

# Psychological Status of Health care Practitioners Working in COVID19 Section in Riyadh Hospitals: A Cross-sectional Study

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## Abstract:

The emergences of different COVID19 variants create an additional stressors to all healthcare practitioners. The mental health issues like anxiety and depressions are the top cause of disability affecting the healthcare workers' productivity. This result to increase working duties and the decision making difficulties in prioritizing patient care affecting psychological health. The objectives of this study were to determine the psychological status of the healthcare practitioners who are working in the COVID19 section of the hospitals in Riyadh. A cross-sectional design was used in the study. 273 healthcare professionals was selected by purposive sampling technique. The level of anxiety and depression was assessed using the Hospital Anxiety and Depression Scale (HADS). After data collection, data were analyzed using descriptive and inferential statistics. The findings shows that almost half (45.80%) of the respondents were borderline abnormal (8-10) level of depression and quarter (70%) of the respondents were becoming abnormal (11-21) in the level of anxiety. Age, educational level, profession, marital status, years of experience, department involved, and employment type were significantly different with the depressive symptoms while gender and employment type were not statistically significant with anxiety symptoms.

**Keywords:** Anxiety, Depression, Practitioners, Psychological status

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## I. Introduction

The novel SARS-CoV-2 is becoming more contagious affecting millions of people around the world. The emerged of variant delta and omicron has been an additional stressor to healthcare professionals due to level of stress it yields. NCPDS (2020) found that pandemic display heightened stress, become emotionally disturbed and affect the high levels of depression to health care workers. The World Health Organization explained that mental health issues is one of the top cause of disability affecting productivity. However, the health care practitioners working in the department who provides care and management to COVID19 patients are of greatest risk of acquiring the infections because they are in the frontline of the pandemic. These healthcare practitioners are widely exposed to stress due to possibility of transmitting the disease to their family and coworkers. The shortage of infection-prevention equipment for health care workers raised their risk of infection.<sup>1</sup>With the quick increase in the number of patients, healthcare staff are dealing with increased workloads, and the majority of them have been unable to reconcile with their families.

The healthcare practitioners especially doctors experienced high levels of depression compared to others with prevalence of as much as 43%.<sup>2</sup> Since these healthcare workers are more exposed to COVID19 infections, having distress and fear in the stressful environment can result to anxiety and depression. The levels of anxiety and depression lead to poor patient care and increased chance of error.<sup>3</sup> Thus, healthcare practitioners have undoubtedly been disproportionately burdened in the fight against COVID-19. Workers in the areas like emergency, respiratory and critical care departments usually experience sleep disturbances including worries and sadness.

The mental health of health care workers was really disturbed by the pandemic. The COVID19 pandemic contributed to the high psychological distress among frontline workers.<sup>4</sup> This delineated that work duties were affected as their study found that need frustration specifically autonomy and competence was significantly associated with psychological distress. Considering the impact of the virus, women are usually prone to this mental health issues in comparison with the men. The COVID19 pandemic has caused heavy

psychological impact among female health care workers.<sup>5</sup> Furthermore, this became inevitable due to their exposure to a long work shifts as the patient care demand increased. Working wearing protective equipment affecting their movement and operation slowly while aggravating the psychological issues. This also attributed to the lack of sleep, social support, being isolated from family and friends and the fear of spreading the infection directly to co-workers and patients.<sup>6a, 6b, 6c, 6d</sup>

In the Middle East particularly in Saudi Arabia, limited studies focusing on the psychological impact of COVID19 variant delta and omicron have been known. Most of the studies illustrated the general effects of pandemic to the health care practitioners. About two-thirds of healthcare professionals reported feeling of acquiring the disease and felt unsafe to work.<sup>7</sup> With the current cases of COVID19 cases reaching to nearly 800,000, the people were still worried about acquiring infection. On top of that, prevalence of depression and anxiety symptoms has been reported among populations specifically the healthcare practitioners. This is brought by the increased working duties and the decision-making difficulties in prioritization of patient care resulting to physical and mental health.

