International Journal of Advance Research in Medical Surgical Nursing

E-ISSN: 2663-2268
P-ISSN: 2663-225X
IJARMSN 2021; 3(2): 15-19
Received: 13-04-2021
Accepted: 17-05-2021

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Physical and mental health and its associated factors among health workers: Impact of COVID-19

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Abstract
In January 2020, a previously unknown new virus was identified, subsequently named the 2019 novel corona virus was named corona virus disease 2019 [COVID-19] by [WHO February 2020] the virus is named as SARS-CoV-2 and also the associated disease is covid-19. COVID 19 transmission can be prevented by taking some simple precaution. Regularly and thoroughly cleaning hands with an alcohol based hand rub or was them with soap and water kills viruses that may be in the hand. But it is necessary to wash hand more than 20-30 seconds. The present aim of the study was to assess the impact of covid-19 on physical and mental health and its associated factors among health workers at SMCH. A quantitative approach with descriptive research design was adopted for the present study. 200 health care workers were selected by using purposive sampling technique. A self –structured method questionnaire was used to collect the demographic data and existing level of knowledge to assess the physical health. A self-rating scale was used to assess the anxiety, stress, depression and sleep scale. Among 200 health care workers, 177(88.5%) had severe symptoms impact and 23(11.5%) had moderate impact of symptoms. Most of the health care workers, 92(46%) had mild impact of anxiety, 116(58%) had moderate impact of stress and 109(54.5%) had moderate impact on sleep. From these findings it is recommended that a focus on improving mental wellbeing of health workers should be immediately initiated with attention to reduction of stigma, ensuring an adequate support system such as personal protective equipment's, and family support for those with history of mental health problems.

Keywords: COVID-19, corona, SARS-CoV-2, health care workers

Introduction
In December 2019 in the Hubei province of china the novel the novel corona virus disease (COVID-19) is separating rapidly both locally and internationally. In only a span of a month, the disease caused by the virus was considered a public health emergency by the world health organization and was declared a pandemic by March 2020 (WHO 2020) [1]. In January 2020, a previously unknown new virus was identified, subsequently named the 2019 novel corona virus was named corona virus disease 2019 (COVID-19) by (WHO, February 2020) the virus is referred to as SARS-CoV-2 and the associated disease is covid-19. COVID-19 is spread by dust particles and Fomites while close unsafe touch between the infector and the infected individual [2].

The newest member of the coronavirus family (2019 nCoV) has been recently identified that results in acute and severe respiratory syndrome in humans [3].

COVID-19 the most common symptoms of fever, dry cough, tiredness. Less common symptoms, Aches and pain, sore throat, diarrhoea, conjunctivitis, headache, loss of taste or smell, a rash of skin, or discolouration of fingers or toes, serious symptoms, difficulty breath or shortness of breath, chest pain or pressure, loss of speech or movement. Seek immediate medical attention if you have serious symptoms always call before visiting your doctor or health facilities [4].

COVID 19 transmission can be prevented by taking some simple precaution. Regularly and thoroughly cleaning hands with an alcohol based hand rub or was them with soap and water kills viruses that may be in the hand. But it is necessary to wash hand more than 20-30 seconds. Maintaining at least 1 meter (3 feet) distance between persons while one who is coughing or sneezing can reduce he transmission to the one who is too close to breath the droplets avoid touching eyes nose and mouth can reduce the surface transmission [5].

Mental health professionals are faced with a multitude of problems in defining mental illness and mental health. Prevention is the ultimate goal in dealing with the problem of mental

illness, personal happiness and the ability to deal stress must be enhanced [6].

Early evidence has shown that health workers directly involved in the diagnosis, treatment, and care of patients with COVID-19 are at risk of developing mental health symptoms [7].

Another important reason for such psychological impact is the infection rate among medical staff. The sudden reversal of role from HCW to a patient might lead to frustration, helplessness adjustment issues, stigma, fear of discrimination in the medical staff [8].

Hence, aim of the current study was assess the level of physical and mental health factors associated with impact on covid-19.

