To assess psychosocial and behavioural changes among health care professionals during a pandemic: An original article *(Impact of pandemics on mental health of HCPs)*

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ABSTRACT:

Introduction: SARS-CoV-2/Corona virus is a novel virus that has been added to the list of infectious diseases. Uncertainty about the course of the disease, absence of proper treatment, underdeveloped infrastructure, unstructured and frequently changing guidelines, and improper planning left the whole health care system in an abysmal situation. The lockdown kind of situation added to the misery of people. All these factors have affected people as well as HCW economically, socially, and psychologically.

Aim: This study is to assess and compare the psychosocial (perceived happiness, professional attitude), behavioural changes (depression, anxiety, burnout, and subjective happiness), and the generalized ability of one to regulate behaviour under stressful situations among health care personnel who are working in COVID & Non-COVID areas.

Material & Method: This study is comprised of 164 clinical nurses, out of which 110 were posted in the non-COVID area while 54 were in the COVID area. The data has been collected in the month of July-December, 2020 and assessed for psychosocial factors and behavioural changes in both areas separately by using standardized and self-developed validated tools. The eventual outcome was analysed in terms of various factors including perceived happiness, professional attitude, depression, anxiety, burnout, subjective happiness, etc. utilizing standard statistical methods.

Results: Self-administered tools have been provided to the clinical nurses and got filled from both the areas i.e. COVID and Non-COVID of the AIIMS, Delhi. The frequency of anxiety, depression, burnout, and compromised ability to regulate their behaviour is higher in those HCPs who are working in the COVID area than in those working in the non-COVID area. Depression, burnout, and perceived discrimination have been assessed significantly higher in those HCPs who are working in the COVID area. Depression and anxiety in the COVID group were found to be correlated with one's ability to regulate behaviour. Subjective happiness is found to be negatively correlated with depression, i.e, a person with depression feels more unhappy. Staying with family members is found to have a negative impact on the generalized ability to regulate behaviour, and the professional attitude and level of burnout of HCPs could be because of the highly infectious and fatal nature of COVID 19 pandemic.

Conclusion: HCPs were affected by a wide range of factors, including physical, psychological, socioeconomic, and cultural factors, which affect wellbeing at large. Psychosocial preparedness is the need of the hour. The government and stakeholders must understand the pandemic's psychosocial morbidities and analyse the burden, mortality, and implications. Controlling the transmission of harmful information/misinformation, causing undue alarm in society requires ICT-based awareness activities from reputable sources need to be developed on an urgent basis.

Keywords: Psychosocial, Behavioural, Pandemic, and COVID-19

INTRODUCTION:

SARS-CoV-2/Corona virus is a novel virus that has been added to the list of infectious diseases. It spread in a short span of time from Wuhan, China to all over the world and was declared a pandemic by the WHO on March 11th, 2020. According to several reports, pandemics had the greatest impact on HCP both in terms of physical, socio-behavioural, and psychological stress.[1] According to Caroline E. Brett et al., current circumstances have a greater impact on quality of life than previous circumstances. Uncertainty regarding the disease's course, lack of appropriate treatment, underdeveloped infrastructure, undefined regulations, regularly changing recommendations, and poor planning have left the entire healthcare system in a bad state. People have been affected economically, socially, and mentally because of all of these issues, and HCPs are no exception. Pandemic like COVID-19 had an excessive psychological impact on HCPs.

According to the WHO, health is a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity. As reported in many studies, HCPs have faced several psychosocial and behavioural problems in terms of anxiety, depression, burnout, discrimination, lower psychological wellbeing, lower subjective happiness, and all.[2-4] Unknown fear and uncertainty cause a number of such problems during the course of pandemics.[5]

