ORIGINAL ARTICLE

Prevalence of Anxiety and Burnout in Paramedics and Security Workers during COVID-19

MUHAMMAD ABDULLAH[1], NASREEN AKHTAR[2], IQRA AMEER[3], AHMAD ALTAF[4], FAIZA LIAQAT[5]
[1]Lecturer, Higher Education Department,Government of Punjab,Pakistan.
[2]Assistant Professor, Department of Psychology,Government College University,Lahore,Pakistan.
[3]National Institute of psychology, Quaid-I-Azam University, Islamabad, Pakistan.
[4]Department of Psychology, Government College University, Lahore, Pakistan.
[5]Riphah Institute of Clinical and Professional psychology (RICPP),Riphah International University Lahore, Pakistan.
Corresponding Author: Muhammad Abdullah, Email: abdullahbaloch104@gmail.com

ABSTRACT

Corona Virus disease has been proved a global health risk and put an extraordinary effect on paramedics and security workers around the world. Our aim is to explore the prevalence of burnout and anxiety among paramedics and security workers during COVID-19 era through quantitative research method. The level of burnout, and anxiety were measured by Oldenburg burnout inventory and Zung self-rating anxiety scale, respectively .We found that 21% of sample was affected by anxiety, 48% faced high level burnout whereas 40 % faced medium level burnout. There was also positive relationship between anxiety and burnout as p value was less than 0.05. This epidemic can cause anxiety and stress in healthcare workers, which can in turn give rise to multiple mental health issues like burnout, anxiety and depression. Precautionary measures as well as early diagnosis and coping strategies can play vital role during this pandemic time frame.
Keywords: Burnout, Anxiety, COVID-19.

INTRODUCTION

COVID-19 is an infectious disease caused by Severe Acute Respiratory Syndrome. People affected by COVID-19 will experience symptoms of mild to moderate respiratory illness and common cold. COVID-19 caused cold symptoms such as sore throat, cough, stuffy nose, fatigue and shortness of breath. According to WHO (World Health Organization), more than 110 countries are reported to be affected by this pandemic Corona virus disease. Corona virus was firstly identified from three people of Wuhan city China on 31st Dec, 2019 who had pneumonia that was connected with cluster of acute respiratory illness. Later on novel Corona virus was identified by Chinese authorities on 7th Jan, 2020 and named as "2019-nCoV". WHO director general declared the outbreak of public health emergency alarm. On 11th March, 2020 number of cases outside the China were rapidly increased and WHO characterized as a pandemic. On 16th Dec, 2020, 73.5 million people infected with COVID-19 and more than 1.6 million deaths were reported over the world. In Pakistan, Corona virus reached on 26 Feb, 2020 and two cases were recorded in Karachi and Islamabad. The cases of corona virus that were confirmed includes 1,260,669, recovered were 1,193,175, deaths include 28,173 and fatality rate was 2.23%. By the mid-March 2020, 40% of global cases were reported. Pakistan has experienced three different COVID-19 waves. COVID-19 first wave began in late May, 2020 which increased in mid-June and ended in mid-July. This wave caused low death rate and then daily new death numbers and positive cases rose. In early November, second wave of COVID stimulated that was of low intensity and mainly affected the Sindh province which caused many deaths and positive cases. The third wave mainly affected the Punjab province and KPK. This wave occurred in late April, 2021 in which daily positive COVID19 cases and death numbers had been falling. This study investigated the impact and prevalence on burnout and anxiety among paramedics and security workers due to covid-19 pandemic. Because of COVID-19 pandemic, healthcare workers and security workers experienced the increased number of anxiety level and burnout while dealing with COVID-19 patients and other emergency patients. Burnout should be described as a condition of overwork and intense workplace stress that has not been successfully managed (Sahin et al,.2020). Burnout led the workers towards physical or mental illness such as anxiety, depression and high blood pressure. As studies have shown that burnout was related to depression, cognitive and emotional problems. Studies depicted that there is a significant correlation of burnout with anxiety and depression (Guixia & Hui, 2020.Roslan, Yusoff, Asrenee & Morgan, 2021). As Anxiety is defined as feeling of fear or apprehension about what's to come. Studies have shown that in COVID-19 pandemic higher anxiety level have shown among Chinese health care workers than other general population (Qiu et al, .2020).

