Health care professional’s perceived stress levels and novel brief COPE-4 factor structure-based assessment of coping methods during COVID-19 pandemic in India: A multi-modal cross-sectional study

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ABSTRACT

Background: SARS-CoV-19 or popularly known as COVID-19 is recognized as a global public health emergency and a pandemic necessitating readiness of the health system and its operational work force to address the unprecedent challenge. Objective: To assess perceived stress and coping methods using novel brief COPE-4 factor structure and narrate thematic testimonials among health care professionals involved in COVID care in India. Settings and Designs: Health care settings and multi-state cross-sectional study. Methods and Material: A cross sectional mixed-methods study, with multi-modal aids was undertaken during April-May, 2020 using a novel brief COPE-4 Factor structure. Oral informed consent was obtained to document narrative testimonials verbatim from interviews among doctors, nurse practitioners. Statistical Analysis Used: The web-survey data from Google forms analyzed using STATA (Ver 12.0) statistical package. The interview content was subjected to manual inductive thematic coding, grouped into piles to identify broad themes as main categories. Results: Among total 218 respondents, 75 (34.4%) were female and 143 (65.6%) male, mean age of 34.71 (SD = 8.9) years. Majority of the respondents were medical post-graduates on duty (38%) followed by nurses (25%) and public health professionals (14%). Slightly higher levels of stress seen among respondents involved in COVID-19 duty, compared to those not involved (p < 0.001) and positive thinking is the major coping method adopted. Conclusions: Appraising the coping mechanisms of health care professionals reveals positive outlook amidst medium levels of perceived stress while providing COVID-19 pandemic related health care services.

Keywords: COPE Brief Inventory-4 scale, health care professionals, positive thinking, SARS-CoV-19

Introduction

SARS-CoV-19 (COVID-19) is recognized now as a global public health emergency and pandemic requiring countries globally to quickly adapt to the emerging situation and protect the health...
and well-being of the population. Global monitoring of the current scenario reveals 208 countries and territories recording COVID-19 cases.[1] Health care professionals emerged as one of the highly affected population groups, both mentally and physically with occupational risks involved in addressing the pandemic related emergency, therapeutic and preventive health care services as frontline service providers. Preventing the spread of this virus among populations necessitates them to constantly update with the evolving science, adapt to local and regional situations and aligning the scientific guidelines and advisories with accessible resources amidst the shortages and disruptions of adequate materials including personal protective equipment, rapid testing kits and limited treatment options.

Historically health events such as pandemics, natural or man-made disasters bring upheaval to the regional health systems and a testing period for endurance and perseverance of multiple stakeholders such as policy makers, care providers and the subjects of the state or nation requiring highest emotional intelligence for resilience cultivation. The undue mental stress both at professional and personal domains as the news of care providers succumbing in the fight has critical impact on mental wellness of health personnel. This leads to mental and emotional stress, post-traumatic stress symptoms such as grief, Depression, Anxiety, loneliness and fatalism.[3]

Coping is defined as the cognitive and behavioral efforts that are implemented to solve problems and reduce the stress that these problems may cause.[3] The coping strategies are used by subjects in a stressful situation, and implementing the same depend both on the individual's cognitive appraisal of the situation and his/her emotional status.[4,5] The Brief Coping Orientation to Problems Experienced (Brief COPE) inventory is the widely applied measure to identify the nature of coping strategies implemented by individuals and explores 14 coping strategies. The novel 4-factor structure of the French version of the Brief COPE, validated in a sample of individuals facing a singular stressful event, including cancer patients and their caregivers, makes the instrument easier to use both in clinical practice and clinical research.[6] This brief scale addresses field research limitations affectively taking into consideration the administration ease and minimizing the time burden.[7] The validation of the 4-Item scale was attempted in France with a sample of individuals including both health care professionals and patients facing a singular event. This tool was recently published in peer-reviewed journal and need to be validated in the Indian context but during this singular event of COVID pandemic times, we believe this brief tool will enable us to fulfil the objectives of the study in a manner not comprising the scientific principles yet able to understand the coping methods of health care professionals.

Currently to our knowledge this study will be one among such studies in India to be undertaken during the pandemic period to contribute to knowledge production on collective understanding of the coping mechanisms among health care professionals. This study will be generating evidence about the impact of emerging novel Corona infection on the mental health of care providers, by understanding in real-time the coping mechanisms adopted/adopted the study findings can effectively inform preventive and management care practices, and multi-factor response mechanisms for speedy and effective return to emotional normality. This manuscript would provide a heuristic approach among the health care professionals since their adaptive performance in the community is the key for primary control, to cope with the COVID-19 pandemic.

