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Impact of the COVID-19 Pandemic on the Psychological Well-Being of Health Care Professionals in India

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Abstract

Introduction and Objective Health care professionals (HPs) have been at the forefront facing the pressures and uncertainties of the COVID-19 pandemic, and thus have a higher psychological vulnerability. The incidence of psychological distress, which can negatively affect an HP's work efficiency and long-term well-being, has not been studied in depth in India.

Materials and Methods A multicentric study was conducted using the digital means of communication across Max Healthcare between June and August 2020. HPs in the department of oncology, including doctors, nurses, and other support staff, were invited to voluntarily participate in the self-administered online survey. A total of 87 HPs in oncology (41 doctors, 28 nurses, and 18 in other fronts) were assessed using the 12-item General Health Questionnaire (GHQ-12). Outcome of interest was psychological distress (defined as a GHQ-12 score >15).

Results The overall incidence of psychological distress among HPs in oncology during the COVID-19 pandemic was 17.20%. Significantly higher levels of psychological distress were observed among HPs with a history of psychiatric illness ($p = 0.003$), and among HPs with a work experience of less than 10 years ($p = 0.017$).

Conclusion The COVID-19 pandemic had a significant impact on the psychological well-being of HPs in India. This study implicated the recognition of the psychological well-being of HPs in oncology as an unmet need during the COVID-19 pandemic, further recommending efforts toward increasing accessibility of mental health services for them.

Keywords
- COVID-19
- GHQ-12
- health care professionals
- India
- psychological
- well-being
- oncology

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Introduction

The emergence of a new coronavirus disease, called COVID-19, has recently caused a tremendous public health crisis globally.[1] It has been observed that the pandemic has affected people all over the world socially, mentally, physically, psychologically, and economically.[2] India was hit by the COVID-19 pandemic in the month of March 2020, when a national lockdown was announced, affecting a large part of its population and adversely impacting the health care systems across the country. This led to unexpected challenges and burdens for health care professionals (HPs) in various public and private setups.[3]

In a review by Vizheh,[4] it was observed that during the initial stages of the COVID-19 pandemic, 29% of all hospitalized patients were HPs. It was also reported that HPs were one of the most vulnerable groups across the world during the COVID-19 pandemic.[5] Thombs et al expressed a concern regarding the vulnerability of adequate medical care for all affected persons in need.[6] They further estimated that prolonged restrictions and isolation exacerbated problems like health, psychological well-being, social functioning, and unemployment. It was further predicted that individual and social economic resources would be insufficient in the near future.[6] Doctors had reported a growing concern and discomfort due to lack of personal protective equipment (PPE), and once the frontline staff had started contracting the disease, other workers became potential threats to subsequent patients.[2] One study identified factors such as heavy workload, fear of infection, concern about family, underlying illness, being an only child, and female gender to be contributing to the health care workers' reduced mental health taking a toll on their psychological well-being.[7] Que et al reported that in comparison to the general population, HPs had faced greater pressure from COVID-19, especially those who had been in contact with suspected or confirmed cases, because of higher risks of infection, loss of control, lack of experience in managing the disease, overwork, perceived stigma, lifestyle changes, isolation, and lesser family support.[1] The specificity of psychopathological expressions among medical professionals was reported to be dependent on both individual factors (e.g., age, sex, and the presence of children) and institutional factors (e.g., the length of service, changes to working time, and the availability of PPE).[8]

The mental health concerns in relation to the COVID-19 pandemic in India are more complex due to a larger proportion of socially and economically vulnerable populations (children, geriatric, migrant laborers, etc.), higher burden of preexisting mental illness,[9] more constrained mental health services infrastructure,[10] less penetration of digital mental health solutions, and, above all, the scare created due to tremendous misinformation on social media.[11] All HPs have been identified to be at an increased risk of mental health concerns, especially oncology professionals who are as it is in constant contact with suffering and death.[12] It has also been seen through several data that several HPs working in oncology care showed symptoms of burnout, attributed to work dissatisfaction, work overload, organizational problems, communication problems, and emotional concerns with patients and colleagues.[13] Therefore, we decided to focus only on the oncology HPs of our health care setup to understand the impact of the pandemic on their psychological well-being.

The aim of our study was to understand the psychological distress among HPs in the department of oncology across a group of tertiary hospitals in the private sector in India, during the COVID-19 pandemic. The study's outcome has implications for planning and providing psychological interventions (or therapeutic services) to HPs.

