## Public friendliness towards Frontline Healthcare workers in Kolkata, India: Preparedness towards a future pandemic

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### Abstract:

Introduction: A new wave of COVID-19 infection has hit China of late and India due to her geographical proximity is at risk. More than 700 doctors in India have died on the frontline during COVID-19. Despite their sacrifices and service, discretionary behaviour by the public have been frequently reported. **Objective:** To assess the attitude and perception towards frontline Health Care Workers (HCW's) among residents of a selected zone of Kolkata (India). Method: An observational study of cross-sectional design was performed in December 2022, using a pre-designed structured questionnaire, that was sent to the registered email address of the families residing in the selected area of a zone located in Southern Kolkata and response from one eligible member per family was assessed. Of 142 families residing in the area, responses from 119 families were obtained. **Results:** Most participants agreed or strongly agreed to co-operating with HCW's during door-to-door screening campaigns and supporting their families (94.8% and 83.7% respectively). Majority (74.4%) favored functioning of private clinics; however, 60.7% didn't want to allow doctors to work post-COVID recovery. Though 64.9% believed HCW's were taking adequate measures to contain disease spread, 77.8% wanted to maintain more than required 'safe distance' from them and 35.1% favored keeping them away from neighbourhood. About 67% thought HCW's were properly trained and equipped to handle COVID-19 cases (47.8%). Participants with age more than 33 years (p=0.030), males (p=0.044) and who sought health advice in last month (p=0.016) were found to have a favorable attitude. Conclusion: The study finds a mixed opinion in the public about HCWs. Considering the difficulties faced by HCWs, which affected the functioning of the healthcare system, this scenario can be tricky while tackling similar emergencies of the future. Hence, measures to reduce societal stigma against HCWs is of great necessity.

Keywords: Attitude, COVID-19, Health Personnel, Perception, Social Stigma.

#### Introduction:

The COVID-19 pandemic has seized to be a Global Public Health Emergency now, after wreaking havoc for nearly 3 years.<sup>[1]</sup> However, resurgences of new waves of the pandemic in Eastern Asia have shown that the world remains at risk.<sup>[2]</sup> India has already witnessed three waves of the COVID-19 pandemic and the World Health Organization (WHO) has warned of similar pandemics in the future.<sup>[1]</sup>

Misinformation circulating through social media and other mass media during the pandemic lead to panic reactions among general population. They were often reported to have adversely reacted to frontline health care workers (HCW) (including physicians, nurses, pharmacists and other health care staff) fighting the pandemic.<sup>[3]</sup> Negative attitude and stigma of the community lead to a nonsupportive environment, making it more difficult for HCWs to render their services.

Quick Response Code	Access this article online	How to cite this article :
	Website : www.healthlinejournal.org DOI : 10.51957/Healthline_ 522_2023	Gupta S, Abhishek De, Biswas R, Baur B, Chakraborty A. Public friendliness towards Frontline Healthcare workers in Kolkata, India: Preparedness towards a future pandemic. Healthline. 2023; 14 (2): 150-156

Studying the public attitude towards HCWs is essential to create a safe work atmosphere for them before future epidemics/pandemics, which could be an impending disaster. Therefore, this study was undertaken to examine the attitude and perception towards HCW's among non-medical adult residents of a pre-selected zone in Kolkata, which had been poorly affected in the past few waves of the pandemic.<sup>[4]</sup>

## Method:

This was a community-based, cross-sectional study, done in the month of December 2022. A previously declared containment zone during COVID 19 pandemic was selected purposively from the list announced by the state government.<sup>[5]</sup> The selected zone consisted of a residential complex located in Ward No. 106 of the Kolkata Municipal Corporation, with 142 families residing in it.

## Sample size and sampling technique

Using the formula  $n_0 = z^2 pq/e^2$ , and applying correction factor for finite population, the final calculated sample size (n) was calculated, with prevalence (p) of favorable attitude=50.0%, q=100p, e=10% of p, and N=total number of families=142, sample size (n) was calculated to be 104.But, in order to achieve a larger sample size, the questionnaire was sent to the registered email address of all the 142 permanent resident families. Each family was asked to submit the filled-up questionnaire within seven days of receipt, after which, the responses were rejected. To ensure that only one response was received per family, only the first response received from each of the registered email addresses was considered, when applicable. If a health worker member responded on behalf of his/her family, the response was excluded from analysis.

