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The impacts of physical and mental health of health care workers during COVID-19

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Abstract

“The impacts of physical and mental health of health care workers during covid-19”, Objectives of the study were To 1) Assess the Physical Health and Psychological Health. 2) To correlate Physical Health with Psychological Health. 3) To Compare the Impacts of Physical And Mental Health between Health care workers of COVID Ward and Health care workers of General ward. Aim of study impacts of physical and mental health of health care workers during covid-19. In this study the samples were selected from Dr. D.Y.Patil hospital. A standard rating scale and observational check list was prepared to assess impacts of physical and mental health of health care workers during covid-19. The content validity was determined by the experts and 100 samples was done from 17/02/2021-28/02/2021. Section First is Demographic variables includes age, gender, marital status, no of children, working employment in ward and ICU, duration of employment in ward and ICU and Educational qualification. Description of samples (health care workers) based on their personal characteristics. 66% of them were females staff, 56% of them were unmarried, 77% of them did not had child, 73% of them were working in COVID ward and 27% of them were working in COVID ICU, 46% of them were GNM and B.Sc staff, 61% of staffs belong to nuclear family. Observational checklist on Physical health of Nurses working in covid-19 include Respiratory Symptoms and Symptoms Associated with PPE (Personal Protective Equipment) Kit. Major Findings of The study are 81% of the health care workers had mild physical symptoms (score 0-9) and 19% of them had moderate physical symptoms (score 10-18) during COVID-19.

Section Third: Rating scale on Psychological health of Nurses working in covid-19. Major Findings of The study are 23% of the healthcare workers did not had depression, 27% of them had mild depression, 39% of them had moderate depression and 11% of them had severe depression during COVID-19.

Keywords: COVID-19, Physical Health, educational qualification, ICU

Introduction

Healthcare workers (HCWs) who are in the frontline caring for people with the Infection. The HCWs are facing pressure of working in resource-deprived settings and ever-growing patient load all over the world. This was an online cross-sectional survey, carried out by using Survey Monkey platform, between 11 May, 2020, to 10 June, 2020.

A total of 150 healthcare workers from four hospitals participated in the study. The overall prevalence of anxiety disorder was 37.3%, with majority of the participants having mild anxiety. 8% of the participants had depression. Overall, 38% of the participants, had at least one psychiatric illness. 38% of the HCWs on COVID-19 duty in Nepal are suffering anxiety and/or depression. (Psychiatr. J, Department of Psychiatry National Medical College, “Prevalence of anxiety and depression among the healthcare workers in Nepal during the COVID-19 pandemic” Asian journal of Psychiatry, Published online 2020 Jun 24 54: 102260)

Materials and Methods

The detailed experimental protocols, instruments and software etc. used in the study should be described here with their proper references. The details of the study area should also be provided.

Quantitative Research Approach was used for the study. Non -Experimental descriptive research design was used in this study.

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Nursing staff is the population of this study. Nursing staff working in COVID Ward and ICU are the samples of the study, 100 Nurses are the samples size and Non –Probability Purposive sampling technique used in this study. Inclusion criteria used for this study are Staff Nurses who are working in COVID Ward and ICU and willing to participate in the study. Exclusion criteria of the study are those not willing to participate, Nursing staff are not on duty during data collection and Those Nurses don't having experience of working with COVID Patients.

Development of final tool: Opinion and suggestions were taken from experts. And Investigation own exposure to the clinical field helped in development of instrument.

Description of the tool

Section 1: Demographic variables includes age, gender, marital status, no of children, working employment in ward and ICU, duration of employment in ward and ICU, and Educational qualification.

Section II: Observational checklist on Physical health of Nurses working in covid-19 includes Respiratory Symptoms and Symptoms Associated with PPE (Personal Protective Equipment) Kit.