Psychological health plays an important role in dealing with tough situations.[6] Psychological well-being imparts internal strength, which in turn helps to handle any untoward situation easily and effectively. Happiness has been shown to predict positive outcomes in different areas of life. It helps in building stronger coping skills.[7] Subjective happiness and one's general ability to regulate behaviour decide the psychological well-being of HCPs. Anxiety, depression, and burnout are some of the psychological impacts during pandemics, which were reported to affect HCPs very frequently.[1,5,8] Burnout is a syndrome that has a negative impact not only on the performance of HCPs but also on the health of them.[9] It lowers HCPs' quality of life, performance level, organizational commitment, and all.[10]During the pandemic of COVID-19, we were primarily concerned with physical health, ignoring mental and social health. This pandemic was an unprecedented event that almost paralyzed the health care system. The healthcare system was battling on two fronts: one, to control and limit the pandemic, and on the other, to deal with a reluctant, demotivated, and frightened workforce for a variety of reasons, both known and unknown. In this study, we tried to assess the psychosocial and behavioural impact of the COVID-19 pandemic on healthcare professionals in a tertiary care setting. The goal of this study was to assess the behavioural and psychosocial impact of the COVID-19 pandemic on HCPs who were working in the COVID and non-COVID areas of a tertiary care facility.

The objective of the study was to assess and compare the psychosocial (professional attitude and perceived discrimination) and behavioural impact (depression, anxiety, burnout, and subjective happiness) of COVID-19 among health care professionals. Another was to correlate select demographic variables with psychosocial and behavioural factors of healthcare professionals.

METHODOLOGY:

A cross-sectional survey design with a purposive sample technique was utilized to collect data from 164 health care workers (nursing professionals) from AIIMS, Delhi, and NCI, Jhajjar, who were stationed in non-COVID and COVID locations. Data from each facility has been obtained separately. The data was collected using four self-administered standardized tools (HADS, SH, SRQ-20, Copenhagen burnout inventory) with the authors' permission, as well as two self-developed tools (professional attitude and perceived discrimination) that were verified by clinical specialists. The study covered all clinical nursing officers who provided direct nursing services. For data analysis, SPSS-21.0vs was utilized, and descriptive and inferential analyses were performed.

ANALYSIS:

DEMOGRAPHIC VARIABLES:

Table 1 : The mean age of the HCPs working in the COVID area was 29.94, while in the non-covid area it was 33.73. More females were posted in the COVID area, while in the non-covid area, it was almost a homogenous group, sex-wise. In both groups, the majority of the HCPs were graduates. The mean experience in the COVID area was 6.58, while in the non-covid area it was 10.64. The mean number of family sizes in the COVID group was 2.26, while in the non-covid it was 2.93. More than 90% of HCPs posted in COVID area were staying in the urban area, while in the non-covid, 58.8% of people were staying in the urban area. The mean distance of residence from the workplace is 7.29 km in case of COVID area, while it is 12.39 km in the case of the non-COVID area.

Table 1: Demographic data

Variables'	covid area	Non-covid area
Age	mean: 29.943 SD: 4.900 20-35:84.9% 36-50:15.1%	mean: 33.733 SD: 6.365 20-35:60.0% 36-50:40.0%
Sex	Male: 22.7% Female: 77.3%	Male: 45.3% Female: 54.7%
Education	GNM: 33% B.Sc: 55.1% M.Sc:11.9%	GNM:11.3% B.Sc: 79.3% M.Sc: 9.4%
Experience	mean: 6.588 SD: 5.06 0-15:96.2% 16-30:3.8%	mean: 10.644 SD: 6.498 0-15:76.1% 16-30:23.9%
Designation	NO:96.2% SNO:3.8%	NO: 83.5% SNO:16.5%
Marital status	Married: 77.1% Unmarried: 22.9%	Married: 94.2% Unmarried: 5.8%
COVID test	mean: 1.399 SD: 0.478	mean: 1.385 SD: 0.488
COVID mean result	mean: 1.763 SD: 0.430	mean: 1.810 SD: 0.394

