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PSYCHO-SOCIAL CONCERNS OF HEALTH CARE PERSONNEL IN A COVID-19 FACILITY

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ABSTRACT

This descriptive study was conducted on 169 health care personnel (females: 86, 50.89%; males: 83, 49.11%) working in a COVID-19 facility in Maharashtra state, India, to determine the psycho-social concerns of health care personnel in a COVID-19 facility. After explaining the purpose of the study, informed consent was obtained and a pre-tested and pre-validated questionnaire was used for interviewing the participants. The mean age of female and male health care personnel was 35.83 +/- 9.77 years and 31.94 +/- 7.41 years, respectively. A significantly higher proportion (p=0.0009) of female respondents expressed unhappiness due to public attitudes and believed that the COVID duty was stigmatized (p=0.002). Respondents stated that it was risky to reveal one's COVID status to others and that their children also faced social stigma. Health care personnel on epidemic duty are at high risk of developing mental health problems that can have profound and long-term consequences. Pre-deployment psychological screening of frontline health care personnel can help identify those with pre-existing adverse mental health conditions and can possibly forestall unsatisfactory patient care and risk of medical errors. Shortened duty hours, in-house rest and recreation facilities and shift rotation will help alleviate the working conditions of health care personnel.

KEYWORDS: COVID-19, Health care personnel, Psycho-social concerns.

INTRODUCTION

Corona viruses are enveloped non-segmented RNA viruses that have a crown-like appearance (Latin: *"corona"*= a crown) under the electron microscope due to presence of envelope spike glycoproteins on their surface.[1] This family of viruses can cause illnesses ranging from a common cold to severe illness.[2] The symptoms of COVID-19 infection include fever, cough, fatigue, malaise, and dyspnoea.[3] Droplets transmission,[4] contact transmission[5] and aerosol transmission[6] are the main routes of transmission for COVID-19. Another potential transmission route for COVID-19 infection is the involvement of the digestive system, which manifests as abdominal discomfort and diarrhoea.[7] Transmission of the virus can occur before the onset of symptoms, during the incubation period (up to 24 days)[8-10] and also from asymptomatics.[11, 12]

Due to non-availability of a proven remedy or preventive vaccine, strong infection control measures[13] and social distancing[14] are among the primary interventions to minimize the spread of the virus in health care facilities and the community. Restriction of social interaction in workplaces, places of recreation and educational institutions gives vulnerable populations a better chance of surviving the epidemic.[15] Attempts at disease containment by enforcing lockdowns involve huge socio-economic and political costs and are not therefore sustainable in the long-term.[16]

The psychological impact of this pandemic, which has disrupted the life, economy and health of people, has been studied.[17, 18] Though beneficial in lengthening the doubling time of cases[19] and in decreasing the transmission of infections, lockdowns and disease containment measures also adversely impact access to family, friends, and other social support systems causing loneliness, anxiety and depression[20] and may be deleterious to the mental health of starving and homeless people, who may link obligatory hospitalization with imprisonment.[21] A significant gender difference in concentrating on work or studies, worrying about the

future, experiencing monotony, feeling of restlessness and advantages of having indoor-based hobbies during the lockdown, has been reported.[15] The risk factors for high levels of stress and anxiety were female gender, student status, presence of symptoms and poor self-rated health status.[22]

Knowledge of infectious diseases can influence attempts to prevent the spread of the disease[23] and can determine people's compliance to infection control measures;[24] whereas stigmatization, panic reactions and non-scientific "interventions" to avoid infection have an adverse impact on outbreak control.[24] Studies on health care personnel have reported high levels of knowledge and awareness regarding COVID-19, though there were gender differences.[24-26]

Preceding viral epidemics have revealed that health care personnel are at increased risk of adverse physical health outcomes.[27] Symptoms of post-traumatic stress, burnout, depression and anxiety have been reported among health care personnel, both during epidemics and years after cessation of the epidemics.[28-30] During the early stages of the COVID-19 pandemic, the health infrastructure was unprepared. Within their workplaces, health care personnel had to cope with ambiguous and frequently changing guidelines, apprehension and anxiety; whereas outside their workplaces, they had to face social stigma and marginalization because of their COVID-related duties.[31] Among doctors, working long hours without holidays was significantly associated with psychiatric morbidity and burnout,[32] which may lead to deficient patient care,[33] major medical errors,[34] increased possibility of seeking retirement,[35] alcohol and substance abuse, physical withdrawal from co-workers, increased absenteeism, arriving for work late and leaving early, and increased employee turnover.[36] Since burnout syndrome is regarded as "contagious", burnout among doctors can have wide-ranging effects on other health care personnel.[37]

The objective of the present study was to determine the psycho-social concerns of health care personnel in a COVID-19 facility.

MATERIALS AND METHODS

This descriptive study was conducted on health care personnel of either gender, who were working in a COVID-19 facility in Maharashtra state, Western India. After explaining the purpose of the study, the prospective participants were assured that confidentiality and anonymity would be maintained and their informed consent was obtained. A pre-tested and pre-validated questionnaire was used for interviewing the participants, at their convenience. The data were entered in Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS statistical software Windows Version 25.0 (IBM Corporation, Armonk, NY, USA). 95% Confidence interval (CI) was stated as: [Mean-(1.96)*Standard Error)] – [Mean+(1.96)* Standard Error)]. Standard error of difference between the sample means and sample proportions were calculated to determine the statistical significance at $p<0.05$.

