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RESEARCH PAPER

A cross-sectional study on mental health of health care workers in Delhi due to COVID-19

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ABSTRACT

With the COVID-19 outbreak, surveillance in infection control has increased in both general public and hospital levels, and its psychological impact on hospital staff is expected to increase. The mental health of the frontline healthcare workers (HCWs) becomes a serious matter of concern, as they are the ones who are working to save the lives of the pandemic sufferers. To understand the current mental state of the HCWs, and also what are they doing to combat this COVID induced stress this study has been conducted. An online survey has been carried out to understand the perceived stress levels among the HCWs and the activities they are doing to combat the same. Analysis was done on the basis of responses obtained. Around 80% of HCWs are afraid to visit their home because of chance of infecting their family members through contact. 3/4th of the HCWs have a fear of stigmatization of rejection from the society due to hospital work. To combat this stress most of the HCWs prefer to listen to music, talk to close ones, spending time with family, reading books, yoga, meditation and exercises. The value of Cronbach's alpha is a measure of internal consistency for scale, was observed as significant around 0.640. Most of the HCWs are experiencing symptoms like difficulty in sleeping, concentrating; feeling of frustration, anxiety and irritation due to increased workload. There is a significant increase in stress levels of the HCWs due to the global pandemic of COVID 19.

Keywords: - COVID-19, stress, Healthcare workers, mental health, pandemic, strategies.

INTRODUCTION

Corona virus disease-2019 (COVID-19) also known as 2019 novel corona virus (2019-nCoV) was identified in December 2019 in Wuhan city, China. [1]On 11 March 2020 WHO declared Noble Corona Virus as a pandemic as the number of cases were rising very rapidly in European regions. [2]In India, first case was reported on 30 January 2020, as of 24 July, 2020 MoHFW have confirmed

440135 active cases, 817208 recoveries and 30601 deaths in the country. Thousands of HCWs are working round the clock to confront it head on. Battling this highly infectious pandemic HCWs are under both physical and mental stress. [2]More than 2000 HCWs have tested positive of COVID-19 in Delhi alone and at least 70 Indian doctors have died of COVID so far. [3]More than half of the HCWs (59%) had moderate to severe levels of perceived stress, depressive and anxiety symptoms. [4]As stated in a study on HCWs in Wuhan 50.4% reported symptoms of depression, 44.6% anxiety, 34.0% insomnia, and 71.5% reported distress, due to this pandemic, we can clearly see how important

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it is to address the psychological issues faced by healthcare workers. [5] Medical staffs were worried regarding their safety and the safety of their families and reported psychological effects due to increase in mortality from COVID-19 infection. [5] It also stated that continued acquiescence of the medical staff by hospital management and the government, provision of infection control guidelines, specialized equipment and facilities for the management of COVID-19 infection should be identified as factors that may motivate medical staff to work during future epidemics. [6,7] In a cross-sectional study on 994 medical doctors and nurses it was found that 36.9% had sub threshold mental health disturbances. 34.4% had mild disturbances, 22.4% had moderate disturbances and 6.2% had severe disturbances. [7,8] In a study qualitative analysis approach was used that identified main themes for mental health promotion of health providers (HP) as follows: Positive Motivational factors are as Intellectual & Emotional and; negatives, frustrations associated with patient care, personal fears and annoyances experienced by doctors. So, we can clearly see the importance of addressing the mental health issues of HCWs during this pandemic and how their own intellectual and emotional aspects can play a major role in combating this stress. The study objectifies to study the present mental health condition of the frontline medical health workers, the perceived stress levels among the frontline healthcare workers and also the different strategies adopted by the frontline healthcare workers to manage the stress induced by this crisis.