## Data collection questionnaire

The questionnaire was designed to assess the attitude and perception towards HCW's, with an informed consent form at the beginning. Questions on socio-demographic variables were asked, followed by questions to assess attitude and perception of the study participants towards HCW's. The questions were mentioned in the local language as well as in English. Each question asked to assess

attitude and perception had five possible responses (strongly agree, agree, no opinion, disagree and strongly disagree), graded using a Likert scale and the subjects were asked to mark the most appropriate option in each case. A scoring system was adopted with the consensus of the study team, where participants marking an option indicating favorable attitude or perception scored positive points, while marking an option indicating otherwise would score negative points.

Total individual score of a participant was obtained by adding up his/her scores from each question; maximum possible score was 32. The totaled individual scores were arranged in ascending manner and median score was calculated. An individual with total score below the median was classified as having unfavorable attitude and perception towards HCW's, while individuals scoring equal to or above the median score were classified as having favorable attitude and perception.

## Data entry and Analysis

The data obtained was entered into and analyzed with Statistical Packages for Social Science (SPSS)® (SPSS Inc, Chicago, IL, USA) version 16.0. Predictability of favorable attitude and perception with selected variables was tested by Logistic Regression analysis (P<0.05 was considered as statistically significant)

## Ethical Considerations

The study was conducted after the grant of necessary permission by the Institutional Ethics Committee of a Medical College of West Bengal, India (Ref No.: MC/KOL/IEC/NON-SPON/757/08/20, dated 06.08.2020). Anonymity of all respondents was maintained.

## **Results:**

A total of 119 complete responses were received within the stipulated time, of which, two (2) were from health workers. Hence, analysis was carried out based on the remaining 117 responses.

Majority of the respondents were young (18-27 years age: 61.5%), having passed higher-secondary examination (54.7%). Of them, 38.5% had sought health advice from physicians in the last one month for themselves or their family members. A few (3.4%) had one or more health worker(s) as family member. (Table 1)

	Variable	n(%)				
Age (Completed years)	18-27	72 (61.5)				
Mean: 32.73 Years	28-37	10 (8.5)				
SD: 15.81 Years	38-47	13 (11.2)				
	48-57	11 (9.4)				
	>57	11 (9.4)				
Gender	Male	71 (60.7)				
	Female	46 (39.3)				
Faith	Hinduism	95 (81.2)				
	Islam	6 (5.1)				
	Atheist	12 (10.3)				
	Others	4 (3.4)				
Marital status	Married	42 (35.9)				
	Unmarried	75 (64.1)				
Family	Nuclear	85 (72.6)				
	Joint	32 (27.4)				
Education	Higher Secondary	64 (54.7)				
	Graduation	13 (11.1)				
	Post-graduation	38 (32.5)				
	Doctorate	2 (1.7)				
Occupation	Student/ Intern/ Apprentice	42 (35.9)				
	Private firm employee	23 (19.7)				
	Unemployed	15 (12.8)				
	Government employee	13 (11.1)				
	Retired	10 (8.5)				
	Self-employe	8 (6.8)				
	Home maker	6 (5.2)				
Socio-economic class	**Class I	I89 (76.1)				
	Class II	4 (12.0)				
	Class III	8 (6.7)				
	Class IV	5 (4.3)				
	Class V	(0.9)				
Sought health advice in last month	Yes	45 (38.5)				
	No	72 (61.5)				
**As per the B.G. Prasad Scale, modified on March 2022						

 Table 1: Socio-demographic profile of the respondents (N=117)

Regarding attitude towards frontline HCW's, 61.5% strongly agreed to co-operating with HCW's during door-to-door screening campaigns; 42.7% agreed to supporting the families of HCW's who were away on duty. More than half of the respondents (52.1%) strongly agreed to extending extra privileges to HCW's as a token of appreciation for the work they are doing. Most (45.3%) agreed to the idea of allowing private doctor clinics to function in the neighborhood, nearly three-fourth of the respondents were inclined towards maintaining 'safe distance' more than that is required from HCW's, with 37.6% agreeing to quarantine HCW's and their families suspected of COVID infection at a place away from the general populace. Some respondents (37.6%) said that their attitude towards HCW's as expressed by them is not dependent on the COVID-status of the concerned HCW's; 32.5% said it was liable to change and the rest (29.9%) were unsure with their reply. Of the respondents, 31.6% disagreed to allow HCWs, who previously suffered from COVID to resume work even after proven recovery. (Table 2)