Some studies show the stress level encountered by the front line workers in Saudi Arabia. Seventy-seven (77%) percent of the respondents suffered from moderate level of stress wherein female and junior frontline staff reported a more severe stress levels. Since the health care workers experienced stress, the number of professionals shows that most of them manifest symptoms of mental health problems.<sup>8</sup> Other studies found that mental health of workers in the western region, they found that 17% of the participants were positive for depression, 26 % for anxiety and 17% for stress.<sup>9</sup> Among the health care workers, nurses are most affected who reported significantly experiencing depression anxiety and stress than doctors. On the other hand, the outbreak of new coronavirus variants such as delta and omicron lead to another realm of infection leading to anxieties and depression affecting the psychological status of the health care personnel. Studies have shown that doctors have difficulties in telling their co-workers about the mental health fatigue they experienced. This resulted to suicidal ideations.<sup>10</sup> Psychological impacts of COVID19 affects the quality of work of most healthcare professionals. Nurses and doctors are reporting taking their lives through suicides. The incidence of medical doctors committing suicide due to psychological issues brought by pandemic.<sup>11</sup>

In the world, 60% of the studies reviewed found that more than 50% of the frontline workers were affected psychologically by the COVID19. To date, few studies have been conducted to evaluate the psychological status of health care professional working in Riyadh hospitals. The present study, therefore, aimed of determining the psychological status of the healthcare practitioners who are working in COVID19 section of hospital in Riyadh. This assessment will provide information on developing strategies on enhancing mental health to improve the quality of life, work balance and productivity of the health care professionals.

## **II. Material and Methods**

Descriptive cross sectional research design was conducted to find out the psychological status of healthcare practitioner during COVID19 Pandemic in Riyadh hospitals. Convenience sampling technique was used in selecting 200 health care practitioners using the following criteria. The inclusion criteria include: (1) any gender; (2) employed in government and private tertiary hospital; (3) working in the COVID19 section of the hospital during the delta and omicron variants; (4) Registered professionals in Saudi Arabia such as medical doctor, nurse, and pharmacist. The exclusion criteria include: (1) Not registered healthcare workers; (2) belong to secondary or primary hospital; (3) unwillingness to participate in the study. The Hospital Anxiety and Depression Scale (HADS) was used for the data collection to achieve the purpose of the study. This questionnaire was adapted from Zigmond and Snaith (1983) which is the popular tool to measure anxiety and depression of general medical populations. It is a one of the recommended tools for the initial diagnosis of depression and anxiety.<sup>12</sup> Ethical approval from Institutional Review Committee, Riyadh Elm University was taken for the study. Written informed consent was obtained from each respondent before data collection. Confidentiality and anonymity were assured and maintained. Data was entered in statistical package for social science (SPSS) version 20 and analyzed and interpreted in terms of descriptive (Frequency, percentage, mean, median, standard deviation) and inferential statistics (pearson chi-square test).

## **III. Results**

The findings of the study are presented in following tables. Demographic characteristics of the respondents (Table 1), Level of depression and anxiety of the health care workers in Riyadh Region based on Hospital Anxiety and Depression Scale (Table 2), Significant difference on the depression level of the health care workers when grouped according to its demographic characteristics (Table 3), Significant difference on the anxiety level of the health care workers when grouped according to its demographic characteristics (Table 4).

