

# Burnout in Health Professionals in Context of Covid-19 Pandemic

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## Author's Contribution

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## ABSTRACT

**Objective:** This research study was carried out to see the severity of burnout, identify the factors leading to its origin and give recommendations for its prevention to save the health of our white army.

**Methodology:** This descriptive study was carried out at RMU from 16<sup>th</sup> June to 15<sup>th</sup> August 2020. A total of 50 actively working health personnel were selected by convenient sampling (non- probability). The instrument, Maslach inventory was used for scoring of burnout. It has three psychometric sub scales, Emotional Exhaustion (Total score 0-18), Depersonalization (Total score 0-18), and Personal Accomplishment (Total score 0-18). Higher the score of EE (Emotional Exhaustion) and DP (Depersonalization) more the burnout while higher the score of PA (Personal Accomplishment) less the burnout. P-value was set at 0.05. Pearson test was used for categorical data and t-test for numerical data to see the significance.

**Results:** Total of 50 health personnel (n=50) were included in the study. There were 52% females and 48% male health personnel. The mean age was 31±7.52 years. Mean working hours per week were 54±18.18 hours. Mild burnout was seen in 14% according to EE sub scale, in 22% according to DP subscale and in 18% according to PA sub scale. Moderate burnout was found according to EE subscale in 64% health personnel, in 54% according to DP sub scale and 60% according to PA sub scale. Overall mean scores for three sub scales of burn out were Emotional Exhaustion =11.44±3.11, Depersonalization = 9.24±3.99 and Personal Accomplishment =11.72±2.74. Relationship between the risk factors and mean scores of sub scales of burnout was found statistically significant.

**Conclusion:** Burnout was found in 58-64% of health care personnel of RMU with mild to moderate grade. This study identified female gender, young age, lengthy working hours and stressful intensive care work place as risk factors leading to development of burnout syndrome. Dimension of mental health of medical personnel is as important as the prevention and treatment aspect of a recent pandemic.

**Keywords:** Burn Out, Health Personnel, Work Load.

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## Introduction

COVID-19 pandemic is an unprecedented challenge to the inhabitants of the globe. It started from Wuhan city of china in December 2019 and till to date has involved almost all the countries of the world. Being the novel infection and no prior knowledge of the disease the world was unprepared to deal with it which resulted in day by day rapidly increasing number of cases and high number of deaths. A mortality rate of over 2-25% is being reported.<sup>1</sup> As a result of this scenario essential medical

supplies especially personal protection equipment (PPE) are either inadequately available or are unavailable to health professionals in many countries like ours. Main focus at this phase of covid-19 pandemic is on prevention of infection spread and development of treatment modalities including vaccines and minimizing the rate of death on one side and protecting and reviving the economy of the country on the other side but the serious issue of health personnel burn out has not been taken up adequately as required to reduce the factors contributing to burn out in the context of COVID-19 pandemic.

Different factors contributing to burnout during this pandemic as reported in recent studies<sup>2</sup> are the daily increasing number of cases putting the excessive workload on healthcare workers, inadequate PPEs, lack of curative treatment generating anxiety and fear among healthcare providers.

Main three domains of burnout are emotional exhaustion, depersonalization and reduced sense of accomplishment.<sup>3</sup> Health personnel burnout frequency of 27.3-73.7% is being reported from different countries.<sup>4</sup> The healthcare system of our country is under severe pressure so it is essential to immediately take effective steps to halt the rate of development of healthcare provider burnout to prevent inefficiency and loss of human resource which may lead to the collapse of healthcare system. Keeping in mind this important issue of health personnel burn out this research study was carried out to identify the factors leading to burnout and give recommendations for its prevention to save the health of our frontline fighters (White Army) which ultimately will help to fight COVID-19 pandemic.