Domains	Strongly agree No (%)	Agree No (%)	No opinion No (%)	Disagree No (%)	Strongly disagree No (%)
Co-operating with HCW's during door-to-door screening campaigns	72 (61.6)	39 (33.3)	4 (3.4)	2 (1.7)	0 (0.0)
Maintaining 'safe distance' from HCW's more than that prescribed is required	48 (41.0)	43 (36.8)	12 (10.3)	10 (8.5)	4(3.4)
HCW's would not make for preferred neighbors during the pandemic	2 (1.7)	15 (12.8)	23 (19.6)	43 (36.8)	34 (29.1)
Supporting families of HCW's when they are away on duty during pandemic	48 (41.0)	50 (42.7)	14 (12.0)	5 (4.3)	0 (0.0)
It is necessary to keep HCW's and their families away from neighborhood as an extra precautionary measure	16 (13.7)	25 (21.4)	22 (18.8)	40 (34.2)	14 (11.9)
HCW's and their families should be quarantined away from general populace, if suspected of carrying COVID infection	8 (6.8)	44 (37.6)	13 (11.1)	28 (23.9)	24 (20.6)
HCW's should be extended extra privilege, as a token of appreciation	61 (52.1)	49 (41.9)	4 (3.4)	3 (2.6)	0 (0.0)
Private clinics should be allowed to operate in the neighborhood	34 (29.1)	53 (45.3)	17 (14.5)	8 (6.8)	5 (4.3)
HCW's who once suffered from COVID, should be allowed to resume work, once they have recovered	7 (6.0)	23 (19.6)	16(13.7)	37 (31.6)	34 (29.1)

Table 2: Distribution of study participants according to their attitude towards COVIDfrontline health workers (N=117)

Most participants perceived that HCW's are adequately trained and equipped to handle suspected COVID-patients; 47.0% strongly agreed that HCW's are working tirelessly round-the-clock to manage the pandemic. Most (42.7%) opined that HCW's are taking adequate measures to ensure that they are not spreading infection to others. Majority (71.8%) had no opinion regarding behavior of HCW's in COVID hospitals, 11.1% disagreed with the opinion that behavior was unacceptable. (Table 3)

Median participant score for attitude towards HCW's was 4 (1.5-7). Results for age, gender and seeking health advice in last month were found to be

significant (p<0.1) on Univariate regression, while others returned non-significant results. Having a health worker in family was also not found to significantly affect the results. Multivariate logistic regression analysis using all the above three variables found that all the variables were significantly predicting favorable attitude. The elderly [Adjusted Odds Ratio, i.e., AOR=2.640 (1.097 to 6.358)], males [AOR=2.307 (1.021 to 5.212)] and, participants who sought health advice in last one month [AOR=2.836 (1.216 to 6.616)] tended to have a favorable attitude; Nagelkerke's R<sup>2</sup> for the model being 0.16. (Table 4)

Domains	Strongly agree No (%)	Agree No (%)	No opinion No (%)	Disagree No (%)	Strongly disagree No (%)
HCW's have been adequately trained to handle suspected COVID patients	34 (29.0)	44 (37.6)	26 (22.2)	12 (10.3)	1 (0.9)
HCW's are properly equipped to handle suspected COVID patients	24 (20.5)	32 (27.3)	23 (19.7)	31 (26.5)	7 (6.0)
HCW's and health facilities are doing enough to transport and accommodate suspected or confirmed COVID cases	26 (22.2)	36 (30.8)	30 (25.6)	22 (18.8)	3 (2.6)
HCW's and health facilities are doing enough to transport and accommodate other critically ill or emergency cases	22 (18.8)	40 (34.2)	29 (24.8)	22 (18.8)	4 (3.4)
HCW's are working round the clock tirelessly to manage the pandemic situation	55 (47.0)	50 (42.7)	9 (7.7)	3 (2.6)	0 (0.0)
HCW's are taking adequate measures to ensure that they are not spreading infection to others	26 (22.2)	50 (42.7)	35 (30.0)	6 (5.1)	0 (0.0)
Behavior of HCW's is not acceptable at COVID hospitals	1 (0.9)	8 (6.8)	84 (71.8)	13 (11.1)	11 (9.4)

