Covid 19 related stress and their coping strategies. Predisposing and Preconceived factors among Oncology Nurses at an Indian Tertiary Cancer Center.

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Abstract
Introduction: The COVID-19 the pandemic has put nurses in conditions that threaten their health, well-being, and their ability to work. Understanding nurses' experiences and well-being is critical to identify those at riskand potentially develop organizational intervention to mitigate them.The objectiveof the current study is to explore the various stressors related to COVID-19and the self-implemented coping mechanisms that nurses employ to mitigate them.
Materials and methods: A total of1094 oncology nurses were included in the studyfrom 24 hospitals of a cancer care hospital network in India. Dataon occupational stress was collected using the "Nurses Occupational Stressor Scale" (NOSS) questionnaire and open ended questions were asked to elicit information on coping strategies. Findings analyzed using SPSS version 10.
Results: Analyses of responses indicated that the major stressors originated from having to wear personal protective equipment (PPE) (62%), having to work with very low nurse to patient ratios (62%) and extended and unpredictable work hours (60%). Nurses adopted various coping mechanisms of and showed that 97% nurses relied on their team as a source of support. Maintaining a healthy diet, resting, and prayer was an option sought by 96% of nurses. There was no relationship observed between these proportions and the nurses' demographic variables.
Conclusion: Occupational Burnout Syndromeis a persistent issue seen among nurses. Observation from the current study also indicated that oncology nurses are facing an accelerated burnout process due to the unprecedented conditions that they have been exposed to. Creating a stress-free workenvironment has to be a priority of health care organizations which includes providing nurses with adequate opportunities to express their experiences and a platform to provide encouragement,support, team interactions, and suggestions for improving the workplace. The organization also needs to be plan activities and strategies for stress relief through an involved and engaged process. Early and regular screening for burnout and preventive strategies, go a long way in mitigating inefficiency and attrition and also may identify subgroups that need specialized psychological or psychiatric care.
Key words: Stress, Coping strategies, COVID-19, Oncology nurses

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I.   Introduction

The unprecedented challenge of COVID-19 across globe was seen in India, towards the end of 2019 and lasted for three years. This created a situation that was unpredictable and brought forth a new array of stressors. The physical, psychological, and occupational turmoil was confusing and stressful for many as the pandemic progressed. Handling this chaos was a mammoth task. Amidst this, there was an increased demand for qualified Healthcare professionals, hospital beds with ventilators, and support staff.[1,2,3] Doctors and Nurses routinely have to confront high stress situations during the course of their clinical care delivery and these exacerbated,as they were unaware of the risks, preventive strategies and remedies relating to the pandemic. Several other factors also have played a role in increasing this stress. From professional factors like taking care of patients without established protocols, unable to predict what factors will lead to the deterioration of the patient's health status, seeing a large number of patients etc. to personal fears of losing a relative or a colleague or having to deal with isolation have all multiplied the psychological stress built up during this period.[5,6]Oncology nurses have also been in the forefront of this perfect storm pf psychological, psychosocial and emotional distress, which has threatened their health, well-being, and ability to perform their clinical role.To add to these troubles, cancer patients are frequently immunocompromised and caring for them effectively, is an added responsibility. Nurses have had to undergo frequent testing, subject their surroundings to regular

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decontamination, stay in air sealed protective gears, endure extreme exhaustion, physical discomfort,and long working hours, and yet continue to perform optimally.

The organization thought it imperative to understand the notions and factors that affect the nurses during these trying circumstances in order to identify those who need additional encouragement, support and plan interventional strategies to avoid burnout.The occupational health and safety of these nurses were or prime focus and triggered this exploration. The Italian study of 1379 healthcare workers, which included 472 nurses, found that having a colleague who was hospitalized or quarantined was associated with worse mental health.[10,11,12]

In a previous cross-sectional study, 374 nurses from COVID-19 isolation wards from five governmental hospitalsassessed for stress using the Nursing Stress Scale (NSS). The results revealed that 91.7% of nurses were stressed with 26.2% of them being severely stressed and 52.1%reporting moderate stressconstituting$Mean SD$ score of studied nurses regarding to total nursing stress scale was 99.47 ± 10.671[1].