Materials and Methods

Study Design

Setting

This was a prospective multicentric study conducted on HPs in oncology (including doctors, nurses, and other support staff) across seven units of Max Healthcare (MHC), a cluster of tertiary care hospitals in the Delhi National Capital Region (NCR) of North India. All HPs were employees of MHC, aged >18 years who had voluntarily consented to take part in the study.

Instrument

Psychological distress was assessed using the 12-item General Health Questionnaire (GHQ-12).[14] It is a self-administered screening tool that assesses an individual's inability to carry out one's normal healthy functions and the appearance of psychological distress. It has been found to be reliable and valid.[15,16]

The 12 statements (see ►**Appendix A**) were rated on a 4-point scale with a scoring weight of 0 to 3. Thus, the total score was expected to range from 0 to 36. A higher score indicated increased levels of psychological distress and poor general health (scores between 11 and 12: typical; scores >15: evidence of distress).

Although the measuring tool has been validated in three Indian languages (Kannada, Hindi, and Tamil), it was administered in its original English format as the target population was well versed in English.

Conduct of Study

The instrument was self-administered via an online survey. In addition to the 12 statements of GHQ-12, information about the respondent's demographic details, previous history of physical and psychiatric illness, and family circumstances was also collected. The participants were contacted individually via a designated survey link to register responses online, which was distributed through the primary means of digital communication (e-mail addresses, text messages, and WhatsApp). Identifiable information was not collected.

After the first request for participation, two further reminders were sent to all the individual employees and the data were collected between June and August 2020.

Data Analysis

Data analysis was limited to completed questionnaires. The primary outcome of interest was the rate of psychological distress. Factors associated with psychological distress were

analyzed using SPSS software (IBM SPSS Statistics for Windows, version 20.0, IBM Corp, Armonk, NY). The correlations between variables (including gender, age range, professional category, marital status, work experience, past history of physical and psychiatric ailments, and presence of a family member older than 70 years) with the desired outcome of interest were calculated. Continuous variables have been presented as median, whereas categorical variables are presented as percentage. Chi-squared test or Fisher's exact test, whichever was applicable, was applied for categorical variables. All tests are two sided and $p < 0.05$ is taken as the level of significance. Further, a multivariate analysis and logistic regression for distress was conducted using the forward conditional method.

Ethics Statement

The study was conducted according to the guidelines of the declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of Max Super Specialty Hospital, Saket, New Delhi, India (the protocol code was RS/MSSH/DDF/SKT-2/IEC/S-ONCO/20–13 and the date of approval was May 7, 2020).

Results

Response Rate and Respondents

Data were collected from a total of 87 HPs including 41 doctors, 28 nurses, and 18 support staff, comprising 34 males and 53 females, from the Department of Oncology across seven different units of MHC (Delhi-NCR, India). The median age of the participants was 32 years (range: 20–58 years). The demographic distribution and descriptive statistics of the study population are presented in ►**Table 1**.

Table 1 Prevalence of psychological distress among health care professionals and factors associated with it

Variable	Total	Psychological distress		
	$N = 87$	No	Yes	*p*-Value
Age range (y)				
Above 35	29	89.70%	10.30%	0.229
Below 35	58	79.30%	20.70%	
Gender				
Female	53	73.50%	26.50%	0.068
Male	34	88.70%	11.30%	
Marital status				
Married	57	82.50%	17.50%	0.918
Unmarried	30	83.30%	16.70%	
Professional category				
Doctor	41	80.50%	19.50%	0.871
Nurse	28	82.10%	17.90%	
Others	18	88.90%	11.10%	
Work experience (y)				
< 10	56	75.00%	25.00%	0.017
> 10	31	96.70%	3.30%	
Past history of physical ailment				
No	77	83.10%	16.90%	0.681
Yes	10	80.00%	20.00%	
Past history of psychiatric ailment				
No	82	86.60%	13.40%	0.003
Yes	5	20.00%	80.00%	
Family member above >70 y				
No	73	82.20%	17.80%	>0.999
Yes	14	85.70%	14.30%	

Psychological Distress and Factors Associated with It

Of the 87 participants, 15 (17.20%) HPs showed the presence of psychological distress (defined as GHQ-12 score >15) during the COVID-19 pandemic. The correlation between the variables and primary outcome of interest (psychological distress) measured by GHQ-12 is also presented in ►**Table 1**. The results of the univariate logistic regression analysis indicated that psychological distress among HPs was associated with a prior history of psychiatric illness (80%, $p = 0.003$), along with HPs with a work experience of less than 10 years (25%, $p = 0.017$). The multivariate logistic regression analysis revealed that a prior history of psychiatric illness is the only significant predictor for distress ($p = 0.003$). Other variables, namely, age, gender, marital status, job description, history of physical illness, or having a family member above the age of 70 years exhibited no significant predictive relationship with psychological distress.