Due to COVID-19 many countries are affected psychologically, economically, socially, in physical health, lifestyle and education. COVID-19 mainly affected the mental health of paramedics and security workers that were frontline people. As COVID-19 pandemic caused sense of isolation and social distancing, fear of Covid infection and death, restrictions on movement and travelling, reduced social activities, fear of losing jobs and unemployment, death of loved ones, closure of schools and business, decreased access of physiological and social services that leads the people towards stress, anxiety, depression, frustration, anger, mood alteration, insomnia, emotional disturbance, confusion, grief, and numbness. Psychological reactions varied from panic behavior to feelings of hopeless and suicidal behavior. The psychological impact of people addressed that they feel helpless and consequences on the individuals mental health seems not only in short term but they occur for the long term period. Physical health greatly impact human life (Hussain, Mirza & Hassan, 2020).

MATERIAL AND METHODS

Subjects: Data for this survey was collected from Security workers and Paramedics staff. As it was collected in the lock down period during May to September 2020, therefore, convenient sampling was used for data collection. Electronic form was created on google, its links was shared widely on whatsapp and other social media groups including paramedics and security workers within country. Both types of sample were requested to spread this survey link with their contact list. Our eligibility criteria included: 1)

Security worker and Paramedics working in Pakistan, 2) aged ≥18 years old, 3) Paramedics include nurses and physicians, 4) Security workers include security guards, police, airport security and defense forces.

Data collection: Oldenburg burnout inventory and Zung self-rating anxiety scale was used in that study. Oldenburg burnout inventory was consisted of 16 items measuring on four point likert type scale ranging from 1=strongly agree to 4=strongly disagree with α=.85 and Zung self-rating anxiety was comprised of 20 items ranging from 1=A little of time to 4=Most of the time with α=.69. The Demographics include sex (male and female), Age (≥18), Profession (Paramedic and Security worker), Duty hours, Duty shift (day and night) and number of years spent on job. A Google survey was programmed to make all questions mandatory.

Analysis: The collected data was analyzed by using R-Language, version 4.0.4. In the analysis of the data, descriptive statistical analysis was completed for demographic variables where data were presented as frequency (n), percentage (%), as well as all items of anxiety and burnout were presented as percentage. Results are presented as tabular and graphical forms. We applied descriptive statistics to examine the percentage vise prevalence of anxiety and burnout in demographic variables. We also performed statistical analysis of the data using chi-square test to assess the relationships between each variable (gender, age groups, profession, groups of duty hour, duty shift and groups of no. of years spent on job) with anxiety and burnout, as well as the relationship between anxiety and burnout. P-values ≤0.05 were considered to have statistical significance, with α level set at 0.05. After that, Spearman/ Pearson correlation analysis was used to investigate the relationship between burnout and anxiety and social demographic factors.

RESULTS

Demographic Results: A questionnaire was sent to respondents to obtain information on anxiety and burnout along with their demographic information, such as gender (male, female), age, profession (security worker, paramedics), duty hours, duty shift (day, night) and number of years spent on job. The demographic data obtained from the research participants is given in Table 1 and Table 2. A total of 384 individuals were involved in this web based survey. Of them, 85% of the participants were male and 15% were female respondents. As illustrated in Table 1 more than two third of the participants (69%) were paramedics by profession and (31%) of respondents were security workers. 90% of participants do their jobs in night shift and remaining 10% during night shift. Table 2 explains the minimum and maximum value of continuous variables (age, duty hours and number of years spent on job) along with their mean values.