Methodology

A cross sectional mixed-methods study was undertaken amidst the emerging pandemic COVID-19 to understand coping methods among health care professionals. Web-enabled tool i.e., Google forms was utilized and after review of literature a questionnaire was designed including socio-demographic features, educational qualification and working experience, novel French COPE 4 Factor coping structure etc., As this is pandemic response research, lacking earlier studies to calculate sample size, purposive, convenient sampling method was adopted and open sample size for duration of four weeks (April-May, 2020) was decided and survey link.

https://docs.google.com/forms/d/e/1FAIpQLSdbUpzJEKvmyCO8s6Nn7UaqJF6fwk0D4bNYwkm7z4QOIZD3g/viewform?usp=sf_link was disseminated widely among social affinity groups of medical and nursing professionals using Facebook, WhatsApp and mailing listing. As the quantitative data was being tracked on real-time basis, efforts were made to personally reach out to care providers such as doctors, nurses, accredited social health activists (ASHA) workers, who submitted the Google forms survey in real time, who expressed willingness to participate in interview and Primary Investigator (PI) reached out through the email and contact numbers provided and sought their informed consent, availability to participate in a brief telephonic interview from diverse backgrounds of public health, psychiatry and nursing. Semi-structured interview guide was used during the telephonic interviews conducted at the pre-scheduled time and notes was taken by the researchers to capture the key phrases, subjective expressions, ethnic terms to draft the narrative testimonials of the study subjects. In spite of best efforts we could not receive approvals and permissions from authorities to track and speak to accredited social health activists (ASHA), auxiliary nurse maids (ANM) or village health nurses (VHN) in the field practice area. Institutional Ethics Committee (IEC) approval was provided in expedited manner (Ref. No: IEC No: 04 May, 2020).

Data analysis

The web-survey data from google forms was analyzed using STATA (Ver 12.0) statistical package. Socio-demographic characteristics were reported as counts and percentages and a $P$ value of $<0.05$ was considered statistically significant. The interview content from the notes was subjected to manual inductive thematic coding, grouped into piles to identify broad themes as main categories.
Results

Among total 218 respondents, 75 (34.4%) were female and 143 (65.6%) male. [Figure 1] illustrates the age-group and gender wise distribution of study respondents. Age of the study respondents ranged from 21 to 69 years with mean age of 34.71 (SD = 8.9) years. While the mean age of female respondents was 31.59 (SE 0.931) years with SD of 8.07 (range = 21-49), age of male respondents was 36.35 (SE 0.749) years with SD of 8.96 (range = 21-69) [Table 1]. Female respondents were significantly at younger age group compared to male respondents (p < 0.05). Higher proportion of male respondents were married compared to female respondents (p < 0.05). Majority of the respondents belonged to Tamil Nadu (37%) followed by Chhattisgarh (18%) and Telangana States (17%) while the remaining 1/5th of respondents belonged to ten other states [Table 2].

Nearly 81% of the respondents were on COVID-n19 duty while there was no significant difference by gender and 84% were between the age 30-39 [Figure 2], however significantly higher proportion of health care professionals were from government sector (56%) [Figures 3 and 4, Tables 3 and 4]. Majority of those on COVID-19 among the respondents were involved in public health management of COVID-19, (22.5%), screening of fever clients (11.5%), conducting fever clinics, (11%) were the most commonly involved services by the health care professionals in this study.

There was no gender difference in perceived stress level due to COVID-19 care delivery [Figures 5 and 6, P = 0.371], however, slightly higher levels of stress were observed among respondents involved COVID-19 duty, compared to those not involved (p < 0.001) [Table 5]. Majority of stress-experiencing respondents adopted “Positive Thinking (Changing your emotions/thinking/stress/vulnerability by thinking positively about things)” as coping method as per Novel COPE-4 Factor assessed in this study [Tables 6 and 7, Figures 7 and 8]. There was no significant difference across the gender (p = 0.177) for the query, “Do you get anxious when you find out that one of the patients who consulted you turned out to be COVID-19 Positive?” [Table 7].

