennai Corporation Women Sanitary workers

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Abstract: The World Health Organization (WHO) has issued guidelines for worker safety in the sanitation and waste management sector during the COVID-19 pandemic. These rules are meant to protect workers who are more susceptible to infection because of their line of work. The Corporation has implemented many regulations in compliance with these recommendations to protect Chennai's sanitation workers. All things considered, the Chennai Corporation has taken steps to implement the WHO's guidelines for the protection of sanitary personnel during the pandemic. But it's important to monitor the situation and ensure that these workers get the resources and support they require to carry out their jobs safely and effectively. The current study looks at how protective measures provided by businesses affect the health and safety of women sanitary workers at work. For the investigation, one hundred samples were chosen. The findings showed that the Chennai corporation's protective measures and amenities had a significant impact on the women sanitary workers ' occupational safety and health during the COVID-19 protocol phase and the post-procedure time.

Index Terms— WHO guidelines, worker safety, sanitation workers, waste management sector, COVID-19 pandemic, Chennai Corporation, protective measures, women sanitary workers, occupational safety, health, regulations, resources, support, pandemic protocols, post-procedure phase.

Introduction

Health professionals and women sanitary workers were particularly at risk during the COVID-19 pandemic because of the severe consequences that resulted from the devastation. The World Health Organization's COVID-19 policy placed a high priority on protecting women sanitary workers. In Chennai, like in many other cities throughout the world, sanitary personnel have been in the forefront of the fight against COVID-19. In order to prevent the virus from spreading, these workers are responsible for keeping the city's streets, public spaces, and homes clean and hygienic. Throughout the pandemic, the Chennai Corporation, which is responsible for overseeing the city's operations, has taken several measures to protect these workers. Wearing personal protection equipment (PPE) including masks, gloves, and face shields is mandatory for all women sanitary workers . Additionally, these workers are routinely tested for COVID-19, and if the results are positive, they receive medical care, ensure that sanitation tasks are done in a staggered manner to avoid crowding and maintain physical distance, train staff on proper use of personal protective equipment (PPE) and safety protocols, and provide extra incentives to staff members, such as increased pay and insurance coverage. While these measures are commendable, a thorough examination of the situation suggests that some areas still



require improvement. The efficacy of preventative measures and their impact on the health of women sanitary workers must also be taken into account. The goal of the current study is to evaluate how COVID-19 affected women sanitary workers and how well protective measures affected the health of a subset of women sanitary workers as they reported throughout the pandemic.

Significance of Women sanitary workers during COVID 19

Women sanitary workers have played a key role in limiting the COVID-19 epidemic in Chennai and Tamil Nadu. These workers have been actively combating the virus, maintaining the state's and city's sanitary and clean circumstances. By maintaining public areas like marketplaces, bus stations, and other busy places clean and sanitized, women sanitary workers have played a critical role in stopping the virus's spread. During the pandemic, waste management has also been essential. Women sanitary workers have been in charge of gathering and properly disposing of waste from homes and public areas, which includes locating and contacting anyone who may have come into contact with someone who has tested positive for COVID-19. They have also participated in awareness campaigns, teaching the public the value of cleanliness and hygiene in stopping the virus's spread. Despite their vital role, women sanitary workers frequently operate in difficult environments with few resources and insufficient protection. Therefore, it is important to acknowledge the role these workers played throughout the epidemic and take action to protect their health and safety.

Objectives of the study

To map out the barriers and difficulties faced by women sanitary workers throughout the COVID-19 protocol and aftermath period.

To investigate the chosen women sanitary workers' perceptions of occupational safety measures and health deterioration

Data source and methodology

The goal of the current study, which involved 100 women sanitary workers in Chennai Corporation, was to find out how COVID-19 and preventative measures affected the health of these workers. Chennai is where the study was carried out. A sample was taken from the Chennai Corporation's sanitary personnel. A standard questionnaire was utilized to gauge health concerns and safety precautions. Later, SPSS (Statistical Package for Social Sciences) software was used to code and feed the data into computers for analysis. The information gathered was processed and examined using the SPSS software; the hypothesis was validated and the basis for analysis was predicted using descriptive analysis and multinomial regression.

Analysis

The associations between the independent variables (protective measures, medical treatment, etc.) and the dependent variable (occupational safety and health) were determined using logistic regression analysis. The following is how the logistic regression model is displayed:

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_i X_i$$



where X_i is the vector of independent variables, β_i is the parameter estimate for the i th independent variable, β_0 is the constant, p is the probability of resource substitution behavior, and $(p/1-p)$ is the odds of resource substitution behavior. The strength of logistic regression lies in its capacity to calculate the distinct impacts of categorical or continuous independent factors on dependent variables (Wright 1995).