Section III: Rating scale on Psychological health of Nurses working in covid-19. Validity: In the present study, the tool had been given to 25 experts for content validity, from that 20 experts have given their valuable suggestions. After doing the corrections the tool has been finalized. Procedures for Data Collection: Permission of head of department was

taken from hospital authority, Dean of Dr. D.Y Patil Hospital. Each sample, data collection done in Dr. D.Y Patil hospital, Pimpri. Pune-18. Plan for Data Analysis: After data collection, it was analysed according to, Demographic characteristics of the sample in table form, Description of scores based on frequency using pie diagram. Analysis and Interpretation of Data: The investigator made maximum efforts to discover the similarities dissimilarities, relationship among various factors. The collected data was studied from many angles and made several closely related operations with the purpose of summarizing and drawing conclusions.

Results

Major Findings of the study Description of samples (Health care workers) based on their personal characteristics, 66% of them were female's staff, 56% of them were unmarried, 77% of them did not had child, 73% of them were working in COVID ward and 27% of them were working in COVID ICU, 46% of them were GNM and B.Sc staff, 61% of staffs belong to nuclear family.

Table 1: Analysis of data related to Physical Health of Health care workers during COVID-19. N=100

Physical Symptoms	Freq	%
Mild (Score 0-9)	81	81%
Moderate (Score 10-18)	19	19%
Severe (Score 19-28)	0	0%

81% of the health care workers had mild physical symptoms (score 0-9) and 19% of them had moderate physical symptoms (score 10-18) during COVID-19.

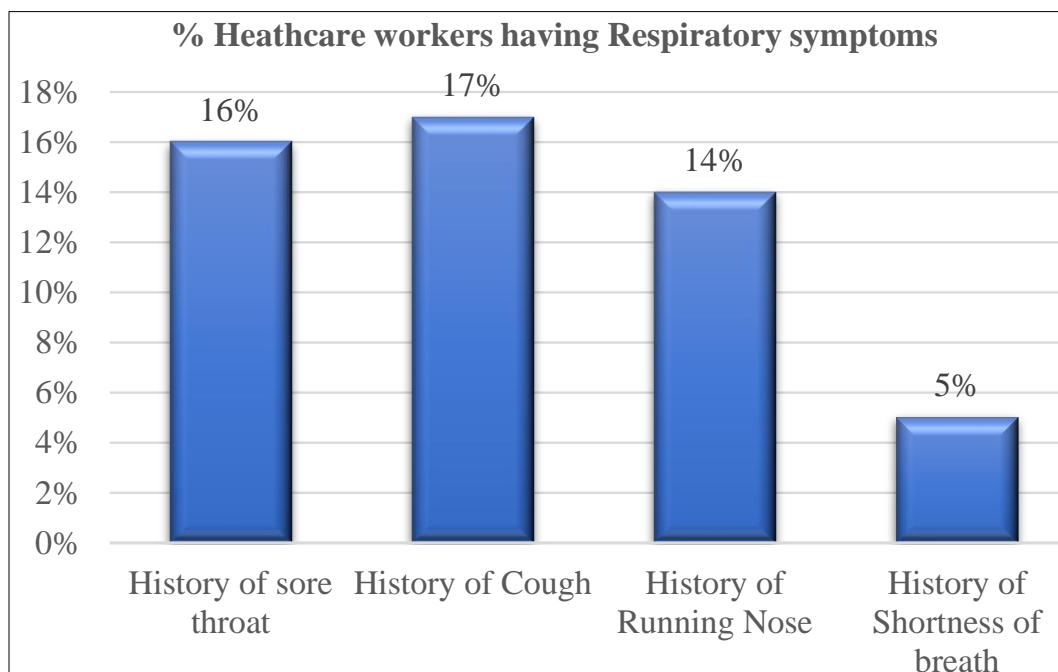


Fig 1: Respiratory symptoms among Health care workers during COVID-19.

16% of them had history of sore throat. 17% of them had history of cough. 14% of them had history of running nose.