Narrative testimonials: Doctors

Disease outbreaks are a common occurrence for health care professionals but global pandemic of COVID-19 remains
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unprecedented with unique demands imposed on health systems and are magnified due to unique systemic deficiencies embedded into public and private health systems. According to our hypothesis, these narrative testimonials reveal the determinants for perceived stress due to psychological, emotional changes in the health care professionals. The testimonials are grouped under the major themes identified:

**Triggers for perceived stress/anxiety**

Respondents described in clear manner, fear is the prominent trigger for perceived stress and anxiety. Doctors rationalized the fear based on

| Variable                          | Gender | Total |
|-----------------------------------|--------|-------|
|                                    | Female | Male  |
| Total                             | 75     | 143   |
| State (Geographic Location)       |        |       |
| Andaman                           | 1      | 0     |
| Andhra Pradesh                    | 0      | 9     |
| Chhattisgarh                      | 17     | 23    |
| Delhi NCR                         | 8      | 10    |
| Gujarat                           | 0      | 4     |
| Haryana                           | 1      | 1     |
| Karnataka                         | 4      | 2     |
| Madhya Pradesh                    | 0      | 1     |
| Maharashtra                       | 1      | 6     |
| Puducherry                        | 3      | 3     |
| Tamilnadu                         | 28     | 52    |
| Telangana                         | 8      | 29    |
| Uttar Pradesh                     | 1      | 0     |
| AUS-NSW                           | 0      | 1     |
| Kuwait                            | 1      | 0     |
| USA                               | 2      | 1     |
| UK-Wales                          | 0      | 1     |

*Younger female respondents were significantly (P<0.05) higher than male respondents

| Designation-Category | Covid-19 Duty? | Total |
|----------------------|----------------|-------|
| Academic-Govt.       | 23             | 4     | 27   |
| Academic-Pvt.        | 24             | 14    | 38   |
| Engineer-Govt.       | 1              | 0     | 1    |
| Epidemiologist-Govt. | 19             | 0     | 19   |
| Epidemiologist-Pvt.  | 11             | 2     | 13   |
| Hospital Service-Govt. | 70     | 5     | 75   |
| Hospital Service-Pvt.| 27             | 16    | 43   |
| Police-Govt.         | 1              | 0     | 1    |
| Total                | 177            | 41    | 218  |

Figure 3: Professional qualification as submitted by the respondents

| Designation-Category | Female | Male | Total |
|----------------------|--------|------|-------|
| Academic-Govt.       | 7      | 20   | 27    |
| Academic-Pvt.        | 5      | 33   | 38    |
| Engineer-Govt.       | 0      | 1    | 1     |
| Epidemiologist-Govt. | 2      | 17   | 19    |
| Epidemiologist-Pvt.  | 1      | 12   | 13    |
| Hospital Service-Govt.| 37    | 38   | 75    |
| Hospital Service-Pvt.| 22    | 21   | 43    |
| Police-Govt.         | 0      | 1    | 1     |
| Total                | 75     | 143  | 218   |

Figure 4: Covid-19 duty by Sector of employment

Figure 5: Age distribution of study respondents

for perceived stress due to psychological, emotional changes in the health care professionals. The testimonials are grouped under the major themes identified:

**Triggers for perceived stress/anxiety**

Respondents described in clear manner, fear is the prominent trigger for perceived stress and anxiety. Doctors rationalized the fear based on
1. Levels of confidence in the health systems capacities in management of the pandemic.

D1: “why to investigate and term someone as COVID patient when there is no specific treatment”

D2: “neither the government nor people will recognize us; it will be same as usual”

D3: “what could be the situation of care provider is asymptomatic currently and lands in immunocompromised state”

2. Strategies of communication by the authorities related to standards of care and testing guidelines.

Doctors regarded communication strategies in addressing COVID pandemic have significant scope for improvements and recommended uniform guidelines from a single-authorized source. They emphasized the importance of avoiding panic inducement as the country is vast with wide disparities in health literacy across different sections of communities.

D1: “updates should be authenticated and given by ICMR and should be once a week”

D2: “standards should not be changed frequently. If you (govt/ICMR) are not sure, don’t panic the public”

D3: “let govt. of India alone release one standard guidelines and keep updating. Not to have state-wise and hospital-wise guidelines”

D4: “need clear information for all (sections of the society)”

3. Impact of COVID-19 on improving management of disease outbreak:

Doctors reflected on the impact of COVID-19 on the core-specialty practices, eliciting the burdens on care seekers and limitations on health care professionals, importance of upskilling as per the needs of the pandemic and its latent outcomes on the health of the communities.