Table 1: Demographic Results of Categorical Variables

Variables	Frequency	Percentage
Gender		
Male	328	85%
Female	56	15%
Profession		
Security Worker	120	31%
Paramedics	164	69%
Duty Shift		
Day	344	90%
Night	40	10%

Table 2: Demographic Results of Continuous Variables

Variables	Minimum	Mean	Maximum
Age	20	26.83	41
Duty Hours	2	9.29	24
Number of Years Spent on Job	1	4.75	15

Table 3: Study Variable's Results

Variables	Frequency	Percentage
Anxiety		
Normal	304	79%
Mild to Moderate	80	21%
Marked to Severe	0	00%
Extreme Level	0	00%
Burnout		
Low	48	12%
Medium	152	40%
High	184	48%

Table 3 demonstrates the frequency and percentage of anxiety and burnout.21% of Paramedics and security workers are facing mild to moderate level of anxiety and 48% of both professional have high level of burnout.

Table 4: Pearson's Chi-squared Test

Variables	Anxiety						Burnout				
	Normal n (%)	Mild to Moderate n (%)	Marked to Severe n (%)	Extreme Level n (%)	Chi-Square Value	P-Value	Low n (%)	Medium n (%)	High n (%)	Chi-Square Value	P-Value
Gender											
Male	264(69)	64 (17)	0 (0)	0 (0)			40(10)	128(33)	160(42)		
Female	40 (10)	16 (04)	0 (0)	0 (0)	1.86	0.17	8 (02)	24 (06)	24 (06)	0.70	0.71
Profession											
Security Worker	96 (25)	24 (06)	0 (0)	0 (0)	0.18	0.89	0 (00)	56 (15)	64 (17)	25.10	0.00
Paramedics	208(54)	56 (15)	0 (0)	0 (0)			48(12)	96 (25)	120(31)		
Duty Shift											
Day	272(71)	72 (19)	0 (0)	0 (0)			48(12)	144(38)	152(40)		
Night	32 (08)	8 (02)	0 (0)	0 (0)	0.00	1.00	0 (00)	8 (02)	32 (08)	19.50	0.00

Table 4 illustrates the level of burnout and anxiety in demographic variables (gender, profession and duty shift) which resulted in that male scored 42% on high burnout and 33% on medium burnout. While females marked 6% both on high and medium burnout. On anxiety scale male and female scored between mild to moderate anxiety 17% and 4% respectively. In comparison to profession, security workers scored 17% on high burnout and 15% on medium burnout whereas paramedics marked 31% on high burnout and 25% on medium burnout. On anxiety scale security workers and paramedics scored between mild to moderate anxiety 6% and 15% severally. On the basis of duty shift burnout and anxiety was seemed more in day shift than night shift.

Chi-Square Test: The Chi-square test of independence, tests whether there is a relationship between two categorical variables. Chi-Square test in R Language is a statistical method which used to determine if two categorical variables have a significant correlation between them. The two variables are selected from the same population. Particularly in this test, we have to check the p-values. The main thing is we reject the null hypothesis if the p-value that comes out in the result is less than a predetermined

significance level which is 0.05 and then we reject the null hypothesis.

The Chi-square test of independence works by comparing the observed frequencies to the expected frequencies as given below.

$$\chi^2 = \sum_{i,j} \frac{(f_{ij} - e_{ij})^2}{e_{ij}}$$

Here f_{ij} is the observed frequency count of events belonging to both i^{th} category of X and j^{th} category of Y. Also assume e_{ij} to be the corresponding expected count of X and Y.

Table 5: Pearson's Chi-squared Test

Variables	Burnout		
	χ^2-Value	DF	p-Value
Anxiety	44.60	2	0.00

Table 5 elaborates that there is significant positive relationship between Anxiety and Burnout as p-value is less than level of significance.