Table 3: Perception of the respondents towards the work being done by frontlinehealth workers during COVID pandemic (N=117)

Variable		Attitude		Total		Р
		Favorable N(%)	Unfavorable N(%)		(95%) C.L.J	
Gender	Female	22 (47.8%)	24 (52.2%)	46	Ref	
	Male	46 (64.8%)	25 (35.2%)	71	2.307 (1.021-5.212)	0.044
Age (completed years)	<u>&lt;</u> 33	40 (50.6)	39 (49.4%)	79	Ref	
	>33	28 (73.7%)	10 (26.3%)	38	2.640 (1.097-6.358)	0.030
Sought Health advice	Yes	32 (71.1%)	13 (28.9%)	45	Ref	
	No	36 (50%)	36 (50%)	72	2.836 (1.216-6.616)	0.010

# Table 4: Predictability of socio-demographic variables for favorable attitude towards frontlinehealth workers during COVID pandemic (N=117)

#### Discussion:

Social stigma related to COVID-19 is "attributable to unscientific belief and improper understanding of corona virus" and many in India mistakenly believe that HCW's are a potential infection source.<sup>[6]</sup>In the present study, the public opinion was usually inclined towards maintaining safe distance from HCWs. When the current situation demands strengthening of the health systems, the negativity that HCW's are having to witness acts as a force contrary to it. These unfriendly findings are in consonance with reports from around the world in different cultural settings. In numerous locations across the globe, HCWs have faced harassment and humiliation.<sup>[7,8]</sup>The situation in India became so bad that a new Law, in the form of a Central Ordinance had to be implemented in order to based; criminalize violence against COVID healthcare workers.<sup>[9]</sup>

Nearly 40% of the respondents of this study were keen on keeping HCWs and their families quarantined away from them. People were reluctant to allow a doctor to resume work, even after s/he recovered from COVID-infection. In many countries, a phenomenon of 'mutual discrimination' had been noted since the start of the pandemic. An Indian study found nearly 85% of its respondent healthcare workers to have suffered from social stigma; nearly 50% felt unsafe while stepping outside.<sup>[10]</sup> Another study from COVID-designated hospitals in India showed 60% of doctors to perceive higher levels of stigma.<sup>[11]</sup>Stigma has proven negative impact on a health worker's performance.<sup>[12]</sup>

Evidences generated during previous outbreak point at the fact that, during any such health emergencies, social stigmatization of HCWs are a common phenomenon.<sup>[13,14]</sup> Hence, to ensure that the HCWs are physically and mentally prepared to tackle similar health emergencies in the future, pro-active measures should be taken to create a favorable scenario for them. An effective anti-stigma campaign should be mounted by the health authorities at every level, which fractures the misperception and increases the knowledge, and conveys a supporting and positive message towards HCWs. Negative and unverified reports on social media should be controlled and accurate information should be disseminated in order to eradicate social discrimination of HCWs and protect their well-being.

The findings of the current study underscore the need to follow guidelines issued by the IFRC (International Federation of Red Cross and Red Crescent Societies), WHO and UNICEF (United Nations Children's Fund) to address the issue of social stigma created in the wake of COVID-19.<sup>[15]</sup> The Ministry of Health and Family Welfare (Government of India) guidelines outlining what a responsible role entails during such a pandemic should be highlighted and followed.<sup>[16]</sup>

#### Limitation of the study:

The study was done on a previously declared containment zone. Having one such zone selected and not more, can be considered as a short fall.

Despite the urban and higher socio-economic setting, the responses from the elderly were less, which might have been because, in our cultural framework, the elderly still have relatively limited skill or capacity to successfully participate in surveys conducted through the online medium.

#### **Conclusion:**

In the current study, a mixed public opinion towards HCWs was noted. Majority of the respondents wanted to maintain an extra safe distance from HCW's, with some not preferring them as neighbors. Furthermore, one third of the participants wanted the HCW's and their family to be quarantined away from the general population if suspected with infection. Therefore, it is safe to comment that social stigma against HCWs is still rampant, which needs immediate attention and redressal.

#### **Declaration:**

#### Funding: Nil

#### Conflict of Interest: Nil

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