ORIGINAL ARTICLE

Assessment of Anxiety among Healthcare Professionals Working on Frontline against COVID-19

Soufia Farrukh[1], Wajahat Hussain[2], Zahid Shehzad Siddiqui[3]

ABSTRACT

Background and Objective: Coronavirus disease-2019 (COVID-19) pandemic starting from China has been spread internationally. This rapidly spreading and high mortality epidemic of Coronavirus caused significant anxiety and panic globally and affected more than 197 countries. This study aims to assess the anxiety level among health care professionals working on frontline against Coronavirus disease in teaching hospitals of Bahawalpur.

Methods: A cross sectional analytical study was conducted in Bahawal Victoria Hospital and Civil Hospital Bahawalpur from February to April 2020 after taking ethical approval from institutional ethical review committee. A total of 343 physicians and nurses were surveyed through predesigned, pretested questionnaire after taking written informed consent from each respondent. Anxiety was assessed by using Hamilton Anxiety Rating Scale (HAM-A). The sociodemographic variables of the respondents were cross tabulated with anxiety levels and Chi-square test was applied to assess statistical analysis. P-value less than or equal to 0.05 was taken as significant.

Results: Mean age of the participants was 37 ± 10.54 years. Majority of the study participants (39.6%) were in the age range of 31 to 40 years. More than two thirds (69.7%) respondents were working on Contract/Adhoc basis. Job experience of 270 (78.7%) participants was between 1 – 5 years. Statistically significant association was observed between severity of anxiety and job status (P < 0.001), marital status (P < 0.001) and job experience (P < 0.001).

Conclusion: Job status, marital status and experience of health care professionals has significant association with severity of anxiety which suggest that hiring of healthcare professionals should be on permanent basis which will ensure their job security that may help to reduce their anxiety level and improvement in performance.

KEYWORDS: Anxiety, Healthcare workers, Coronavirus, Teaching hospital.

1. Soufia Farrukh, Director Medical Education & Head, Department of Ophthalmology Quaid-e-Azam Medical College, Bahawalpur -Pakistan.
2. Wajahat Hussain, Assistant Professor Department of Community Medicine Quaid-e-Azam Medical College, Bahawalpur-Pakistan.
3. Zahid Shehzad Siddiqui, Senior Demonstrator Department of Community Medicine Quaid-e-Azam Medical College, Bahawalpur-Pakistan.

Corresponding Author:
Dr. Soufia Farrukh, Director Medical Education & Head, Department of Ophthalmology, Quaid-e-Azam Medical College, Bahawalpur -Pakistan. Email: soufiafrcs@hotmail.com

INTRODUCTION

The world is facing a great challenge of not only new viral infection Coronavirus disease 2019 (COVID-19) and bird flu but also bioterrorism in recent century. Any country of the world is not immune to epidemics of highly contagious and infectious diseases. By the end of last month of 2019, Wuhan, city of People Republic of China, reported a severe respiratory illness caused by COVID-19 which rapidly infected local population.[1]

This rapid spreading and high mortality epidemic of COVID-19 caused significant anxiety and panic globally and affected more than 197 countries. Since the end of January, 2020, World Health Organization (WHO) declared the COVID-19, a Public Health Emergency of International concern.[2] In Pakistan, 1st COVID-19 case was diagnosed on 26th February 2020, and so far, more than 37000 cases have been diagnosed, about 800 deaths are reported. It is need of the time to have understanding of all possible psychological impacts of an epidemic which is rapidly spreading, easily transmitted and highly contagious disease. Health care providers like doctors, nurses and supporting staff facing this critical situation on front lines, are directly involved in screening, treatment and caring patients of COVID-19, hence are under mental distress and develop psychological symptoms. The rapid increase in cases, lack of personal protective equipment (PPEs), high workload, horrifying media news, lack of specific treatment of disease and feeling unsupported are the factors which contributing to mental trauma of health care providers.