## Methodology

This cross-sectional survey/descriptive study was carried out at Rawalpindi Medical University and allied hospitals from 16<sup>th</sup> June 2020 to 15<sup>th</sup> August 2020 over a period of 2 months. A total of 50 healthcare personnel (after calculating sample with WHO sample size calculator) were selected by convenient sampling (non-probability) to give their response on a questionnaire (Maslach burnout Inventory-MBI). Written consent was taken from the participants. According to inclusion criteria those selected were healthcare workers of Rawalpindi Medical University and Allied Hospitals involved directly or indirectly with patient care including COVID-19 infected cases. Healthcare personnel not performing duties recently and not willing to give response were excluded from the study. A specially designed Proforma incorporating Maslach Burnout Inventory (MBI) was provided to the 50 selected healthcare workers including doctors and para-medical staff participating in the study. Psychometric instrument, Maslach Inventory was used to find out the frequency of burnout syndrome in healthcare workers. This inventory has three sub scales and each sub scale has a set of three questions. The answer to each question is scored on seven point likert scale (0-6). Total score of each sub scale ranges from 0-18. At the end total score for each sub scale (EE, DP, PA) is calculated for each participant and then mean of each sub scale is

calculated for a total number of participants. Higher the score of EE (Emotional Exhaustion) and DP (Depersonalization) more the burn out while higher the score of PA (Personal Accomplishment) less the burnout. In this study, 0-4 score for each sub scale was categorized as no burnout, 5-9 as mild, 10-13 as moderate and 14-18 as severe burnout for EE and DP sub scales whereas for PA sub scale 14-18 score was labeled as no burnout 10-13 as mild, 5-9 as moderate and 0-4 as severe burnout. P-value was set at 0.05. Pearson test was used for categorical data and t-test for numerical data to see the significance. SPSS version- 22 was used to analyze the data for mean, standard deviation and frequency of burn out in sub groups like male and female, place of duty (COVID and non-COVID related) and working hours per week.

## Results

Total of 50 health personnel (n=50) were included in the study from all three allied hospitals of RMU. There were 52% females and 48% male health personnel. Females comparatively showed higher burn out score than males. These health personnel were working at different departments including specific COVID-19 treatment facilities. Health personnel working at more stressful places like ICU had higher burn out scores. Doctors including house officers, medical officers, faculty staff and paramedic staff were included in the study. Mean age was 31 years with SD  $\pm 7.52$ . Mean working hours per week were  $54 \pm 18.18$  hours (Table I&II).

Mild burnout was seen in 14% according to EE sub scale, in 22% according to DP subscale, and in 18% according to PA sub scale. Moderate burnout was found according to EE subscale in 64% health personnel, in 54% according to DP sub scale and 60% according to PA sub scale (Table III & IV). Mean scores for three components of burnout were  $EE=11.44 \pm 3.11$ ,  $DP=9.24 \pm 3.99$ ,

**Table I: Overall Mean Age and Working Hours of Study Population.**

	N	Min	Max	Mean	Std. Deviation
Age(Y)	50	18	47	31	7.52
Hours per week	50	32.00	150.00	54.02	18.19

**Table II: Characteristics of study Population According to Gender (n=50)**

	Male	Female
Gender Distribution	48%	52%
Mean Age(Y)	32.25 $\pm$ 8.18	29.85 $\pm$ 6.82
Mean Working Hours	51.54 $\pm$ 11.06	56 $\pm$ 22.90

**Table III: Frequency of Burn Out Syndrome in Sub Categories of Risk Factors According to Each Burn out Sub Scale.(n=50)**

Components of burnout	Emotional exhaustion (ee)				Depersonalization (dp)				Personal accomplishment (pa)			
	None 0-4	mild 5-9	mod 10-13	severe 14-18	none 0-4	mild 5-9	mod 10-13	severe 14-18	none 14-18	mild 10-13	mod 5-9	severe 0-4
<b>Grading Score</b>												
<b>Gender</b>												
<b>FEMALE</b>	2	2	16	6	2	9	15	0	6	16	4	0
<b>MALE</b>	1	3	16	4	5	2	14	3	5	14	5	0
<b>AGE (Y)</b>												
18-35	2	0	25	8	5	10	19	3	8	21	7	0
36-47	1	5	7	2	2	1	10	0	3	9	2	0
<b>Working hours/week</b>												
32-45	0	3	7	0	1	0	10	0	2	7	1	0
46-150	3	2	25	10	6	11	19	3	9	23	8	0
<b>Place of duty</b>												
Covid ward	1	2	10	6	2	2	14	1	3	11	5	0
Non-covid Ward	2	3	22	4	5	9	15	2	8	19	4	0