Another group of scientists conducted interviews to establish any identifiable risk factors for adverse mental health outcomes among healthcare workers during the COVID-19 crisis.Results suggested thatnurses are at a higher risk of adverse mental health outcomes during the pandemic and found it to be higher in women as compared to men, and if there were other underlying organic illnesses. Other factors that contributed significantly to stress were the concern for family, fear of infection, lack of personal protective equipment (PPEs) and being in close contact with COVID-19 patients[7].

One more study, exploring the psychological effects of the COVID-2019 pandemic studied the perceived stress and coping strategies among healthcare professionals during the peak of the COVID-19 outbreak. This study was aimed at detecting distress and factors that place a healthcare worker at risk or protect them from stress. A sample of 595 healthcare professionals completed these assessments that included variables of socio-demography and profession, perceived stress (PSS) and coping strategies (COPE- NVI-25). Results of this study showed that a positive attitude is a key protective factor, while females, seeking social support, trying avoidance strategies, and working directly with COVID-19 patients were the risk factors. Interestingly, neither economic status or problem-solving ability nor turning to a 'creator'were not associated with stress levels.

II.   Materials And Methods

A retrospective survey of all 1094 oncology nurses available across the 24 hospitals of a cancer care hospital chain in India was conducted in order to understand the various factors and pre-conceptions that they experienced during the pandemic."Nurses Occupational Stressor Scale" (NOSS) was used t assess the stress levels while a checklist asked specific questions about what factors contributed most and what coping mechanisms were adopted by the nurses to overcome the stress. This data was collected over a period of 15 days through an online form that each Oncology nurse had to fill out. The data analyses was done by SPSS version 10.0. Factors contributing to the stress and coping strategies were grouped and summarised and relationships with demographic variables were explored.

III.   Results

The current survey of 1094 oncology nurses comprised of 75% females, 55% who were married, 40% below the age of 26 and having about 1 year of clinical experience[1,2,3]. Majority (58%) of the nurses had an educational qualification of GNM (General Nursing Midwifery).Within the study sample 62% of respondents expressed that their stressor was related to wearing PPE(Personal Protective Equipment), while 60% expressed that their stressor was a low nurse to patient ratios at the hospital.[9,10]Also, 61% indicated that their anxiety was related to the fear of becoming infected themselves. These proportions of stressors did not show a significant association with the demographic variables assessed in the study.

Table 1:Demographicvariablesof the study sample (N=1094)

Variables	Category	Frequency (n)	%
Gender	Male	274	25
	Female	820	75
Marital status	Single	602	55
	Married	492	45
Age in years	<26	438	40
	26-30	350	32
	31-35	164	15

	36-40	77	7
	>40	66	6
Years of experience	<1 year	437	40
	1-5 years	263	24
	5-10 years	241	22
	10-15 years	98	9
	>15 years	55	5
Educational qualification	ANM	131	12
	GNM	635	58
	BSc/Po.BSc	252	23
	MSc	11	1
	Others	66	6