5% of them had history of shortness of breath.

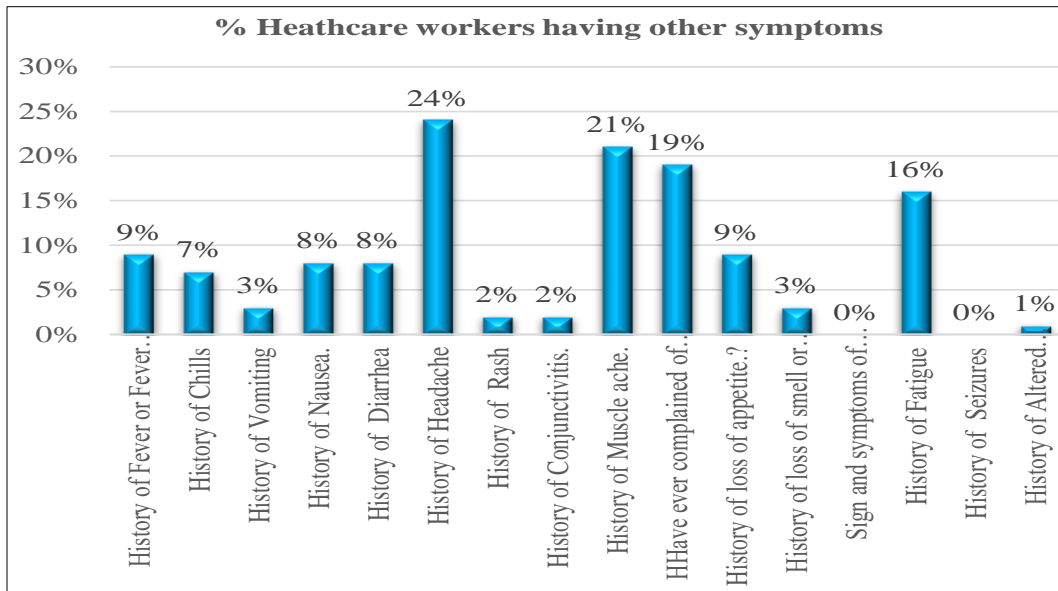


Fig 2: Other symptoms among Health care workers during COVID-19.

9% of them had history of fever or fever (>380 C). 7% of them had history of chills. 3% of them had history of vomiting. 8% of them had history of nausea. 8% of them had history of diarrhoea. 24% of them had history of headache. 2% of them had history of rash. 2% of them had history of conjunctivitis. 21% of them had history of muscle ache. 19%

of them had ever complained of Joint ache. 9% of them had history of loss of appetite. 3% of them had history of loss of smell or (Anosmia). None of them had sign and symptoms of nose bleeding. 16% of them had history of fatigue. None of them had history of seizures. 1% of them had history of altered consciousness.

Table 2: Symptoms Associated with PPE (Personal Protective Equipment) Kit among Health care workers during COVID-19

Symptoms Associated with PPE (Personal Protective Equipment) Kit.	Freq	%
History of Headache OR dehydration after wearing PPE Kit	34	34%
Difficulty in breathing after wearing multiple layers of mask, at a time	51	51%
Profusely sweat after wearing PPE Kit.	63	63%
Skin Irritation problems on your face and skin soreness due to face masks.	42	42%
Difficulty to use washroom while you are in PPE Kit.	70	70%
Face Nasal bridge problem after wearing of multiple layers of mask, at a time	42	42%
History of dryness on hand after doing multiple timing hand hygiene.	50	50%
Radiological evidence of pneumonia (e.g., by chest X-ray) since the working in COVID ward. / ICU	4	4%

34% of them had history of headache or dehydration after wearing PPE Kit. 51% of them had difficulty in breathing after wearing multiple layers of mask, at a time. 63% of them had Profusely sweat after wearing PPE Kit. 42% of them had skin Irritation problems on your face and skin soreness due to face masks. 7% of them had difficulty to use

washroom while you are in PPE Kit. 42% of them had faced nasal bridge problem after wearing of multiple layers of mask, at a time. 5% of them had history of dryness on hand after doing multiple timing hand hygiene. 4% of them had radiological evidence of pneumonia (e.g., by chest X-ray) since the working in COVID ward. / ICU.