MATERIALS & METHODOLOGY

In this research we are trying to study the stress induced by the COVID-19 pandemic among the frontline healthcare workers. This pandemic is turned out to be more of a stress pandemic for the frontline workers. Also, we want to understand the different measures adopted by them to combat this stress. To fulfill the objective of the research in this study we have used quantitative analytical approach of the research. Our target population is the frontline healthcare workers in the hospitals of Delhi, here the frontline healthcare workers are the people working in the hospitals of Delhi (government, private, semi government) including doctors, nurses, midwives, interns, lab technicians, administrative and support staff who all are at the highest risk of exposure to COVID-19 infection.

Sample size: To estimate the sample size we collected the data of frontline healthcare workers of Delhi from the website of MoHFW. The total population of frontline HCWs in Delhi was 86,854, that is more than 10,000. So, we decided to survey 400 frontline HCWs. But due to COVID limitations as many as 280 HCWs responded to our survey.

Data collection: For this we conducted online survey with Google forms. The respondents were forwarded the survey of 15 questions including a consent form to participate in the survey, using mail ids and social media platforms. The survey link was opened on 7 May, 2020 at 10.00 GMT +5.30 and closed on 30 May, 2020 at 12.00 GMT +5.30.

Questionnaire: There were total 15 questions. The questionnaire was divided in 4 small segments. First section was about the demographic information of the participants. The second section had 4 questions to assess of fear of getting covid-19 infection among the frontline healthcare workers with a 3-point scale. The 3rd section had 5 questions to assess the perceived stress levels among frontline health care workers due to covid-19. The 4th section was to assess the measures/ strategies adopted by the frontline healthcare workers (HCWs) to combat this covid-19 pandemic stress. The questionnaire was kept short, due to busy schedules of the HCWs.

Inclusion criteria and exclusion criteria:

All the healthcare workers in the hospitals of Delhi, here the frontline healthcare workers are the people working in the hospitals of Delhi (government, private, semi government) including doctors, nurses, midwives, interns, lab technicians, and pharmacists staff who all are at the highest risk of exposure to COVID-19 infection comes under the inclusion criteria. Administrative staff, Research&Development staff, technicians, IT staff and other staff members who are not in direct contact with patients and are at relatively lower risk comes under the exclusion criteria.

Ethical Consideration: All respondents were informed about research study, work purpose and were assured with the reliability and confidentiality of their data.

RESULT AND ANALYSIS

As many as we obtained 280 responses from the survey among which there were 64 Physicians, 100 Nurses, 31 Lab volunteers, 50 Pharmacists, 19 Physiotherapists and 16 other medical staff, and their mean age is 39, 25, 25, 31, 24 and 24 years respectively.

Fear assessment of getting COVID-19 infection among the Frontline Healthcare Workers.

Though the spread of the disease is very rapid and the HCWs are at the highest risk of developing infection. So, respondents (HCWs) in order to assess the fear of getting COVID infection they were given three options; mild, moderate and severe to choose from the perspective opinion provided 1) Fear of getting corona virus infection, even after taking all the preventive measures, 67 respondents are mildly fearful, 189 moderately and 24 assessed themselves as severely fearful of getting corona virus infection even after taking all the preventive measures. 2) Afraid to go to home as there is a chance of affecting your family members through your contact, 49 respondents are mildly afraid, 125 moderately and 106 are severely afraid to go to home because chances of affecting their own family members through their contact. 3) Fear of losing your life because of the rapid spread of the COVID-19 Infection, 93 respondents are mildly fearful, 111 moderately and 76 assessed themselves as severely fearful of losing their own life because of the rapid spread of infection. 4) Fear of stigmatization of rejection from the neighborhood due to hospital work, 65 respondents are mildly fearful, 126 moderately and 89 assessed themselves

as severely fearful of stigmatization of rejection from the neighborhood due to hospital work. From the table 1 we found that 23.9% are mildly, 67.5% are moderately and 8.5% are severely fearful of getting COVID-19 infection even after taking preventive measures. Total 17.5% respondents are mildly, 44.6% are moderately and 37.7% are severely afraid to go to home as there is a chance of

affecting their family members through their contact. Also 33.2% are mildly, 39.6% are moderately and 27.1% respondents are severely fearful of losing their own life because of the rapid spread of the COVID-19 infection. 23.2% are mildly, 45% are moderately and 31% are severely fearful of stigmatization of rejection from the neighborhood due to hospital work.