RESULTS AND DISCUSSION

Demographics: There were a total of 169 respondents: females 86 (50.89%) and males 83 (49.11%). The mean age of female and male health care personnel was 35.83 +/- 9.77 years (95% CI: 33.76–37.89 years) and 31.94 +/- 7.41 years (95% CI: 30.35–33.53 years), respectively. The third quartile, median and first quartile of the age distribution was higher for females but the maximum and minimum age was lower for females, as compared to that for males (Figure). The gender differences in level of education were not significant ($Z=1.913$; $p=0.056$) among various categories of health care personnel but that for the work profile at the COVID facility was highly significant ($Z=4.092$; $p<0.0001$).

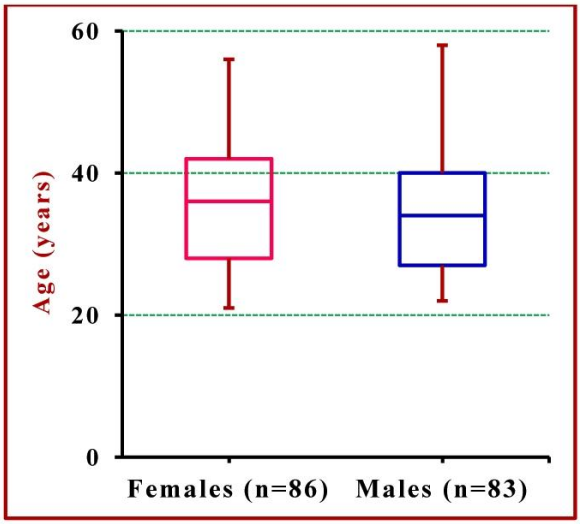

Fig: Box plot showing gender differences in age distribution.

Responses: A significantly higher proportion ($Z=3.300$; $p=0.0009$) of female respondents were unhappy due to public attitudes towards COVID workers and believed that the COVID-related work had become a stigma in India ($Z=3.091$; $p=0.002$). (Table) On the other hand, a significantly higher proportion of male respondents ($Z=3.152$; $p=0.001$) felt that the danger of COVID was exaggerated. Doctors already have a high prevalence of mental health morbidities.[38] British studies, conducted during the pre-COVID era, have reported varied rates of prevalence of psychiatric morbidity among doctors: 32%,[39] 27.8%,[40] 21.3%,[41] 19.2%.[42] A study[31] conducted during the COVID-19 pandemic on medical doctors in West Bengal reported prevalence of symptoms of depression (35%), stress (39.5%) and anxiety (33%); while 42.8% had one or more co-morbidities and 5.9% had 3 major co-morbidities. A Korean study,[43] conducted during the Middle East Respiratory Syndrome

(MERS) outbreak, reported that 26.6% of doctors had symptoms of depression.

Table: Gender differences in responses of respondents

Parameter	Females (n=86)	Males (n=83)	Z value	'p' value
Unhappy due to public attitudes towards COVID workers	57 (66.28%)	34 (40.96%)	3.300	0.0009 *
It is risky to reveal one's COVID status to others	53 (61.63%)	45 (54.22%)	0.975	0.327
I did not reveal my COVID work to my neighbours	16 (18.60%)	14 (16.87%)	0.295	0.764
COVID positive persons are stigmatized	58 (67.44%)	44 (53.01%)	1.917	0.054
People feel uncomfortable in presence of COVID workers	68 (79.07%)	64 (77.11%)	0.308	0.756
Acquaintances stopped phoning or meeting me when they came to know about my COVID duty	18 (20.93%)	15 (18.07%)	0.468	0.638
Other children were prevented from playing with my children because of my COVID duty	22 (25.58%)	23 (27.71%)	0.313	0.756
People stopped socializing with my family due to my COVID duty	33 (38.37%)	24 (28.92%)	1.299	0.193
COVID positives are neglected as compared to other patients	10 (11.63%)	11 (13.25%)	0.320	0.748
COVID work has become a social stigma in India	78 (90.70%)	60 (72.29%)	3.091	0.002 *

*Z = Standard error of difference between two proportions; * Significant*

Involving oneself in multiple types of leisure activities or hobbies can cushion the detrimental effects of psychological stress.[44] Significantly higher proportion of female respondents (p=0.003) reported enhanced emotional attachment with friends and family during the COVID-19 lockdown and significantly more (p<0.0001) females had indoor hobbies, which are prospective coping mechanisms that can help avert several psychosomatic ailments.[45] A study conducted during the COVID-19 lockdown, found that a high proportion of respondents (93.83% females and 100.0% males) maintained contact with friends and relatives through WhatsApp (a free-of-cost messaging service owned by Facebook Inc., USA). There were significant gender differences in making phone calls and using social media (p=0.044) and in downloading Aarogyasetu App (Government of India's mobile application for contact tracing, syndromic mapping and self-assessment) on their mobile phones (p=0.004).[46] Maintaining a daily routine, obtaining information only from credible sources, concentrating only on factors that can be regulated or contained, pinpointing activities to keep oneself busy,[44] staying connected with family and relatives via technology and taking medications (if prescribed)[15] were among the strategies to reduce stress.

Psycho-social interventions include compulsory two-week quarantine after the employee completes two-or-three-weeks' hospital duty,[47] shortened shifts, 24x7 telephone hotlines[48] for health care personnel to get in touch with psychiatrists or psychologists to provide immediate psychological support, personal protective equipment, space for resting and training on tackling patients' distress and remedial actions for grievances of health care personnel.[49]

CONCLUSION

Frontline health care personnel on epidemic duty are at high risk of developing mental health problems that can have profound and long-term consequences. Pre-deployment psychological screening of frontline health care personnel can help identify those with pre-existing adverse mental health conditions and such screening can possibly avert unsatisfactory patient care and risk of medical errors. Shortened duty hours, in-house rest and recreation facilities and shift rotation will help alleviate the working conditions of health care personnel.

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