Figure 1:Factors affecting stress among nurses providing care (N=1094)
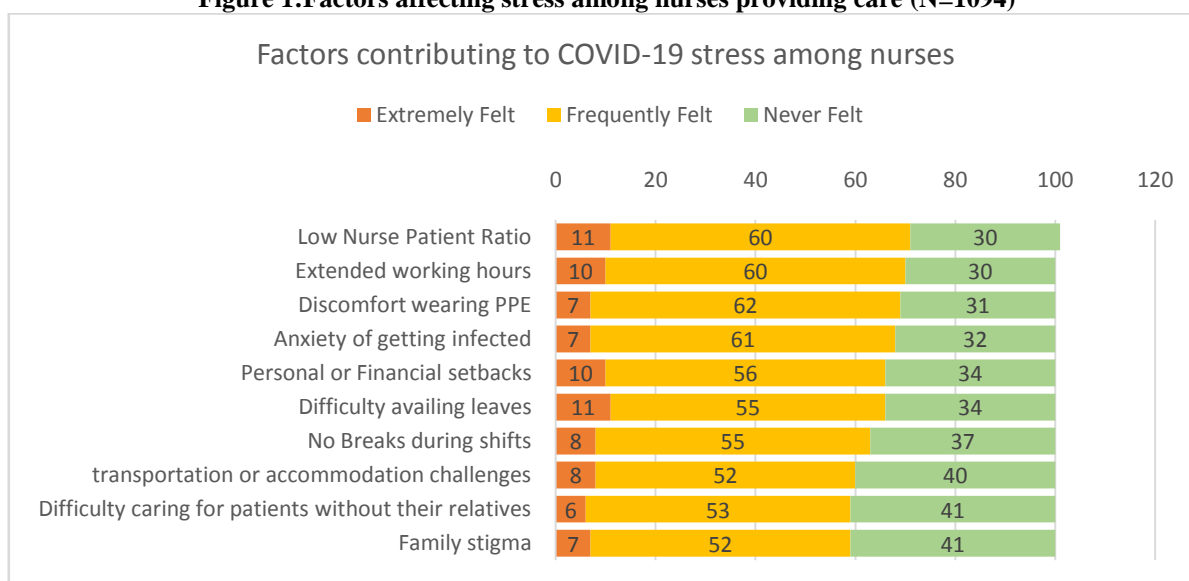
The above graph shows the distribution of responses amongst factors associated with COVID-19 stressors. This is divided further into those who felt this frequently and those who felt it severely. The top 3 stressors included inadequate nurse patient ratios (reported by 77%), extended work hours (reported by 70%) and discomfort with having to wear PPE (reported by 69%).

Fig 2: Measures taken to overcome stress (N=1094)

Coping Strategies to overcome COVID related stress
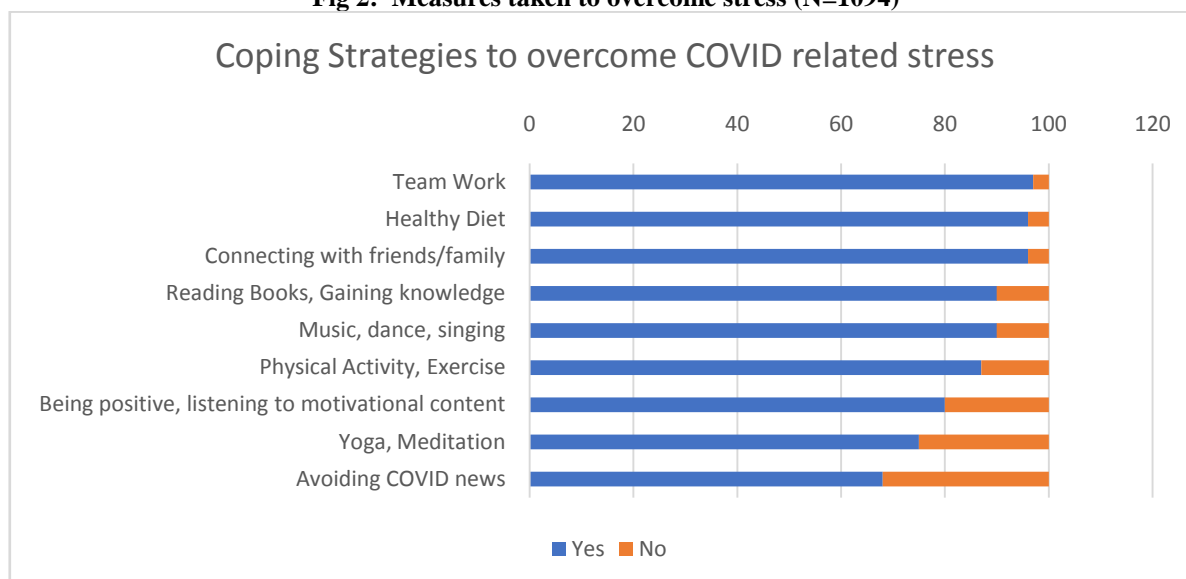
Above graphshows distribution of responses when asked about coping strategies adopted by nurses for dealing with COVID-19 related stress. The top 3 coping strategies included teamwork (reported by 97% of nurses) followed by a healthy diet and connecting with family and friends (both at 96%).