**Table IV: Overall Frequency of Burnout Syndrome (n=50)**

Sub scales of burnout	Emotional Exhaustion (EE)				Depersonalization (DP)				Personal Accomplishment (PA)			
	none 0-4	mild 5-9	mod 10-13	severe 14-18	none 0-4	mild 5-9	mod 10-13	severe 14-18	None 14-18	mild 10-13	mod 5-9	severe 0-4
<b>Grading Score</b>												
<b>Frequency (%)</b>	3 (6%)	7 (14%)	32 (64%)	10 (20%)	7 (14%)	11 (22%)	29 (58%)	3 (6%)	11 (22%)	30 (60%)	9 (18%)	0 (0%)

**Table V: Overall Mean Scores Of Three Sub Scales Of Burn Out. (N=50)**

Burn out sub scale	Mean Score	Std. Deviation
EE	11.44	±3.118
DP	9.24	±3.998
PA	11.72	±2.741

PA=11.72±2.74 (Table V).

Overall mild to moderate burnout was found in health personnel of RMU. Based on our survey at Rawalpindi Medical University and allied hospitals Pakistan we identified female gender, young age, lengthy working hours and stressful intensive care work place as risk factors leading to development of burn out syndrome. Relationship between these risk factors and mean scores of sub scales of burnout was found statistically significant at the level of 0.05. (Table VI)

## Discussion

Health care personnel burn out is a serious issue and is

**Table VI: Comparison of Risk Factors with Mean Sub Scale Scores of Burnout Syndrome.(n=50)**

components of burnout syndrome	Emotional exhaustion (EE)		Depersonalization (DP)		Personal accomplishment (PA)	
	MEAN±SD	P value	MEAN±SD	P value	MEAN±SD	P value
Sex		Pearson 0.683		Pearson 0.902		Pearson 0.896
Age		t-test 0.829		t-test 0.757		t-test 0.712
Working hours:	11.44 ±3.118	t-test 0.208	9.24±3.998	t-test 0.263	11.72±2.741	t-test 0.519
Place of duty		Pearson 0.738		Pearson 0.235		Pearson 0.180

usually under reported especially in countries like ours. It needs to be properly addressed for smooth working of our health system. High work load along with anxiety and fear related with working in COVID related stressful places during ongoing pandemic is leading to increased emotional exhaustion, depersonalization and decreased personal accomplishment resulting in burn out syndrome.<sup>5</sup> Burn out sub scale scores and frequency comparable to this study were found in a systemic review showing results for burnout in doctors of United Kingdom.<sup>6</sup> In this study frequency of burn out according to emotional exhaustion sub scale was 64% ( moderate), depersonalization 58% (moderate) whereas according to personal accomplishment frequency was 60% (mild). Woo T. et al <sup>7</sup> also conducted a systemic review and found burn out syndrome in 11.23% of nurses included in the studies whereas frequency in this study is relatively more but grade is mild to moderate. Alharbi J. et al<sup>8</sup> also highlighted this important issue in critical care nurses and

pointed out that inadequate availability of PPE, ventilators, patient beds and shortage of staff multiplies the stress on the staff leading to more burn out. His findings support this study which also shows that duty at stressful COVID related places and lengthy working hours are risk factor for development of burn out syndrome. Sultana A. et al<sup>9</sup> in her study identified psychological stressors during COVID-19 pandemic leading to burnout syndrome and highlighted potential strategies to address this issue. Priya Bansal et al<sup>10</sup> in her research work raised the important issue of well being of clinicians for the efficient working of a health system supporting the present study.

Cyrus SH et al<sup>11</sup> stressed upon the need of identifying the high risk groups for burnout syndrome, among the health care providers for early targeted psychological interventions. He is again of the view that the morale and mental health of health personnel must be safeguarded for successful health care delivery. Shoja E<sup>12</sup> conducted a study on Iranian health care workers to see the effects of COVID-19 on their mental health and concluded that psychological support must be provided to health care workers for mental well being and work ergonomic factors. He suggested that shift planning should be according to the local psycho physiological characteristics of the health personnel. His view supports present study which identifies lengthy working hours as one risk factor for burnout.