D1: “Honing skills in CBT and supportive psychotherapy to provide efficient services in future”

D2: “Increased motivation and pride in providing pandemic care services”

D3: “As independent practitioner, difficult to confirm COVID for

Table 5: Role-played by respondents in Covid-19 duty

| Variable                                      | Gender   | Total |
|-----------------------------------------------|----------|-------|
|                                              | Female   | Male  |
| Total                                        | 75       | 143   | 218   |
| Are you currently working on COVID-19 duty?   |          |       |
| Yes                                          | 61       | 116   | 177*  |
| No                                           | 14       | 27    | 41    |
| Role in COVID-19 duty?                       |          |       |
| Public Health-Monitoring, Surveillance and    | 7        | 42    | 49    |
| Health Education                             |          |       |
| Regular OPD/Academic Work                    | 18       | 21    | 39    |
| Screening OPD                                | 12       | 15    | 27    |
| Fever/Flu Clinic                             | 10       | 15    | 25    |
| ICU services                                 | 4        | 13    | 17    |
| Emergency services/Casualty                  | 7        | 9     | 16    |
| IP ward/Isolation wards                      | 5        | 10    | 15    |
| Non Responders                               | 3        | 11    | 14    |
| Nursing Care                                 | 8        | 1     | 9     |
| Supporting State Health Authorities in Police| 1        | 3     | 4     |
| Control Room, Media Room etc.                |          |       |
| Hospital Maintenance                         | 0        | 3     | 3     |

Table 6: Perception of stress level on Covid-19 duty

| Variable                                      | Gender   | Total |
|-----------------------------------------------|----------|-------|
|                                              | Female   | Male  |
| Total                                        | 75       | 143   | 218   |
| How do you perceive an increase in Stress levels due to COVID-19 duty?* |          |       |
| High stress level                            | 22       | 27    | 49    |
| Medium stress levels                         | 29       | 58    | 87    |
| Low stress level                             | 9        | 17    | 26    |
| Neither stressed nor free from it            | 6        | 29    | 35    |
| No stress level                              | 8        | 9     | 17    |
| Non responders                               | 1        | 3     | 4     |

If yes, which of the Following Coping mechanism helps you the most?* |          |       |
Positive Thinking (Changing your emotions/thinking/stress/vulnerability by thinking positively about things) | 43       | 78    | 121   |
Problem Solving (The process of identifying stressors and creating strategies to manage them) | 9        | 28    | 37    |
Seeking Social Support (seeking emotional, tangible, informational support from friends, family, etc.) | 15       | 18    | 33    |
Non Responders                               | 5        | 9     | 14    |
Avoidance (Try to avoid thinking or feeling things that are uncomfortable) | 3        | 10    | 13    |

*No significant difference across gender (P=0.102); **(P=0.371)
“every surgical patient, so at risk of losing patient or ends up a high cost health care for patient”

D4: “makes us understand the importance of healthcare provisioning, health system management must be given priority”

D5: “being a government servant I will give my specialty services in government to those who cannot afford private sector care, they have difficulty in running their families”

D6: “difficult to have private practice”

D7: “lost respect for public at the way they treated death of fellow doctors”

4. Impact of COVID-19 on medical education and training and health systems improvement

Doctors drew the attention towards the education/training improvements to be incorporated into teaching of medicos to prepare them to face the future infectious diseases outbreak.

Table 7: Perceived anxiety on finding when a treated patient turns Covid-19 positive by Covid-19 duty and gender

| Variable                                                                 | Gender | Total | Pearson Chi-square statistic | P     |
|-------------------------------------------------------------------------|--------|-------|-----------------------------|-------|
| Do you get anxious when you find out that one of the patients you have consulted turned out to be Covid-19 Positive? | On Covid-19 duty | Not on Covid-19 duty | Total |               |       |
| Yes                                                                     | 94     | 7     | 101                         | 17.484| 0.0002        |
| Maybe                                                                   | 49     | 21    | 70                          |       |               |
| No                                                                      | 34     | 13    | 47                          |       |               |
| Which of the following is likely to help you cope in such a situation of your patient being Covid-19 positive? | Positive Thinking | 82     | 23                           | 105   | 27.375        | 0.0001 |
| Problem Solving (The process of identifying stressors and creating strategies to manage them) | 51     | 7     | 58                          |       |               |
| Seeking Social Support (seeking emotional, tangible, informational support from friends, family, etc.) | 28     | 1     | 29                          |       |               |
| Avoidance (Try to avoid thinking or feeling things that are uncomfortable) | 14     | 3     | 17                          |       |               |
| Non Responders                                                         | 2      | 7     | 9                           |       |               |