**Table1 Demographic Characteristics of the Respondents**

Variable	Characteristics	Frequency	Percentage
<b>Gender</b>	Male	119	43.6
	Female	154	56.4
<b>Age</b>	20-22 years old	8	2.90
	23-25 years old	71	26.00
	26-28 years old	134	49.10
	29-31 years old	0	0.00
	31 years and above	60	22.00
<b>Educational Level</b>	BS graduate	114	41.80
	Masteral with units	102	37.40
	Masteral graduate	26	9.50
	Doctoral with units	21	7.70
	Doctoral graduate	10	3.70
<b>Marital status</b>	Single	98	35.90
	Married	148	54.20
	Widow	1	0.40
	Divorce	26	9.50
<b>Profession</b>	Doctor	95	34.80
	Nurse	150	54.90
	Pharmacist	5	1.80
	Midwife	22	8.10
	Others	1	0.40
<b>Years of experience</b>	0-1 year	0	0.00
	2-3 years	58	21.20
	4-5 years	71	26.00
	6-8 years	126	46.20
	9 years above	18	6.60
<b>Department involved</b>	Emergency	73	26.70
	ICU	79	28.90
	Operating Room	60	22.00
	Ward	32	11.70
	NICU	29	10.60
<b>Employment Type</b>	Government	161	59.00
	Private	112	41.00

**Table2 Level of depression and anxiety of the health care workers in Riyadh Region based on Hospital Anxiety and Depression Scale**

Variables	Level	Frequency	Percentage
<b>Depression</b>	Normal (<7)	72	26.40
	Borderline abnormal (8-10)	125	45.80
	Abnormal ( 11-21)	76	27.80
<b>Anxiety</b>	Normal (<7)	23	8.40
	Borderline abnormal (8-10)	59	21.60
	Abnormal ( 11-21)	191	70.00

**Table 3. Significant difference on the depression level of the health care workers when grouped according to its demographic characteristics**

Variables	No depression symptoms (n=72)	With depression symptoms (n=201)	X <sup>2</sup>	p-value
<b>Gender</b>			0.390	0.823
Male	26	93		
Female	46	118		
<b>Age</b>			4.693	0.584
20-22 years old	3	5		
23-25 years old	14	57		
26-28 years old	38	96		
29-31 years old	0	0		
31 years and above	17	42		
<b>Educational level</b>			23.609	0.003
BS graduate	40	74		
Masteral with units	16	86		
Masteral graduate	8	18		
Doctoral with units	7	14		
Doctoral graduate	1	9		
<b>Marital status</b>			2.645	0.852
Single	30	68		
Married	36	112		
Widow	0	1		
Divorce	6	20		
<b>Profession</b>			10.952	0.204
Doctor	20	75		
Nurse	39	112		
Pharmacist	1	4		
Midwife	11	11		
Others	1	0		
<b>Years of experience</b>			8.926	0.178
0-1 year	0	0		
2-3 years	21	37		
4-5 years	18	53		
6-8 years	27	99		
9 years above	6	12		
<b>Department involved</b>			21.719	0.005
Emergency	11	62		
ICU	24	55		
Operating Room	12	48		
Ward	17	15		
NICU	8	21		
<b>Employment type</b>			9.005	0.011
Government	45	116		
Private	27	85		

Significance level = 0.05

X<sup>2</sup>=Pearson chi-square test

**Table 4. Significant difference on the anxiety level of the health care workers when grouped according to its demographic characteristics**

Variables	No anxiety symptoms (n=23)	With anxiety symptoms (n=250)	X <sup>2</sup>	p-value
<b>Gender</b>			0.390	0.823
Male	11	108		
Female	12	142		
<b>Age</b>			21.070	0.002
20-22 years old	1	7		
23-25 years old	10	61		
26-28 years old	6	128		

29-31 years old	0	0		
31 years and above	6	54		
<b>Educational level</b>			29.709	0.000
BS graduate	16	98		
Masteral with units	3	99		
Masteral graduate	2	24		
Doctoral with units	2	19		
Doctoral graduate	0	10		
<b>Marital status</b>			16.943	0.009
Single	17	81		
Married	5	143		
Widow	0	1		
Divorce	1	25		
<b>Profession</b>			13.399	0.099
Doctor	8	97		
Nurse	11	139		
Pharmacist	1	4		
Midwife	2	20		
Others	1	0		
<b>Years of experience</b>			42.589	0.00
0-1 year	0	0		
2-3 years	14	44		
4-5 years	2	69		
6-8 years	4	122		
9 years above	3	15		
<b>Department involved</b>			7.654	0.468
Emergency	6	67		
ICU	7	72		
Operating Room	4	56		
Ward	5	27		
NICU	1	28		
<b>Employment type</b>			0.403	0.817
Government	13	148		
Private	10	102		