Components of Psychological Distress

Among the various components of GHQ-12 (as shown in ►**Figs. 1** and **2**), the greatest impact was reported on the ability to enjoy normal day-to-day activities (adversely affected in 41.4%), the ability to concentrate (32.2%), the feeling of constantly being under strain during the course of their work (28.7%), and the feelings of unhappiness and depressiveness (26.4%). On the other end, feelings of worthlessness (5.7%), loss of self-confidence (10.3%), and inability to overcome difficulties (11.5%) were found to be significantly increased in a small minority of the respondents, reflecting their resilience.

Discussion

Our study offers an important understanding regarding the impact of the COVID-19 pandemic on the psychological well-being of HPs working in the department of oncology in India. We used GHQ-12, which has been found to be reliable and valid[15,16] and is one of the most commonly used tools to measure distress in HPs following viral outbreaks.[17] In our study, 17.20% of HPs showed the presence of psychological distress. It was also observed that HPs with a prior history of a psychiatric illness and having a work experience of less than 10 years reported significantly higher levels of psychological distress. There have been various systematic reviews in this area, most of which are from China, which estimate the prevalence of psychological distress among health care workers during the COVID-19 pandemic to be between 13 and35%.[18–20] A study from India,

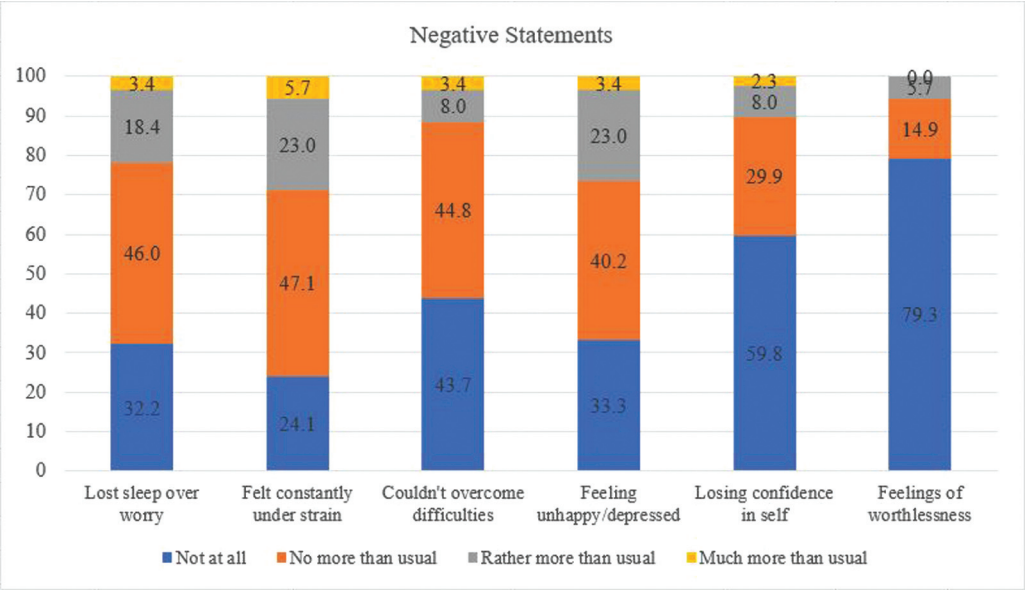

Fig. 1 Components of psychological distress. Negative statements in the 12-item General Health Questionnaire (GHQ-12).

which was part of an international collaborative effort examining the psychological distress among dentists in five countries, reported the overall prevalence of 12.6% with 12.2% among 470 Indian dentists. Existing literature also reports that the COVID-19 pandemic has had an impact on oncology professionals, indicating that 25% of participants (oncology professionals) in one study were at risk of distress (poor well-being).[21] The prevalence of psychological distress among our cohort of 87 HPs (17.20%) is consistent with these observations.