Table 1: Fear assessment of getting COVID-19 infection among the respondents (HCWs)

Question	Mild	Moderate	Severe
1. Fear of getting corona virus infection, even after taking all the preventive measures?	67 (23.9%)	189(67.5%)	24(8.5%)
2. Afraid to go to home as there is a chance of affecting your family members through your contact	49(17.5%)	125(44.6%)	106(37.7%)
3. Fear of losing your life because of the rapid spread of the COVID-19 INFECTION?	93(33.2%)	111(39.6%)	76(27.1%)
4. Fear of stigmatization of rejection from the neighborhood due to hospital work	65(23.2%)	126(45%)	89(31%)

Assessment of Perceived Stress Levels among Frontline Health Care Workers Due to Covid-19

The pandemic has already caused an increase in emotional, mental and physical pressure for the Healthcare Workers. So, the respondents (HCWs) in order to assess the perceived stress levels were given 3 options; never, sometimes and always to choose from the perspective opinion provided 1) In the last month how often have you been upset / depressed because of something that happened unexpectedly, 58 respondents never felt depressed, 195 sometimes and 27 respondents always felt depressed in last one month due to unexpected happenings. 2) How often you felt irritated, angry or frustrated because of the increased workload due to this COVID-19 pandemic, 66 respondents never felt irritated, angry or frustrated, 129 sometimes felt

and 85 respondents always felt angry, irritated or frustrated because of increased workload due to COVID-19 pandemic. 3) How often you find it difficult to concentrate on your work and feel restless? 62 respondents never find it difficult to concentrate on work, 140 sometimes find it difficult and 77 respondents always find it difficult to concentrate on work or the feeling of restlessness. 4) How often you find it difficult to fall asleep at night? 56 respondents never find difficulty in sleeping, 147 sometimes find it difficult to fall asleep and 77 always find it difficult to fall asleep. 5) How often you feel like you can develop an Obsessive Compulsive-Disorder(OCD) due to frequent hand washing habits due to COVID-19. 87 respondents never felt like developing an OCD

due to frequent hand washing. 127 sometimes feel so, and 77 respondents always feel like they can

develop an OCD due to frequent hand washing habits due to COVID-19.

Table 2: Perceived stress levels responses among HCWs due to COVID-19

Question	Never	Sometimes	Always
1. In the last month how often have you been upset / depressed because of something that happened unexpectedly?	58 (20.8%)	195 (69.6%)	27 (9.6%)
2. How often you felt irritated, angry or frustrated because of the increased workload due to this COVID-19 pandemic?	66 (23.63%)	129 (46.07%)	85 (30.3%)
3. How often you find it difficult to concentrate on your work and feel restless?	62 (22.2%)	140 (50%)	78 (27.8%)
4. How often you find it difficult to fall asleep at night?	56 (20%)	147 (52.5%)	77 (27.5%)
5. How often you feel like you can develop an OCD due to frequent hand washing habits due to COVID	87 (31.08%)	127 (45.35%)	66 (23.57%)

Among all the responses, 69.6% of respondents say sometimes while 9.6% say always they have been upset / depressed because of something that happened unexpectedly last month. Total 46.07% respondents say sometimes and 30.3% always, felt irritated, angry or frustrated because of the increased workload due to this COVID-19 pandemic. Also, 50% of respondents say sometimes

while 27.8% says always they find it difficult to concentrate on work due to this pandemic. 52.5% of respondents sometimes find it difficult to fall asleep at night while 27.5% always find it difficult to fall asleep at night. 45.35% of respondents sometimes feel like they can develop an OCD due to frequent hand washing habits due to COVID-19 while 23.57% always feels like this.