When the dependent variable consists of a polytomous category with several possibilities, the multinomial logistic regression model is often useful. Binary logistic regression served as the basis for the generalization of the fundamental idea (Aldrich & Nelson 1984, Hosmer & Lemeshow 2000). It is possible to identify the parameter estimates in a multinomial logistic regression model by comparing them to a baseline category (Long, 1997). The baseline group in this study was defined as not being willing to replace. The following is the expression for the multinomial logistic regression model with a baseline category:

$$\text{For } i = 1, \dots, I - 1, \log\left(\frac{\pi_i}{\pi_I}\right) = \alpha_i + \beta_i x.$$

The baseline-category logits with a predictor x are used in the logistic model. When the dependent variable is a discrete set with more than two options, this multinomial logistic regression model may be a helpful tool (Agresti, 1996). The study's multinomial logistic regression model calculates the impact of several safety precautions on the health and safer working conditions of female garment workers.

Results

About 18% of those surveyed said their household income was less than 1 lakh per year, while 47.4% said their household income was between 1 lakh and 2 lakh per year. The majority of employees (58%) were in the 31–50 age range. The majority (90.3%) expressed a desire to take part in order to increase job participation in the most chaotic scenario. Nearly 90.5% of respondents felt sufficiently informed about health and safety precautions, 78% were satisfied with the protective measures offered, 87% experienced ongoing mental torture, 78% were satisfied with the protective measures, such as PPE children and regular health checkups, 78% felt less anxious and afraid when working, 73% and 76% were satisfied with gloves and medications, respectively, and 67% were satisfied with emergency medical assistance. A statistically significant final model specification was obtained ($\chi^2 = 85.817$; $p < 0.0001$). Protective measures and amenities have a beneficial impact on the occupational safety and health status of women sanitary workers, according to the model's multinomial logistic regression analysis findings.

Results of the Multinomial Logistic Regression in the Final Model showing attributors of occupational safety and health (Final model included only significant variables at .05 level)

Variables	Coefficient	S.E.	Wald	Df	Sig.	Exp(B)
Occupational Safety and Health protection	2.3049	80.73	1.4976	1	0.005	0.101
PPE kit	0.8928	5.1741	0.9189	1	0.002	1.967
Medicines	0.0208	1.4751	2.6343	1	0.001	1.298
Mask	0.1587	4.4262	3.4362	1	0.003	0.192



Health check up	0.0618	3.6639	2.5722	1	0.070	0.010
Quick Medical assistance	0.0066	7.3332	1.1178	1	0.065	1.395
Physical distancing	0.0085	0.0297	1.7811	1	0.003	0.961

Source :Primary Survey

Discussion

Multinomial logistic regression analysis showed that each of the model's explanatory variables had a distinct pattern of presence grids. The -2 Log Likelihood value and Nagelkerke R² were 71.29 and 0.519, respectively, representing an improvement in model fit with the addition of the aforementioned variables and a combined effect of the variables in predicting probability of occurrence. The Enter method was applied to all nine variables, the variables that were strongly correlated (P>0.6), and ten variables were used based on the quality of the information to develop a better model fit and to develop the final equation for character farming. Lemeshow and Hosmer. The results of the goodness-of-fit test showed that there was no significant difference between the produced model and the predicted fit or null model ($\chi^2 = 6.511, p = 0.21$). The model's overall correct prediction percentage was 74.2%. The prediction rate was 58.5% for genuine negatives (not present -0) and 80.2 for real positives (presence - 1). At 0.5, the ideal cut-off level was found to maximize both sensitivity and specificity. Ten explanatory factors were employed to generate the final equation in the final analysis at this cut-off point. Together, these explanatory variables accounted for 82% of the explained variables for character framing (R²=0.829). Predictors such a PPE kit, medications, masks, health examinations, prompt medical aid, and physical distance were employed in this study. These include the health of the sanitary personnel, the PPE equipment, medications, masks, health examinations, prompt medical aid, and physical distance.

Conclusion

The analysis of COVID-19's effects on women sanitary workers ' occupational safety and health revealed that the availability of facilities and protective gear had a significant impact on women sanitary workers ' health. However, in addition to the favorable features, there were also critical assessments. PPE that is of low quality and does not provide enough protection against the virus is commonly provided to workers. There have been reports of workers reusing their masks and gloves, which increases the danger of infection. Employees have occasionally tested positive for COVID-19 in spite of routine testing, which raises the possibility that there are flaws in the testing process. There are concerns about these workers' working conditions despite the fact that a staggered work schedule serves to keep individuals physically separate, particularly given the nature of their professions. For example, they often have to work in crowded areas, such as bus stations and marketplaces, where they may not be able to keep a physical distance. The additional benefits offered to workers are not enough to compensate for the risks they face as a result of working during the outbreak. Higher pay and more healthcare facilities have been sought by these workers. Even though the Chennai Corporation has taken certain precautions for its women sanitary workers during the COVID-19 pandemic, there is still need for improvement overall. Ensuring that these workers have excellent personal protective equipment



(PPE), adequate healthcare, and fair compensation for the risks they face to keep the city clean and hygienic is essential.

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