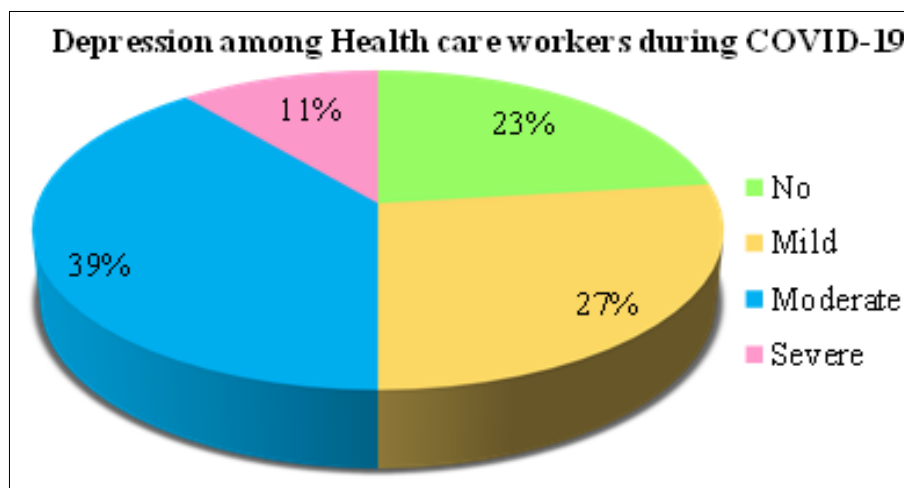


Fig 3: Analysis of data related to Psychological Health of Health care workers during COVID-19

23% of the healthcare workers did not had depression, 27% of them had mild depression, 39% of them had moderate

depression and 11% of them had severe depression during COVID-19.

Table 3: Mental wellbeing health staff of Health care workers during COVID-19 N=100

Mental wellbeing health staff (depression)	Never	Seldom	Sometimes	Often	Always
Depressed due to unsuccessful cure of COVID -19 Patients.	27	4	53	9	7
Weak and contradictory, between your own responsibility and life safety While handling COVID Patient.	36	5	33	19	7
Depressed when you are doing long shifts with little to eat or drink.	24	6	36	17	16
Feel tense when you face shortages of personal protective equipment	21	4	34	26	15

27% of them never and 7% of them always were depressed due to unsuccessful cure of COVID -19 Patients,36% of them never and 7% of them always were weak and contradictory, between their own responsibility and life safety while handling COVID Patient,24% of them never,

and 16% of them always were depressed when they were doing long shifts with little to eat or drink,21% of them never and 15% of them always were feeling tense when they faced shortages of personal protective equipment.

Table 4: Anxiety among Health care workers during COVID-19.

Anxiety	Never	Seldom	Sometimes	Often	Always
Nervous or frighten in the COVID 19 ward, while giving care to patients.	31	5	29	20	15
Sad or worried about infecting your family	17	6	32	9	36
Tense when you see your colleagues showing symptoms of Infection	14	10	28	25	23
Get Anxiety regarding unfamiliar working environment while giving care to the covid-19 Patient	25	10	30	20	15

31% of them never and 15% of them always were nervous or frightened in the COVID 19 ward, while giving care to patients,17% of them never and 36% of them always were sad or worried about infecting your family,14% of them never and 23% of them always were tense when they saw

their colleagues showing symptoms of Infection,25% of them never, and 15% of them always were getting anxiety regarding unfamiliar working environment while giving care to the COVID-19 Patient.