Farzan Sasangohar<sup>13</sup> shared his experience regarding health personnel burnout and fatigue during recent pandemic in an intensive care unit. He identified 4 main contributors to COVID-19 related burn out almost similar to this study as (a) Occupational hazards (b) National versus locally scaled response (c) Process inefficiencies (d) Financial instability. Paper by A. Bala<sup>14</sup> also reviews the factors leading to the development of burnout syndrome. Similarly, Breillat R. surveyed to see the presence of burnout in front line workers in Slovak republic<sup>15</sup> and discussed the strategies to prevent it. Shah K<sup>16</sup> advocates the need to give attention to critical issue of physician burnout and psychological well being of health personnel and address this issue immediately with urgent and concrete steps to avoid its adverse effects. He has suggested thirteen steps to prevent the development of burnout syndrome. Weber A. in his article published in September 2000 has discussed strategies to prevent the development of burnout syndrome.<sup>17</sup> A book by C. Cherniss beautifully describes the options divided into five categories,<sup>18</sup> to reduce burnout.

## Conclusion

Burnout was found in 58-64% of health care personnel of RMU with mild to moderate grade. This study identified female gender, young age, lengthy working hours and stressful intensive care work place as risk factors leading to the development of burnout syndrome. Dimension of mental health of medical personnel involved in the management of COVID patients is as important as the prevention and treatment aspect of recent pandemic. The risk factors associated with the development of burnout syndrome need to be minimized or eliminated for its prevention. Following future guidelines can be put forward for prevention and management of burnout syndrome and ultimately smooth working of health system.

**Strategies to prevent burnout syndrome:** Following strategies which should be at both personal and institutional level, can be adopted to prevent the development of burnout syndrome in health care personnel.

### I. Strategies at personal level:

1. Consume a balanced diet and adequate water
2. Adequate sleep and regular exercise is helping.
3. Rest, reflection exercises and mindfulness should be practiced.
4. Psychological supporting measures like talking to close friend, setting realistic goals, keeping oneself updated on the latest information regarding COVID, involving in happiness producing activities for short periods and praying are also helpful.
5. Make your own work plan for the day.
6. Use institution recommended preventive measures including PPEs.
7. Talk to and know your colleagues on duty on your day.

### II. Strategies at institutional level:

1. Awareness of burnout syndrome as disease entity should be promoted among health care workers. This awareness improves resilience to burnout syndrome proved by many studies.<sup>19,20</sup>
2. Burnout can be prevented by promoting positive mental health among health personnel by taking following steps.

- a. Stress related to mindfulness should be reduced.<sup>21</sup>
  - b. Decrease work load by improving working schedule.
  - c. Self management of staff should be promoted by institution using self management exercises.<sup>22</sup>
  - d. Mental health services should be available readily to all health care workers. All COVID-19 teams should include a mental health expert.<sup>23</sup>
  - e. Modern digital technology using internet and mobile phones can be used to provide continuous mental health services to the health care workers.<sup>24</sup>
  - f. Institution should provide support to the health care workers in terms of providing relax work schedules, organizing health services, an opportunity for opinion exchange, breaks for rest and exercise and enhancing communication skills by organizing pertinent workshops. High risk health personnel should be identified<sup>25</sup> and early psychological intervention should be done to prevent the development of burnout syndrome.
  - g. Another role of the institution should be to provide supportive environment to health personnel, involve them in planning strategies so that health care workers can weigh the gravity of the prevailing pandemic and act accordingly. Institution should improve screening<sup>26</sup> of psychiatric morbidities among health care workers for early intervention.
3. Peer support programmes can be started as part of psychological assistance to the health personnel.
  4. Adequate and quality PPEs should be provided to the staff.
  5. Recreational activities relieving stress may be started.
  6. Staff should be provided a calm and comfortable place for rest.

Limitations of this study are inability to investigate other risk factors associated with burn out syndrome and small sample size but this study has successfully highlighted the issue of burn out syndrome in our set up. Studies with larger sample size involving multiple centers are needed to further probe this issue.

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