It has been reported in previous studies, there is negative mental impact on health care providers during severe acute respiratory syndrome (SARS) epidemic in 2003. These studies also reported that health care providers were afraid of being infected and about health of their families, colleagues and friends. There was a feeling of uncertainty as well as social stigmatization. They reported resigning and reluctant to perform duties at high dependency unit (HDU)/intensive care units (ICUs), experiencing too much anxiety, mental distress, depressive disorders and psychosocial implications.[3-6] Such type of concerns are arising in health care workers who are working in COVID-19 treatment centers of tertiary care hospitals of Pakistan.

Psychological support and counseling interventions have been developed by national psychiatry institutes in response to COVID-19. These psychological interventions for health care providers are scanty and scarce. The aim of current study is therefore, to address these lacking and quantify the magnitude of psychosocial symptoms among health care providers working in COVID-19 treatment centers of tertiary care hospitals and to assess the anxiety level among health care professionals working on frontline against COVID-19 in teaching hospitals of Bahawalpur.

METHODS

It was a cross sectional analytical study conducted in Bahawal Victoria Hospital and Civil Hospital Bahawalpur from February, 1st to April 30th 2020 after taking ethical approval from Institutional ethical review committee. Expecting anticipated population proportion of 34.7% (severe symptoms of anxiety) with 5% margin of error, and at 95% confidence interval a sample of 343 was calculated. Among physicians and nurses, the required sample was taken through non probability consecutive sampling method. Any person having known psychiatric ailment or taking medications prescribed by consultant psychiatrist was excluded from the study. Data was collected through predesigned, pretested questionnaire after taking verbal consent from each respondent by researchers. The questionnaire comprised of two parts. The first part was related to sociodemographic variables including age, gender, marital status, job experience, job type, family type, number of living children. The second part of questionnaire was related to anxiety assessment by using Hamilton Anxiety Rating Scale (HAM-A). The HAM-A was one of the first rating scales developed to measure the severity of anxiety symptoms, and is still widely used today in both clinical and research settings. The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0 – 56, where < 17 indicates mild severity, 18 – 24 mild to moderate severity and 25 – 30 moderate to severe.[2,3] The sociodemographic variables were cross tabulated with anxiety levels and Chi square test was applied to see any statistical difference between various strata if existed. P-value less than or equal to 0.05 was taken as significant.

RESULTS

A total of 343 health care providers were included in the study with mean age of 37 ± 10.54 years.

Majority of the study participants 136 (39.6%) were in the age range of 31 to 40 years. More than two third (239; 69.7%) respondents were working on Contract/Adhoc basis. Only 58 (16.9%) health care workers dealing with COVID-19 patients had postgraduate qualification. Major proportion of the study participants (219; 63.8%) was currently married. Job experience of 270 (78.7%) participants was between 1 – 5 years.

Study findings showed that 151 (44.0%) health care workers had moderate symptoms of anxiety

Table-1: Sociodemographic characteristics of the respondents (n = 343).

Variables	Frequency	Percentage
Age (Years)		
20-30	099	28.9%
31-40	136	39.6%
41-50	108	31.5%
Gender		
Male	125	36.4%
Female	218	63.6%
Job Status		
Regular	104	30.3%
Contract/Adhoc	239	69.7%
Qualification		
Graduation	285	83.1%
Postgraduate degree	058	16.9%
Marital status		
Unmarried	093	27.1%
Married	219	63.8%
Widow/divorced	031	9.1%
Job experience		
1-5 years	270	78.7%
>5 years	073	21.3%

Table-2: Sociodemographic characteristics of the respondents and severity of anxiety.

Variables	Severity of Anxiety			P-value
	Mild	Moderate	Severe	
Age (Years)				
20-30	36(36.4%)	43(43.4%)	20(20.2%)	0.20
31-40	51(37.5%)	62(45.6%)	23(16.9%)	
41-50	30(27.8%)	47(43.5%)	31(28.7%)	
Gender				
Male	39(31.2%)	52(41.6%)	34(27.2%)	0.40
Female	78(35.8%)	94(43.1%)	46(21.1%)	
Job Status				
Regular	49(47.1%)	35(33.6%)	20(19.3%)	<0.001
Contract/Adhoc	52(21.6%)	79(33.1%)	108(45.3%)	
Qualification				
Graduation	134(47.1%)	89(31.2%)	62(21.7%)	0.70
Postgraduate degree	30(51.7%)	18(31.1%)	10(17.2%)	
Marital status				
Unmarried	34(36.6%)	47(50.5%)	12(12.9%)	<0.001
Married	28(12.8%)	120(54.8%)	71(32.4%)	
Widow/Divorced	16(51.6%)	09(29.0%)	06(19.4%)	
Job experience				
1-5 years	35 (12.9%)	81(30.0%)	154(57.1%)	<0.001
>5 years	41 (56.2%)	19(26.1%)	13(17.7%)	

and severe anxiety was noted among 134 (39.4%) respondents while mild anxiety was reported by 57 (16.6%) health care workers.