In some other studies, the prevalence of psychological distress was higher in comparison to the findings of this study. A study from India conducted a survey among 265 dental practitioners. The findings revealed that 30.18% participants showed the presence of moderate distress and 65.6% respondents indicated severe distress.[22] One literature review included 148 studies with 159,194 health care workers and pooled prevalence of various factors such as depression, anxiety, fear, burnout, low resilience, and stress. Here, stress was reported to be 36.4%.[23] Another follow-up study to one of the previously cited study[21] highlighted that 33% of the oncology professionals were at risk of poor well-being.[24] This suggests that there is an evident and accumulating effect on oncology HPs' mental health only after a few months of coping with the pandemic-related stress.[25] The study further underscored the long-term nature of the pandemic and its increased burden on oncology HPs, further suggesting long-term impact that requires

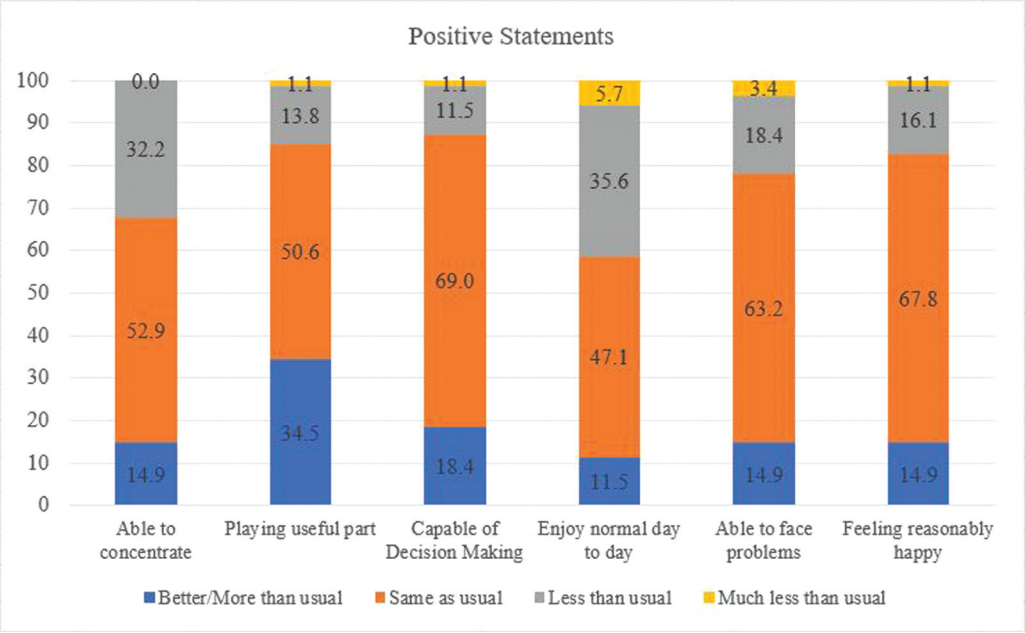

Fig. 2 Components of psychological distress. Positive statements in the 12-item General Health Questionnaire (GHQ-120.

attention and intervention, even after the recession of the pandemic.[25] Some possible reasons for this disparity with our study could be attributed to a larger sample size, period of study, and sampling methodology.

Based on studies on the psychological effects of previous virus outbreaks on health care workers, it was summarized that individual, health care service, and societal factors increase and decrease the risk of adverse psychological outcomes.[17] Multivariate logistic regression analysis of an online cross-sectional study reported that working in a public institution, being employed for less than 5 years, and being overworked were risk factors for developing psychological distress.[26] One study indicated that health care providers who reported to have depression and who reported to have used alcohol, tobacco, and khat in the past 3 months were more likely to experience psychological distress. This study further confirmed that there are increased odds of distress among respondents with underlying depression.[27] One study addressing the emotional concerns of oncology physicians based in the United States reported that anxiety and depression were related to the inability to provide adequate care to patients with cancer.[28] This observation was confirmed in our cohort where it was observed that HPs reporting a prior history of psychiatric illness (13.4%) and work experience of less than 10 years (25%) had a significantly higher prevalence of psychological distress. A limitation of our study was that we did not ask the participants to specify the type of their preexisting psychiatric illness, which would have potentially allowed us to further explore this association.