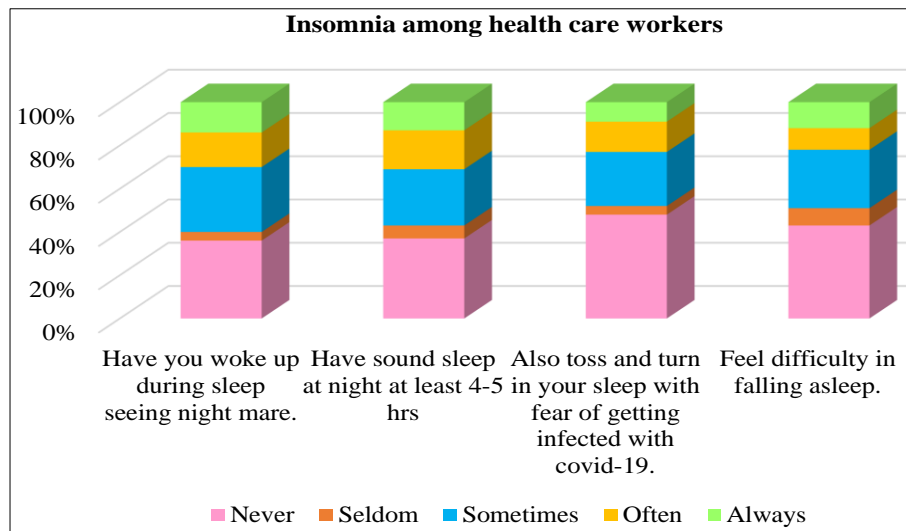


Fig 4: Insomnia among Health care workers during COVID-19

36% of them never and 14% of them always had woke up during sleep seeing nightmare, 37% of them never and 13% of them always were having sound sleep at night at least 4-5 hours, 48% of them never and 9% of them always were also

tossing and turning in sleep with fear of getting infected with COVID-19, 43% of them never and 12% of them always were feeling difficulty in falling asleep.

Table 5: Distress among Health care workers during COVID-19 N=100

Distress	Never	Seldom	Sometimes	Often	Always
Unhappy about working overtime during the outbreak.	35	5	27	14	19
Feel distress when you see your patient die in front of you with the symptoms of Infection.	12	7	30	24	27
Feel worry, when you have some respiratory symptoms, and you will be infected.	14	16	39	15	16
Think the current protection measures are still lacking while handling the COVID-19 Patient.	22	9	35	14	20

35% of them never and 19% of them always were unhappy about working overtime during the outbreak, 12% of them

never and 27% of them always were feeling distress when they saw patient die in front of them with the symptoms of

Infection, 14% of them never, and 16% of them always were feeling worry, when they had some respiratory symptoms, and they will be infected, 22% of them never and 20% of them always were thinking the current protection measures are still lacking while handling the COVID-19 Patient.

Section III

Analysis of data related to association of Physical Health and Psychological Health with selected demographic variables

Table 6: Fisher's exact test for association between physical health and selected demographic variables. N=100

Demographic variable		Physical symptoms		p-value
		Mild	Moderate	
Age	20-30 years	67	14	0.359
	31-40 years	11	5	
	41-50 years	3	0	
Gender	Female	53	13	1.000
	Male	28	6	
Marital Status	Married	18	13	0.001
	Single	12	0	
	Unmarried	50	6	
	Widow	1	0	
Having Children	No child	68	9	0.002
	One	7	7	
	Two	6	3	
Working employment	COVID ICU	22	5	1.000
	COVID Ward	59	14	
Duration of employment in COVID ward/ COVID ICU	No COVID experience	2	0	0.559
	<1 month	23	3	
	1-2 months	14	2	
	3-4 months	7	1	
	5-6 months	11	3	
	> 6 months	24	10	
Educational Qualification	B.Sc.	38	8	0.823
	GNM	37	9	
	M.Sc.	5	2	
	PBBS	1	0	
Type of family	Joint	28	11	0.072
	Nuclear	53	8	

Since p-values corresponding to marital status and having children were small (less than 0.05), the demographic variables marital status and having children were found to

have significant association with the physical symptoms among health care workers.