Housing	Rented:52.2% Own :47.8%	Rented:84.4% Own :15.6%
Family mean members	mean: 2.265 SD: 2.079 0-5: 91.7% >5:8.3%	mean: 2.935 SD: 2.005 0-5: 92.7% >5:7.3%
Transport used	public: 46.4% private:53.6%	public: 38.5% private: 61.5%
Locality reside in	rural: 5.5% urban: 94.5%	rural: 58.5% urban: 41.5%
Distance from workplace	mean: 7.298 SD: 8.288 0-20:83.0% >20km:11.3%	mean: 12.398 SD: 10.754 0-20:86.8% >20km:13.2%
Environmental sanitary conditions	Very bad: 0 bad: 1.8% satisfactory:41.8% good: 48.2% very good: 8.2%	Very bad: 2.0% bad: 3.9% satisfactory: 33.9% good: 54.9% very good: 5.9%

PSYCHO-SOCIAL AND BEHAVIORAL PARAMETERS:

Table 2: A total subscale score of >8 points out of a possible 21 denotes considerable symptoms of anxiety or depression. The SRQ-20 items are scored 0 ('no', symptom absent) or 1 ('yes', symptom present). Item scores are summarized to obtain a total score. A score above the cut-off point indicates the existence of a probable mental disorder. A cut-off score of 8 is used. In the Copenhagen Burnout inventory tool, scoring goes from 0-100 and here for this study, a score of >50 has been taken as the cut-off score. For professional attitude and perceived discrimination mean score has been assessed as these are self-developed tools. The frequency of anxiety, depression, burnout, and compromised ability to regulate their behaviour is higher in those HCPs who are working in the COVID area than in those working in the non-COVID area.

Table 2: Quantitative assessment of the psychosocial and behavioural parameters n-164

parameters	COVID		Non-COVID	
	below cutoff	above cutoff	below cutoff	above cutoff
Depression (score cutoff >8).	64.3%	35.3%	75.5%	24.5%
Anxiety (score cutoff >8).	68.6%	37.3%	66.0%	34%
SRQ (score cutoff >8).	74.1%	25.9%	80.4%	19.6%
BO (score cutoff > 50)	89.7%	10.3%	97.2%	2.8%

Table 3: Mean depression, anxiety, burnout, and perceived discrimination were higher in those working in the COVID area than in those in the non-COVID area. Depression, burnout and perceived discrimination has been assessed significantly higher in those HCPs who are working in COVID area.

Table 3: Comparative analysis of psychosocial and behavioural parameters n-164

Parameters	COVID area	Non-Covid area	p-value
Depression	6.68	5.36	0.04
Anxiety	6.62	6.48	0.84
Burnout	40.67	35.97	0.043
Subjective happiness	18.87	19.16	0.646

Generalized ability to regulate behaviour (SRQ-20)	5.15	4.07	0.159
Perceived discrimination	7.32	4.42	0.09
Professional attitude	15.10	15.65	0.419

Table 4: Depression and anxiety are found to be correlated in their respective areas of work. Depression and anxiety in the COVID group were found to be correlated with one's ability to regulate behaviour i.e. the HCPs who are suffering from depression and anxiety have compromised generalised ability to regulate behaviour. Subjective happiness is found to be negatively correlated with depression, i.e, a person with depression feels more unhappy.

Age, sex and experience found to be correlated with depression in non-covid area, while area of work i.e. people who are working in the COVID area found to have more depression than those who are working in the non-COVID area. One's generalised ability to regulate behaviour in non-COVID area is found to be correlated with sex and area of work; while it is found to be correlated with number of family members in COVID area i.e. more the number of family members more disturb the ability to regulate one's behaviour. Subjective happiness in non-COVID areas is found to be correlated with sex and experience of HCPs. similarly professional attitude in non-COVID area is correlated with sex. Professional attitude in COVID area is found to be correlated with the number of family members. Anxiety in non-COVID areas is found to be correlated with experience while anxiety in COVID areas is found to be correlated with area of work. Burnout in COVID areas is found to be correlated with age and number of family members. Staying with family members is found to have a negative impact on the generalised ability to regulate behaviour, professional attitude and level of burnout of HCPs could be because of highly infectious and fatal nature of COVID 19 pandemic.