Methods and materials

After obtaining ethical clearance from the Research Review Board (RRB) of Saveetha Institute of Medical and Technical Sciences and a formal permission from the Department head of Community Health Nursing Unit, the study was conducted. The study used quantitative research approach and descriptive research design was adopted for the study. The Subject was explained clearly about the study purpose and consent was obtained before data collection and confidential was maintained. The sample size of the study was 200 health care workers who were selected by purposive sampling technique and who fulfilled the inclusion criteria. The study was conducted at Community Area, Ariyalur. A self –structured method questionnaire was used to collect the demographic data and existing level of knowledge to assess the physical health. A self-rating scale was used to assess the anxiety, stress, depression and sleep scale. The data was collected for a period of 1 week and the collected data were analyzed using descriptive and inferential statistics.

Results and discussion

Section-A: Demographic characteristics among health care workers

Among 200 health care workers, most of the health care workers 67(33.5%) were aged between 35 – 40 years and above 45 years respectively, 162(81%) were female, 161(80.5%) were unmarried, 59(29.5%) were staff nurses, 67(33.5%) had monthly income 2000 – 25000 and above 25000 respectively, 59(29.5%) had 1 – 2 years of experience, 73(36%) were posted at General ward, 67(33.5%) were working for 10 hours and above 12 hours respectively, 61(30.5%) were posted in afternoon shift and all 200(100%) had adequate PPE.

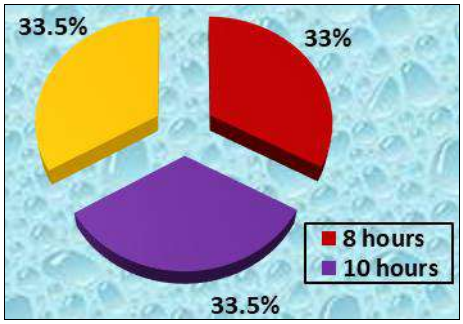

Fig 1: Percentage distribution of working hour among health workers

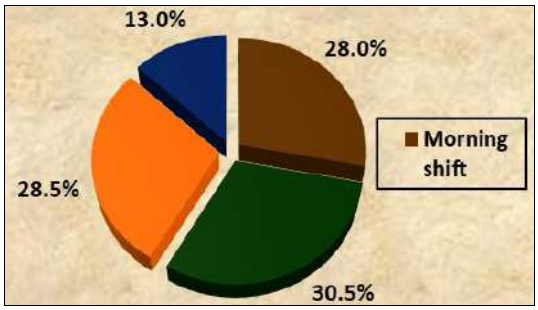

Fig 2: Percentage distribution of shift duty among health workers

Section-B: Assessment of level of physical and mental health symptoms impact on COVID-19 among health workers

The analysis revealed that, most of the health care workers, 108(54%) had severe symptoms impact on central nervous system, 114(57%) had severe symptoms impact on respiratory system, 117(58.5%) had severe symptoms impact on cardio vascular system, 102(51%) had severe symptoms impact on gastro intestinal system, 120(60%) had severe symptoms impact on urinary system, 111(55.5%) had severe symptoms impact on muscular skeletal system and 85(42.5%) had moderate symptoms impact on Integumentary system. The overall impact revealed that 177(88.5%) had severe symptoms impact on physical health among health care workers (Table 1 and Figure 3).

Table 1: Frequency and percentage distribution of level of physical health symptoms impact on COVID-19 among health workers. N= 200

Level of Physical health symptoms	Mild		Moderate		Severe	
	No.	%	No.	%	No.	%
Central nervous system	16	8.0	76	38.0	108	54.0
Respiratory system	28	14.0	58	29.0	114	57.0
Cardio vascular system	25	12.5	58	29.0	117	58.5
Gastrointestinal system	17	8.5	81	40.5	102	51.0
Urinary system	21	10.5	59	29.5	120	60.0
Muscular Skeletal system	20	10.0	69	34.5	111	55.5
Integumentary system	35	17.5	85	42.5	80	40.0
Overall	0	0	23	11.5	177	88.5