Assessment of the Measures/ Strategies Adopted by the Frontline Healthcare Workers (HCWs) To Combat This Covid-19 Pandemic Stress:

options (as shown in Figure 1) and were asked to select the ones they find useful to combat the stress induced by this COVID-19 Pandemic.

To assess the measures/strategies adopted by HCWs they were provided with the following

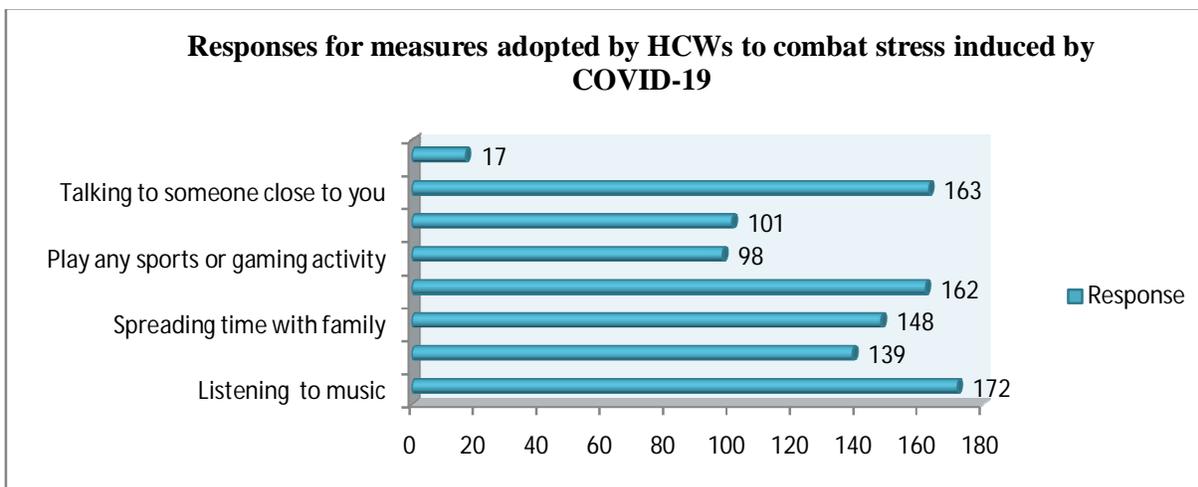


Figure 1: Measures adopted by HCWs to combat stress induced by COVID-19

As shown in Table: 172 respondents prefer listening to music, 139- reading books, 148 – spending time with family members, 162 – yoga/meditation/exercises, 98 – sports activities or games, 101 – dancing, 163 – talking to someone

close to them and 59 prefer seeking medical help or taking pills as the measures to combat their stress at home/workplace.