IV.   Discussion

The COVID-19 pandemic is a once in lifetime experience for many, and for young nurses who have cared for the sick this has been an unprecedented experienced that has created an environment of heightened stress potentially resulting in distorted mental health.[11,12]Watching their loved ones, patients, colleagues falling sick and suffering or succumbed to the disease, has only increased these distortions. Being in extended duty hours, having to wear protective equipment, having to deal with long shifts with no breaks were all tiresome. Adding to this, going through self-quarantine and isolation has also been taxing. Many of these nurses also stay away from their families for their work and being distanced from their children and family has not been easy. The current study clearly indicates the factors that contribute to the stress and has also outlined the most acceptable coping mechanisms. The primary message of this study was that 77% of nurses felt stressed at the workplace and indicated that having to wear PPEs, work in understaffed conditions and for long hours are primary stressors.[1,2]It is also noteworthy that a majority of them (61%) came to work with the fear that they would also be infected and get sick. These observations clearly callfor an intervention that will make them feel safe. These suggestions also emerge from inherently adopted coping strategies that nurses undertake and helps organizations to tailor interventions around that. Supporting these observations, another exploratory cross-sectional study conducted by Judith E. Arnetz et al.,among 695 U S Nurses revealed, six distinct themes from the analysis: exposure/infection-self; illness/death-others; workplace; personal protective equipment/supplies; unknowns; opinions/politics. They also found two sub-themes concerned with restrictions associated with the pandemic and feelings of inadequacy or helplessness towards patients care.[15,16]In their study too, 75% comments were stressors related to the workplace and suggested that healthcare organisations should provide opportunities to discuss stress and create platforms for support and coping.

Another study conducted about stress, burnout, and coping strategies of frontline nurses during the COVID-19 epidemic in Wuhan and Shanghai, China aimed to identify stressors and burnout among frontline nurses caring for COVID-19 patients. Totally, 107 (97%) nurses responded, with mean age of 30.28 years and 90.7% were females. Homesickness was most frequently reported as a stressor (96.3%)[6,7]. Burnout was observed in the emotional exhaustion and depersonalization subscales, with 78.5 and 92.5% of participants presenting mild levels of burnout, respectively. However, 52 (48.6%) participants experienced a severe lack of personal accomplishment.

A Cross-Sectional Survey was done to identify the impact of COVID-19 on the psychology of Chinese nurses in emergency departments and fever clinics and to identify associated factors and the results revealed, respondents had more mental health problems[15,16,17]: female gender, fear of infection among family members, regretting being a nurse, less rest time, more night shifts, having children, lack of confidence in fighting transmission, not having emergency protection training, and negative professional attitude.

V.   Conclusion

The Coronavirus disease (COVID-19) pandemic has shattered the healthcare system with unexpected challenges. The wave engulfed the world population in late 2019 and early 2020 made many hospitals run short of intensive carebeds, ventilators, and personal protective equipment (PPE) forpatients and their own care providers The built up stress and the stressors couldn't be brought under control by many who were in direct patient care, suffered anxiety to depression. In the run for sustaining life many health care organisations forgot to concentrate on the mental wellbeing of their own staff who were silent victims. Best lesson learnt out of worst, now every healthcare institution should develop mental health support program which will support Nurses and other care providers adapt to any given situations.

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