Table 7: Fisher's exact test for association between depression and selected demographic variables. N=100

Demographic variable		Depression				p-value
		No	Mild	Moderate	Severe	
Age	20-30 years	22	22	30	7	0.187
	31-40 years	1	5	7	3	
	41-50 years	0	0	2	1	
Gender	Female	11	20	27	8	0.235
	Male	12	7	12	3	
Marital Status	Married	2	10	16	3	0.033
	Single	6	3	2	1	
	Unmarried	15	14	21	6	
	Widow	0	0	0	1	
Having Children	No child	23	21	26	7	0.031
	One	0	3	9	2	
	Two	0	3	4	2	
Working employment	COVID ICU	8	7	9	3	0.785
	COVID Ward	15	20	30	8	
Duration of employment in COVID ward/ COVID ICU	No COVID experience	1	1	0	0	0.075
	<1 month	4	11	9	2	
	1-2 months	4	3	5	4	
	3-4 months	4	3	1	0	
	5-6 months	5	4	5	0	

	> 6 months	5	5	19	5	
Educational Qualification	B.Sc.	14	16	13	3	0.059
	GNM	7	9	24	6	
	M.Sc.	2	2	2	1	
	PBBS	0	0	0	1	
Type of family	Joint	3	11	19	6	0.020
	Nuclear	20	16	20	5	

Since p-values corresponding to marital status, having children and type of family were small (Less than 0.05), the demographic variables marital status, having children and type of family were found to have significant association with the psychological health (Depression) of health care workers.

Discussion

In the current study 66% of them were females staff, 56% of them were unmarried, 77% of them did not had child, 73% of them were working in COVID ward and 27% of them were working in COVID ICU, 46% of them were GNM and B.Sc staff, 61% of staffs belong to nuclear family. The 81% of the health care workers had mild physical symptoms (score 0-9) and 19% of them had moderate physical symptoms (score 10-18) during COVID-19. 17% of them had history of cough, 9% of them had history of fever, 63% of them had Profusely sweat after wearing PPE Kit, 51% of them had difficulty in breathing after wearing multiple layers of mask. Psychological health of Nurses while working in hospital during COVID-19 are 23% of the healthcare workers did not had depression, 27% of them had mild depression, 39% of them had moderate depression and 11% of them had severe depression.

Conclusion

The study results indicated that during COVID-19 outbreak, the health care workers had mild physical symptoms while giving care to the patient in ward and ICU, and also health care workers face aggravated psychological pressure while providing care to patients. Since p-values corresponding to marital status and having children were small (less than 0.05), the demographic variables marital status and having children were found to have significant association with the physical symptoms among health care workers. p-values corresponding to marital status, having children and type of family were small (Less than 0.05), the demographic variables marital status, having children and type of family were found to have significant association with the psychological health (Depression) of health care workers. Corona virus disease (COVID-19) is an infectious disease caused by a newly Discovered coronavirus. Health care workers (HCWs) who are in the frontline caring for people with the infection. The Health care workers are facing pressure of working in resource-deprived settings and ever-growing patient load all over the world.

Acknowledgement

“Now to him who is able to keep them from stumbling, and to present you faultless before the presence of his glory in great joy, to God our Savior, who alone is wise, be glory and majesty, dominion and power, both now and forever”
This effort in my academic pursuit would not have been a reality but for the constructive support, guidance and encouragement by a number of people, whose help, I specially recognize through this study. With profound joy

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The proverb that one can never make alone could never be truer than in this situation. I had so many well wishers that I find it impossible to name them all however, deep down in my heart, I will always remember each and every one for their contribution.

Conflict of Interest

Not available

Financial Support

Not available

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