Weekly Frequency of Taking Measures to Combat Stress

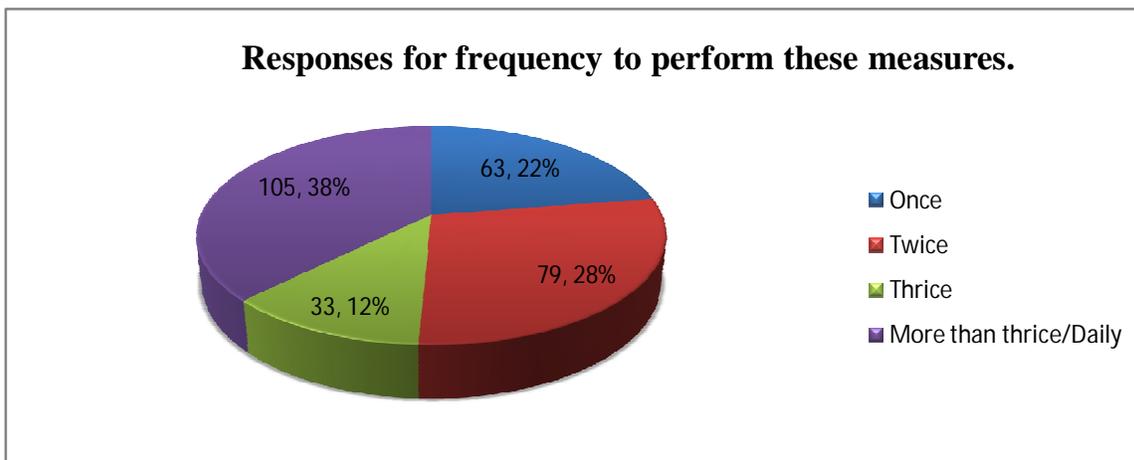


Figure2: How frequently HCWs perform these measures to lower stress

22% HCWs prefer doing such activities once in a week, 28% twice, 12% thrice and 38% HCWs prefer doing it daily.

: Seven HCWs find such measures ineffective while 188 find them effective and 85 find them very effective in lowering the stress levels.

Effectiveness of Such Measures in Lowering the Stress Levels

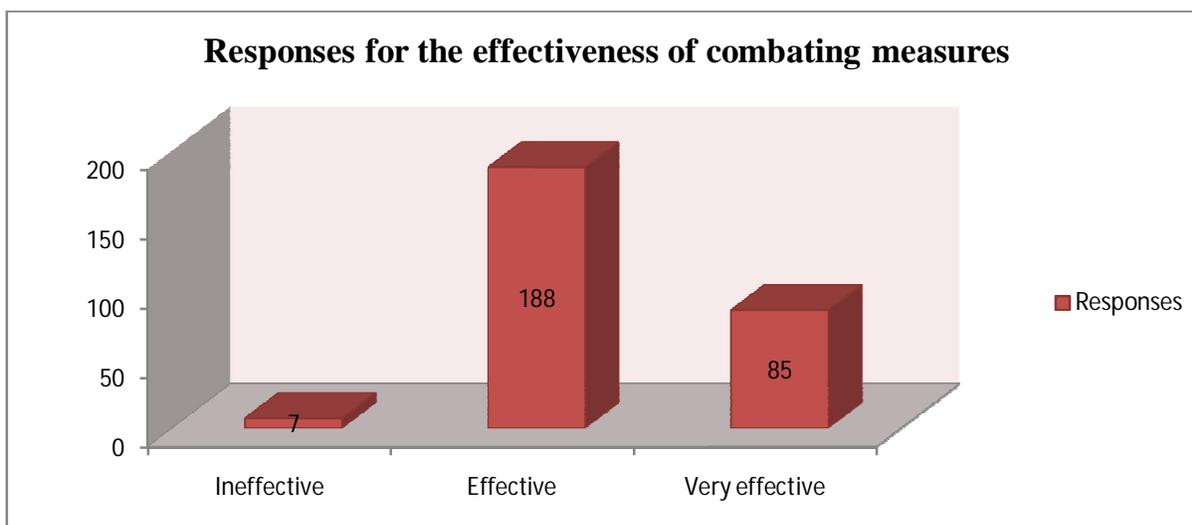


Figure 3: perceived effectiveness of the measures adopted by the HCWs to lower the stress levels.

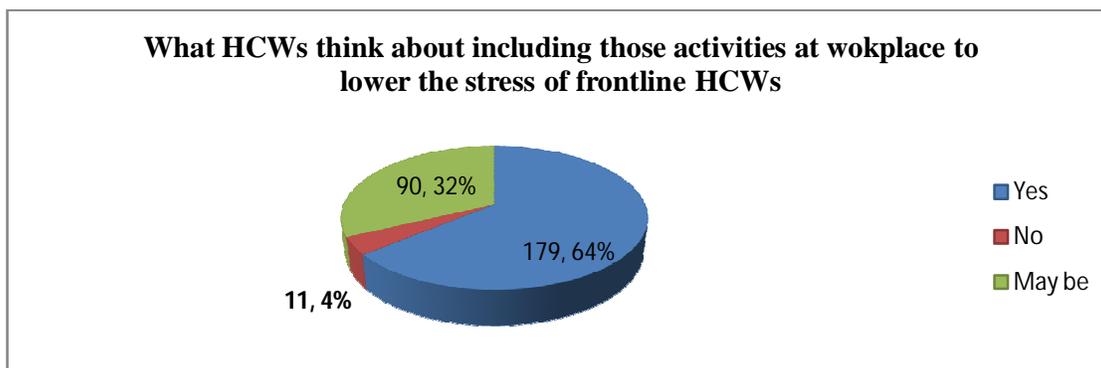


Figure 4: Views about including those activities at workplace to lower stress levels