Due to the pandemic, many HPs were living away from families or were isolated due to the nature and exposure of their jobs. They also had reduced access to any form of domestic help, which further added a burden of maintaining a work–life balance. Many doctors have also faced salary cuts and other financial implications of the lockdown. Junior doctors and nurses (with lesser work experience) were posted in the COVID wards and units, which could have been an added stressor, thereby enhancing psychological distress. Few determinants that may justify these findings could be direct contact with affected patients, forced postings in the COVID wards, stigma against HPs in society, fear of passing on the infection to family members, and lack of training to use the PPE kits, among others, especially in the Indian health care setup.[29]

Other limitations of the study include that data were only collected via an online, self-reported questionnaire in the multivariable study design. It is likely that those with easy access to digital platforms and who are comfortable completing online surveys participated to a greater degree. Social distancing precluded us from distributing and collecting paper forms. The time taken in the design and approval of study allowed us to start collecting data from June 2020, which was approximately 3 months after the onset of the pandemic and the lockdown and may not be representative of the psychological distress experienced by HPs in the immediate days and weeks. Finally, the response rate was low, but our sample size is still comparable to similar studies from India.

Some of the implications of our findings focus on the urgency and the need for health care administrators, advocates, and policymakers to address the psychological well-being among HPs during and after the COVID-19 pandemic, and make mental health services easily accessible to them as and when required. There are recognized benefits of coordinated interprofessional team care and subsequently interprofessional education.[30] We created a channel of communication between our HPs and the in-house psychologists and psychiatrists for direct, easy, and free-of-cost access to mental health care. This was conducted through online, telephonic, and face-to-face mediums, and the HPs were given access to mental health professionals according to their comfort and convenience. Confidentiality was ensured and maintained throughout this process. It is suggested that this may be done by altering the assignments and schedules, modifying expectations, and creating mechanisms to offer psychosocial support as needed,[31] along with the addition of assessments of distress and related psychological factors to be implemented if and when the students or trainees are ascending to the frontline or health care setups.[32]

As a training domain, self-care is a spectrum of knowledge, skills, and attitudes including self-reflection and self-awareness, identification and prevention of burnout, appropriate professional boundaries, and grief and bereavement. Evidence indicates that medical HPs receive inadequate self-care training.[33] Some examples of professional self-care techniques can include developing a network of oncology professionals and peers who can share their concerns and techniques of effective coping, and pursuing reflective writing to allow self-expression and catharsis. Organizations can help formalize structures, policies, and procedures to guide team meetings and create a space for healthy and safe personal and professional sharing of sources. In a systematic review, it was reported that interventions conducted with HPs ranged from relaxation techniques, meditation, cognitive behavior therapy (CBT), mobile apps, music therapy, and exercise, to name a few.[34]

Clinical Trial Registration
CTRI number: CTRI/2020/05/025220 (Registered on May 17, 2020); protocol code for Institutional Ethics Committee: RS/MSSH/DDF/SKT-2/IEC/S-ONCO/20–13; and date of approval: May 7, 2020.

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Conflict of Interest
None declared.

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GENERAL HEALTH QUESTIONNAIRE

We want to know how your health has been in general over the last few weeks. Please read the questions below and each of the four possible answers. Circle the response that best applies to you. Thank you for answering all the questions.

Have you recently:

1. Been able to concentrate on what you're doing?
   Better than usual (0) same as usual (1) less than usual (2) much less than usual (3)
2. Lost much sleep over worry?
   Not at all no more than usual rather more than usual much more than usual
3. Felt that you are playing a useful part in things?
   More so than usual same as usual less so than usual much less than usual
4. Felt capable of making decisions about things?
   More so than usual same as usual less than usual much less than usual
5. Felt constantly under strain?
   Not at all no more than usual rather more than usual much more than usual
6. Felt you couldn't overcome your difficulties?
   Not at all no more than usual rather more than usual much more than usual
7. Been able to enjoy your normal day to day activities?
   More so than usual same as usual less so than usual much less than usual
8. Been able to face up to your problems?
   More so than usual same as usual less than usual much less than usual
9. Been feeling unhappy or depressed?
   Not at all no more than usual rather more than usual much more than usual
10. Been losing confidence in yourself?
    Not at all no more than usual rather more than usual much more than usual
11. Been thinking of yourself as a worthless person?
    Not at all no more than usual rather more than usual much more than usual
12. Been feeling reasonably happy, all things considered?
    More so than usual same as usual less so than usual much less than usual

Appendix A: General health questionnaire