Covid-19 positive by gender

| Total | Female | Male | Total |
|-------|--------|------|-------|
| 75    | 143    | 218  |       |
| Do you get anxious when you find out that one of the patients you have consulted turned out to be Covid-19 Positive? | Yes | 35 | 66 | 101 |
| No | 23 | 47 | 70 |
| Maybe | 15 | 28 | 43 |
| Non Responders | 2 | 2 | 4 |
| Which of the following is likely to help you cope in such a situation of your patient being Covid-19 positive? | Positive Thinking | 40 | 65 | 105 |
| Problem Solving (The process of identifying stressors and creating strategies to manage them) | 13 | 45 | 58 |
| Seeking Social Support (seeking emotional, tangible, informational support from friends, family, etc.) | 13 | 16 | 29 |
| Avoidance (Try to avoid thinking or feeling things that are uncomfortable) | 5 | 12 | 17 |
| Non Responders | 4 | 5 | 9 |

*No significant difference across gender (P=0.916); [# (P=0.177)

5. Narrative testimonials: Nurse practitioners

Nurse practitioners in this survey were both male and female and following testimonials were grouped under the major themes emerged from manual coding and inductive analysis:

**Triggers for perceived stress:**

N1: “fear of coming to duty, getting infected”

N2: “no proper guidelines”
N3: “fear of infecting family”
N4: “social stigma, my area people will isolate me”
N5: “hearing news about number of deaths”

**Practices to overcome perceived stress:**
N1: “good quality, adequate PPE (personal protective equipment)”
N2: “to see family members”
N3: “spiritual, positive thinking”
N4: “dedicated to help others”
N5: “acquiring new knowledge and information about correct use of PPE (personal protective equipment)”

**Impact of COVID-19 on improving management of disease outbreak:**
N1: “Universal Work Precautions and Hand Hygiene are the future of nursing practice”
N2: “Nurses safety first importance in nursing profession”
N3: “Great learning experience to handle pandemic diseases”
N4: “Adequate information on COVID-19”
N5: “Following scientific principles of COVID-19 in management and care”

Nurse practitioners placed highest importance on the safety of professionals to continue the high standards of nursing care practices thus equipping them with high-quality, effective PPE and right knowledge is critical for them to contribute in pandemic response in confident manner without undermining personal safety.

**Discussion**

The strength of this study was reaching out to diverse range of health care professionals in the middle of the pandemic within a short period of time. The triggers reported during qualitative testimonials were fear of contracting infection while working leading to hospital admissions, quarantine, disability, and death. The second major trigger for stress and anxiety were consequence of vulnerability/at-risk for infection while on the job and risk of transmission to the family members, social stigma from neighbors and public [Table 8]. This is comparable to the

| Variable                                      | Gender    | Total |
|-----------------------------------------------|-----------|-------|
| Total                                         | 75        | 143   | 218   |
| What is your biggest fear of being diagnosed as Covid-19 positive? |           |       |
| Transmission to family members               | 145       | 28    | 173   |
| Health ailments                               | 10        | 4     | 14    |
| Death                                         | 11        | 2     | 13    |
| Quarantine                                    | 8         | 2     | 10    |
| Hospital admission                            | 2         | 3     | 5     |
| Non Responders                                | 1         | 2     | 3     |
| Which coping skill would you advice to your family members who are worried about your Covid-19 duty? |           |       |
| Positive Thinking (Changing your emotions/thinking/stress/vulnerability by thinking positively about things) | 101       | 23    | 124   |
| Problem Solving (The process of identifying stressors and creating strategies to manage them) | 30        | 5     | 35    |
| Seeking Social Support (seeking emotional, tangible, informational support from friends, family, etc.) | 27        | 2     | 29    |
| Avoidance (Try to avoid thinking or feeling things that are uncomfortable) | 18        | 7     | 25    |
| Non Responders                                | 1         | 4     | 5     |
| With frequently updating guidelines and standard practices for Covid-19 management, does this affect your anxiety/stress? |           |       |
| No                                            | 82        | 31    | 113   |
| Yes                                           | 93        | 8     | 101   |
| Non Responders                                | 2         | 2     | 4     |
studies among nurses during severe acute respiratory syndrome (SARS) infections.[10] The infectious disease outbreaks with pandemic dimensions in the recent times including outbreaks of severe acute respiratory syndrome (SARS, 2002/2003), H1N1 influenza (2009), Middle East respiratory syndrome (MERS, 2012) and the ongoing coronavirus disease 2019 (COVID-19) pandemic has immense impact on psychological makeup of the health care professionals.[10-14]