When severity of anxiety and sociodemographic characteristics of the health care workers were associated statistically, the findings revealed that their age, gender and qualification was not significantly associated with severity of anxiety. A statistically significant association was observed between severity of anxiety and job status *(P < 0.001)*, marital status *(P < 0.001)* and job experience *(P < 0.001)*.

DISCUSSION

This cross-sectional study assessed the psychosocial impact and mental trauma of the COVID-19 outbreak on health care provider of tertiary care hospitals of Bahawalpur. Total enrolled participants of this cross-sectional study were 343 and all health care providers working in HDU/ICU of Corona Disease showed significant prevalence of anxiety and mental distress symptoms. Their symptoms were classified into mild, moderate and severe (16.6%, 44% and 39.4% respectively). Most of the participants among health care providers were between age group of 31 – 40 years, were married and mostly were female nurses. Female nurses working as frontline healthcare providers in COVID-19 outbreak showed severe psychological distress on overall measurements. This study reported that female healthcare providers experienced severe anxiety, depression and mental impacts as compared to physicians.

In the current study, significant portion of the participants (79.4%) reported moderate to severe psychological symptoms like insomnia, depression and distress. The findings of our study are consistent with previous studies of SARS outbreak in 2003 in which 89% of health staff reported mental and psychological impacts.[7] It is noteworthy that 63.6% of participants comprised of female nurses who reported severe psychological symptoms of anxiety, depression and insomnia. These female nurses appointed in HDU/ICUs for COVID-19 were highly exposed to viral infection. They were at high risk for being infected for their close contact with patients and long stay at hospitals.[7]

In previous study of SARS epidemic, it was reported that female nurses were more vulnerable to psychological and mantel trauma than consultant physicians.[8,9] Findings of our study is also consistent with it. During early stages of SARS outbreak, nurses were less warned or provided personal protective equipments.[10] Their physical and mental health was challenged due to their commitment of high class nursing care and professional attitude towards patients.[11,12] It is necessary step to address and minimize the stress level among female health care providers who are working in HDU/ICUs treating COVID-19 patients.

Last decades witnessed the newer concepts of job in organizations which enabled human resource with organizations to be more competitive but on the other hand concerns of uncertainty, instability, and risk for workers, with a subsequent increase in their levels of stress and anxiety are on rise. The current study findings revealed statistically significant association between severity of anxiety and job status *(P < 0.001)*, marital status *(P < 0.001)* and job experience *(P < 0.001)*. The findings of this study are consistent with the results of study conducted by Falco et al,[13] in Italy which showed that the type of contract have effects strain, burnout, stress anxiety and turnover intention. These findings may be useful in developing some guidelines to foster the sustainability of different forms of employment.

CONCLUSION

It is concluded that job status, marital status and experience of health care professionals has significant association with severity of anxiety which suggests that hiring of healthcare professionals should be on permanent basis which will ensure their job security and help to reduce their anxiety level and improvement in performance.

LIMITATIONS OF STUDY

This study included all the participants as employees of tertiary care hospital of Bahawalpur District of Punjab Province; hence findings cannot be generalized. The study was done in short duration of time and is deficient in follow-up. Further increasing mortalities and situation may deteriorate the mental health of hospital staff. This is cross sectional study; hence no causal relationship can be established between psychological symptoms scoring and risk perceptions.

CONFLICT OF INTEREST

None to declare.

FINANCIAL DISCLOSURE

None to disclose.

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Author's Contribution

SF: Conception and design of study.

WH: Analysis and interpretation of data.

ZSS: Drafting and critical revision of the final version.