DISCUSSION

The prevalence of high burnout was 48% and medium burnout was 40% in paramedics and security workers whereas prevalence of mild to moderate anxiety was scored as 21% among paramedics and security workers. Deeply elaborated the level of burnout and anxiety in demographic variables (gender, profession and duty shift) by using Pearson's Chi-square test which resulted in that male scored 42% on high burnout and 33% on medium burnout. While females marked 6% both on high and medium burnout. On anxiety scale male and female scored between mild to moderate anxiety 17% and 4% respectively. On the comparison of profession, security workers scored 17% on high burnout and 15% on medium burnout whereas paramedics marked 31% on high burnout and 25% on medium burnout. On anxiety scale security workers and paramedics scored between mild to moderate anxiety 6% and 15% severally. On the base of duty shift burnout and anxiety was seemed more in day shift than night shift. A study was conducted previously in which it was find out that 58.9% paramedics staff suffered anxiety, in that case 27% were those who had severe level anxiety but rest of the 31.9% were those with moderate level of anxiety (Arafa et al., 2021). Furthermore, a research was conducted in china with a sample of 134 heath care workers, 20.1% prevalence of anxiety was reported in them (Du et al., 2020). Another extensive study was conducted in china, that was basically a meta-analysis including 11 cross sectional studies, it reported 22.8% prevalence of depression among healthcare workers during corona pandemic and 23.2% of anxiety among the same samples (Pappa et al., 2020). A study conducted on Spanish security force showed high levels of burnout about 28.5% (Gomez et al., 2020). Day shift and night shift professionals scored 40% and 8% on high burnout respectively and 19% and 2% on anxiety respectively. There was significant positive correlation between anxiety and burnout whereas correlation of age and experience with anxiety and burnout was significant negative. A previous study reported that there was a significant correlation among burnout, anxiety and depression (Guixia & Hui, 2020).

CONCLUSION

Corona pandemic (COVID-19) can cause anxiety and stress in healthcare workers, which can in turn give rise to multiple mental health issues like burnout, anxiety and depression. Precautionary measures as well as early diagnosis and coping strategies can play vital role during this pandemic time frame.

REFERENCES

1. Arafa, A., Mohammed, Z., Mahmoud, O., Elshazley, M., & Ewis, A. (2021). Depressed, anxious, and stressed: What have healthcare workers on the frontlines in Egypt and Saudi Arabia experienced during the COVID-19 pandemic?. Journal of affective disorders, 278, 365-371.
2. Du, J., Dong, L., Wang, T., Yuan, C., Fu, R., & Zhang, L. & Bouey, J.(2020, April 3). Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan. General hospital psychiatry.
3. Gómez-Galán, J., Lázaro-Pérez, C., Martínez-López, J. Á., & Fernández-Martínez, M. D. M. (2020). Burnout in Spanish Security Forces during the COVID-19 pandemic. International journal of environmental research and public
4. Guixia, L., & Hui, Z. (2020). A study on burnout of nurses in the period of COVID-19. Psychol Behav Sci, 9(3), 31-6.
5. Hussain, M. W., Mirza, T., & Hassan, M. M. (2020). Impact of COVID-19 pandemic on the human behavior. International Journal of Education and Management Engineering, 10(8), 35-61.
6. Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsi, E., & Katsaounou, P. (2020). Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. Brain, behavior, and immunity, 88, 901-907.
7. Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. General psychiatry, 33(2).
8. Roslan, N. S., Yusoff, M. S. B., Asrenee, A. R., & Morgan, K. (2021, January). Burnout prevalence and its associated factors among Malaysian healthcare workers during COVID-19 pandemic: an embedded mixed-method study. In Healthcare (Vol. 9, No. 1, p. 90). Multidisciplinary Digital Publishing Institute.
9. Sahin, T., Aslaner, H., Eker, O. O., Gokcek, M. B., & Dogan, M. (2020). Effect of COVID-19 pandemic on anxiety and burnout levels in emergency healthcare workers: a questionnaire study.