The psychological factors are consistent in any pandemics of the past and were widely reported in literature leading to ‘separation distress’ characterized by physical distance, non-reporting to work, and fear of losing the loved ones.[15]

In-depth exploration of several stress-inducing factors among health care professionals can lead to identify the adaptive mechanisms among them. In this study, we explored roles played by doctors and nurses in response to the pandemic. In the French version of brief COPE-4 Factor structure, positive thinking is recognized as an ‘active strategy’ along with problem solving.[16] This novel COPE-Four factor structure was supported by theoretical models of coping such as Lazarus Model, Suls and Fletcher, Brown and Nicassio which share overlapping components.[16-18] In the French version, positive thinking includes structures like positive reframing, acceptance and humor and is tested against LISREL model and different indices such as the root mean square error of approximation [RMSEA] and comparative fit index [CFI]. The acceptable norms were established at <0.08 for RMSEA and satisfactory if CFI is >0.9 and for the COPE-Four Factor structure it was found to be RMSEA = 0.031 and CFI = 0.938 for the caregiver subsample.[14]

In multiple studies the positive attitude among respondents was determined by factors different from the COPE-Four factor study highlighting internal locus of control (alternative treatment and prevention methods), appraising and placing confidence in government response and reviewing historical outbreak and post-outbreak developments in science and technology.[19]

Interestingly, problem solving as a coping strategy was found to be inducing sadness among senior citizens (Yeung et al.) and also found to be unrelated and contributed to increased anxiety in different settings.[20,21]

In this study, stress was better managed by female care providers compared to males. This upheld the consistent findings in the literature that female nurse practitioners adopted seeking social support as the second most favored coping mechanism, reaching out to senior professionals/peers/family networks/spiritual and faith based practices.[22-24]

It should be noted that among health care professionals in this study, perceived stress was high among professionals performing COVID duty. This may be due to stress of contracting infection on the job and leading to quarantine was found to be significantly and positively associated with avoidance behaviors-‘separation distress’ including avoiding work.[26] In our study less (<8%) doctors reported avoidance as a coping strategy and it needs to be understood in the context of coping mechanism but not as post-infection coping strategy.[27] Social stigma associated with job, and subsequent infection and quarantine has been identified as major determinants in continuing in the profession especially by nurse practitioners.[28,29] Recent incidents in the country refusing burial for the deceased doctors in fight against COVID-19 caused deep anguish and necessitated apex national medical professionals body-Indian Medical Association (IMA) to demand stricter action against the offenders.[30,31] Sensitization of the public about the pandemic and addressing their fears using cultural mediums and folk art can be undertaken simultaneously.

Organizational support, flexible management practices and frequent assessment of mental and emotional wellness during disease outbreaks were found to have protective effect on mental health of the care providers and thus ensuring these measures requires managers to be sensitive towards the requirements of the professionals for workers and work efficiency.[32,33]

Narrative testimonials were documented verbatim from both doctors and nurse practitioners (30 each) and fear of contracting COVID-19 infection and infecting family emerged as the dominant theme for perceived stress and anxiety from inductive analysis. Broad-range perceptions emerging from this study will contribute in adding to the existing literature on ‘response-adaptive trial designs ‘and the willingness of the study participants (enhanced pre-disposition as they are health professionals with different education attainment compared to non-medical study participants) to participate in these studies as an indicator for their pre-disposition to navigate in complex environments.[34,35] Gobat et al.[36] called for minimized regulatory authority in pandemic related research (including clinical trials) to encourage public participation in an inclusive manner to inform effective pandemic response management strategies.

Conclusions

In the middle of the global pandemic, when stress levels are higher than usual, positive thinking is the dominant coping method among health care professionals in India. Raising awareness and sustained engagement to support their psychosocial needs amidst pandemic is extremely important and essential. Long term monitoring of the psychosocial support systems to identify burn out and post-traumatic stress disorders among health care professionals and providing tailor-made interventions is need of the hour.

Limitations

In spite of our best efforts we could not receive approvals to interact with local, grassroots health personnel i.e., accredited social health activists (ASHA), auxiliary nurse maids (ANM) and village health nurse (VHN). We will continue to seek approvals and we will document their coping methods in subsequent editions.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have
given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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