Table 4: correlation among select demographic variables and psychosocial and behavioural factors
n-164

Psychosocial and behavioural variables	Anxiety (NC)	Anxiety (C)	depression (NC)	depression (C)	SRQ (C)
depression(NC)	.796				
depression (C)		.713			.614
SRQ (C)		.4		.614	
SRQ(NC)	.406				
SH(C)				-.481	

	depression (NC)	depression (C)	SRQ (NC)	SRQ (C)	Sub.Hap (NC)	Prof.Attitude (NC)	Prof.Attitude (C)	Anxiety(NC)	Anxiety (C)	Burnout (C)
age	.749									.791
sex	.917		.925		.836	.886				
exp	.967				.714			.610		
workarea		.636	1.00						.809	
FM				.659			.726			.744

Discussion:

COVID-19, as a unique pathogen, has wreaked havoc all across the world. Every procedure, guideline, treatment, and post-treatment management were a hit and trial method. The visuals of the outbreak, its impact, and the overburdened health sector were in front of everyone, which has generated a fearful environment in people's minds, leading to a variety of psycho-social concerns on multiple fronts. As reported in various research, pandemics have a profound psychological impact on HCPs, especially in those who are working in critical areas like triage, emergencies, infectious diseases wards, ICUs, etc.[11-12] Moreover, stressors like anxiety, depression, and burnout impact the quality of life,[13] which is true for HCPs during a pandemic. In the current study, psychosocial and behavioural factors have been assessed and compared in both groups, and it was observed that the HCPs working in the COVID facility were comparatively more anxious, depressed, and burned out psychologically than those who were working in the non-COVID facility. At the societal level, HCPs working in the COVID facility faced more discrimination than those working in the non-COVID facility. They are found to be more concerned about the family members staying with them which is impacting their physical and psychological health.

Psychological strength has a positive role in tackling stressful situations like pandemics.[16] One's generalized ability to regulate behaviour in various situations decides how one will behave during stressful situations. In this study, behavioural factors in terms

of generalized ability to regulate behaviour and subjective happiness have been assessed and compared, and it was found that both the mentioned factors were compromised in the group working in the COVID facility.

Happiness is taken with a similar meaning to subjective happiness and majorly impacts the quality of work life.[14] Stress (anxiety, depression, burnout, etc.) decreases subjective happiness, leading to an impact on psychological health.[15] As stress increases, subjective happiness decreases as well. In this study as well, HCPs working in the COVID facility had a negative association with depression, i.e., those who were depressed were more likely to have low feelings of subjective happiness. Pandemic-related stress causes anxiety and depression,[16] which in this study has also been observed to be higher in the group working in the COVID facility. Anxiety and depression are also found to be correlated with each other in their respective areas. The HCPs' having anxiety and depression were found to have compromised generalized ability to regulate behaviour in their respective areas, i.e., COVID and non-COVID.HCPs'.

Conclusion:
COVID-19, the world's mayhem, has caused global upheaval and has had far-reaching consequences for healthcare practitioners (HCP). HCPs were affected by a wide range of factors, including physical, psychological, socioeconomic, and cultural factors, which affect wellbeing at large. HCPs, as frontline warriors, had to deal with pandemics on numerous fronts: personal (behavioural changes, anxiety, depression, burnout, subjective happiness), professional (increased workload, professional attitude), and societal (perceived discrimination). Burnout, as reported in multiple studies, has increased during the pandemic and has had many negative consequences. Psychosocial preparedness is the need of the hour. The government and stakeholders must understand the pandemic's psychosocial morbidities and analyse the burden, mortality, and implications. Stigma and blame associated with the pandemic have altered societal harmony and created unrest. Hassle-free working conditions, adequate preventive measures, standardized guidelines and policies, and recognition of HCP could be one of the few measures for alleviating many of the psycho-social issues. Controlling the transmission of harmful information/misinformation, causing undue alarm in society requires ICT-based awareness activities from reputable sources need to be developed on an urgent basis.

Financial Support and Sponsorship: Nil

Conflict of Interest: There is no conflict of interest

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