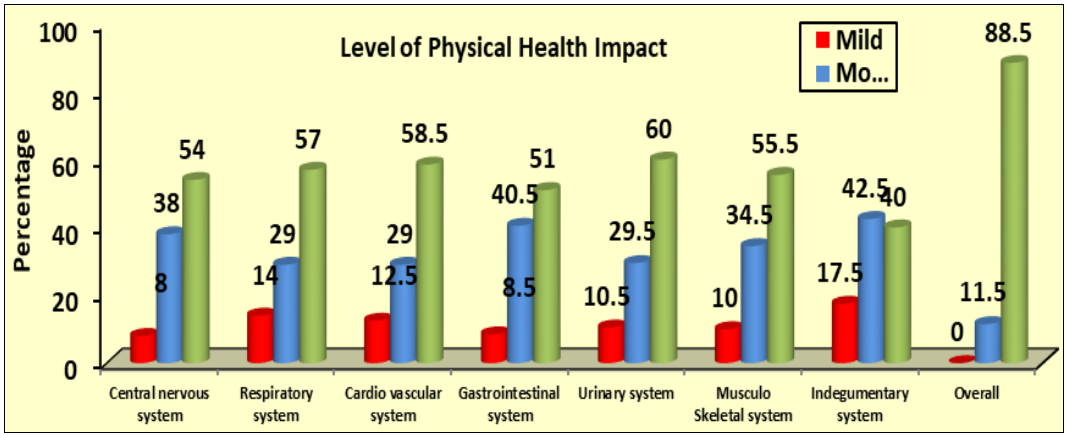

Fig 3: Percentage distribution of level of physical health symptoms impact on COVID-19 among health workers

Frequency and percentage distribution of mental health symptoms impact on COVID-19 among health workers.
The findings of the analysis depicts that 92(46%) had mild impact of anxiety, 116(58%) had moderate impact of stress and 109(54.5%) had moderate impact on sleep. (Table 2 and Figure 4)

Table 2: Mental Health Symptoms

Mental Health Symptoms	Mild (≤50%)		Moderate (51 – 75%)		Severe (>75%)	
	No.	%	No.	%	No.	%
Anxiety	92	46.0	74	37.0	34	17.0
Stress	84	42.0	116	58.0	0	0
Sleep	91	45.5	109	54.5	0	0

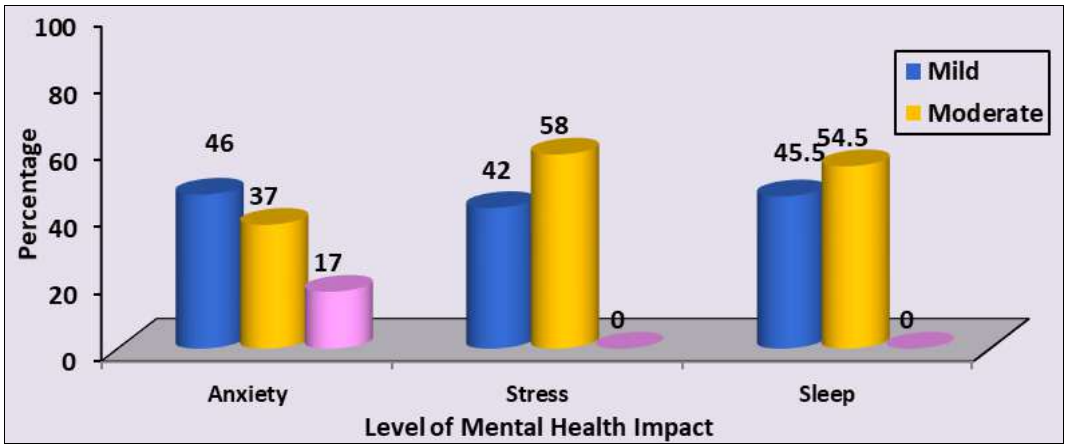

Fig 4: Percentage distribution of mental health symptoms impact on COVID-19 among health workers

Section C: Association of level of mental health impact with selected demographic variables
Result shows that the demographic variables working hour and shift duty had shown statistically significant association with level of physical health impact on COVID-19 among health workers at $p<0.05$ level and the other demographic variables had not shown statistically significant association with level of physical health impact on COVID-19 among health workers. (Table 3).