64% HCWs feels that such activities should be included at workplace in order to lower the stress levels while 4% says they should not be included.

Views of the HCWs on the Government Ordinance for the COVID Warriors

The ordinance says any person who attacks a health worker who is treating Covid-19 cases can be jailed for a maximum of seven years or fine up to Rupees 7 Lakhs.

The HCWs were asked to rate the effectiveness of the government ordinance for COVID Warriors, by choosing one option: (i) ineffective (ii) effective and (iii) very effective. 30 HCWs find the ordinance ineffective while 196 find it effective and 54 find it very effective.

The efficacy and reliability of this 3-point scale was found good, as the value of Cronbach alpha is 0.640. This indicates that a reliability of our study is good, and our scale can be preferred for estimating mental health state of an individual.

KEY FINDINGS

- Most of the HCWs have a fear of getting COVID infection even after taking all the preventive measures.

- Around 80% of HCWs are afraid to go to their home as there is a chance of affecting their family members through their contact.
- Around 3/4th of the HCWs have a fear of stigmatization of rejection from the neighborhood due to hospital work.
- Most of the HCWs feel frustrated/ irritated because of increased workload due to COVID-19 pandemic.
- Most of the HCWs find it difficult to concentrate on their work due to this pandemic.
- Most of the HCWs agree that they find it difficult to fall asleep at night.
- Most of HCWs prefer to listen to music, talk to someone close, spending time with family, reading books of their choice, yoga, meditation and exercises to combat their stress over taking pills. Most of them find these measures effective as well in lowering their stress levels, and prefer to do it on regular basis.
- Most of the HCWs agree that the government ordinance for COVID Warriors is actually effective and beneficial for the HCWs.
- Other than the mental health issues HCWs are facing other issues like: insufficient salary, inadequate supply of PPE kits, and

unavailability of transportation facility for the staff from the hospital end during lockdown period.

CONCLUSION

There is a significant increase in stress levels of the healthcare workers due to the global pandemic of COVID-19. They are experiencing different symptoms like difficulty in sleeping, difficulty in concentration, feeling of frustration, anxiety and irritation due to increased workload, HCWs are afraid to visit their houses as the disease is highly contagious and there is no treatment available till now. Stigmatization of rejection from the society is also a big fear among the HCWs hence the contributing factor to cause stress.

RECOMMENDATIONS

- Maintaining positive self-attitude, spending time with family, talking to close ones, social support can play a big role in lowering the stress levels of the HCWs.
- Adequate supply of PPE kits is very essential for all the healthcare providers and also ensures the PPE stocks at each hospital and clinic.
- Adequate salary and support from hospital authorities is equally important to maintain a healthy and stress-free work environment for the HCWs.
- Some interesting activities like yoga, meditation therapy and some fun activities can be introduced periodically at work place as it will help to divert the stressful mind and refresh the mood of healthcare workers and may help them feel positive and improve their overall performance.

- Infection control audits needs to be performed across the hospitals to check the scale of dangers the HCWs face during the pandemic. It is the duty of the government & society to maintain a healthy and stress-free work environment for all the HCWs and appreciate their bravery and hard work, coz they are our shields in fighting this battle against COVID 19.
- Few amendments need to be made in HR policies for the HCWs especially regarding their leaves and salaries. If any HCW caught the COVID infection all the leaves should be paid regardless weather the employee have leaves (Sick Leave/Casual Leave/Privilege Leave) left or not.

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