Table 3: Association of level of mental health impact (Stress) on COVID-19 among health workers with their selected demographic variables. N = 200

Demographic Variables	Mild		Moderate		Severe		Chi-Square Value
	No.	%	No.	%	No.	%	
Working hour							χ^2=6.591 d.f=2 p = 0.037 S*
8 hours	25	12.5	41	20.5	-	-	
10 hours	23	11.5	45	22.5	-	-	
Above 12 hours	36	18.0	30	15.0	-	-	
Shift duty							χ^2=9.327 d.f=3 p = 0.025 S*
Morning shift	21	10.5	35	17.5	-	-	
Afternoon shift	19	9.5	42	21.0	-	-	
General shift	33	16.5	24	12.0	-	-	
Night shift	11	5.5	15	7.5	-	-	

*$p<0.05$, S – Significant, N.S – Not Significant

Discussion

This study results proved that the status of anxiety, stress and insomnia symptoms among health workers during the early phase of the COVID19 pandemic [7]. The psychological impact of coronavirus is found to be high in health care professionals and the community among different types of psychological impacts, anxiety, depression, panic attacks, or psychotic symptoms were highly reported [9]. Among 200 health care workers, most of the health care workers 67(33.5%) were aged between 35 – 40 years and above 45 years respectively, 162(81%) were female, 161(80.5%) were unmarried, 59(29.5%) were staff nurses, 67(33.5%) had monthly income 2000 – 25000 and above 25000 respectively, 59(29.5%) had 1 – 2 years of experience, 73(36%) were posted at General ward, 67(33.5%) were working for 10 hours and above 12 hours respectively, 61(30.5%) were posted in afternoon shift and all 200(100%) had adequate PPE. The demographic variables working hour and shift duty had shown statistically significant association with level of physical health impact on COVID-19 among health workers at $p<0.05$. This finding is supported by Pratik Khanal, *et al.*, (2020) [7] reported that mental health impacts among health workers during COVID-19 in a low resource setting: a cross-sectional survey from Nepal. Overall, 41.9% of health workers had symptoms of anxiety, 37.5% had depression symptoms and 33.9% had symptoms of insomnia. Stigma faced by health workers was significantly associated with higher odds of experiencing symptoms of anxiety (AOR: 2.47; 95% CI: 1.62–3.76), depression (AOR: 2.05; 95% CI: 1.34–3.11) and insomnia (AOR: 2.37; 95% CI: 1.46-3.84). Whereas in current study results shows that, physical health impact on COVID-19, the common symptoms were fever (85%), cough (80%), weakness (70%), chest distress (7%), hemoptysis (7%), headache (7%), and diarrhea (7%). Similarly, another study showed that COVID-19 infected 30 medical staff, including 20 doctors and 8 nurses in a hospital [14]. For those with COVID-19 contaminations, the most widely recognized side effects were fever and hack, which were like those found locally. A few danger factors were distinguished; long obligation hours, working in the high-hazard office, absence of PPE, analyzed relative, unfit hand-washing, and ill-advised disease control. Besides, drawn out PPE use prompted skin harm, with the nasal scaffold being the most widely recognized site. Engaging COVID-19 on the cutting edge makes health care workers defenceless against mental pain. Discovering shows undeniable degrees of sadness, stress, uneasiness, trouble, outrage, dread, sleep deprivation, and post-horrible pressure problem in the health workers [15]. Females and medical caretakers were excessively influenced more from psychological well-being ramifications.

Conclusion

From the findings of the present study it was concluded that the frontline healthcare workers are at risk of physical and mental consequences directly as the result of providing care to patients with COVID-19. A focus on improving mental wellbeing of health workers should be immediately initiated with attention to reduction of stigma, ensuring an adequate support system such as personal protective equipment's, and family support for those with history of mental health problems. The researcher insisted the health care workers who have depression to follow mental health measures such as yoga, meditation, diverting minds etc.

Acknowledgement

Authors would like to appreciate all the study participants for their co-operation to complete the study successfully.

Conflict of interest

Author's declare no conflict of interest.

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