Significance level = 0.05

$\chi^2$ -Pearson chi-square test

#### IV. Discussion

Many studies focus on the impact of covid-19 to health professionals in the world resulting to alterations in the daily lives and lived in the uncertainty. The coming of new variant of covid19 adds stress and negative effects to the psychosocial behavior of the health practitioners. Huang et.al.,(2020) explained that more professionals were affected and this new life configurations result to substantial concerns to the sleep and mental health of health professionals. As to this study, most of the affected professionals were nurses accounted for more than half of the medical professions. The current study focuses only on the COVID19 impact on the psychological status of the healthcare professionals. The result relates evidently as more healthcare workers experienced anxiety and or depression during their exposure to their workplace.

With the used of Hospital Anxiety and Depression Scale (HADS), three quarter of the respondents were found to have symptoms of depression where 125 (45.80%) where borderline (HADS 8-10) and abnormal (HADS 11-21) 76 (27.80%). The healthcare workers reported symptoms of anxiety or depressive disorder (42% vs 30%) during pandemic. This means that these essential workers face challenging risk affecting mental health.<sup>14</sup> A recent review of the psychological effects of COVID-19 relates to serious psychological impact that results to fear, stress, insomnia, depression, and anger.<sup>15-16</sup> Meanwhile, the 250 respondents experienced anxiety where three fourth (3/4) of them are abnormal (HADS 11-21) 191 (70%) and borderline 59 (21.60%). Aside from the rates of depressive or anxiety symptoms, this study relates with previous research which found that almost a third of the participants (33%) experienced high to very high levels of psychological distress while Australian study found that almost all of their respondents (97%) had a low resilient coping. A similar study in Turkey was conducted and reported a high prevalence of anxiety (45.1%) and depression (23.6%) while depression is higher compared to anxiety. Their study also noted that anxiety and depression for women were significantly higher which is consistent with other study which revealed the prevalence of anxiety and

depressive symptoms clinically higher among girls.<sup>17</sup>

Meanwhile, several demographic characteristics were found to be significant to the level of anxiety and depression such as age, educational level, marital status, profession, years of experience, department involved, and employment type. On this study, the age group 26-28 years old suffered the most from depressive symptoms. This means that ages of the respondents encountered various level of depression. The young adults (19-29) can develop depression due to work transition, lack of support in the new environment, less coping skills, and work issues as adults (30-60) trigger depression result from parents, aging, financial stress, relationship issues, menopause and illness.<sup>18</sup> However, a global study shows that 1 in 4 youth are experiencing elevated depressive symptoms which suggest that the mental health difficulties has doubled.<sup>17</sup> As for educational attainment, more masteral with units shows symptoms of depression. This means that every educational attainment differs with each other. More less educated people are vulnerable to depression. The low educational levels were significantly associated with both anxiety and depression.<sup>20</sup>

In the areas of marital status, more married respondents show symptoms of depression. For the divorced respondents, 20 out of 26 respondents have depressive symptoms which indicates that more than third quarter of them has depressive symptoms. This relates with the study that the high prevalence of major depression in separated or divorced individuals is due to both an increased risk of marital disruption in those with major depression.<sup>21</sup> Clinically, it is significantly interplay exists between major depression and marital status. The nurses are the profession mostly have depressive symptoms, 112 of 148 were affected by the COVID19. The doctors were also suffered with 75 of 95 have depressive symptoms. This means that nurses are mostly affected because they have more time of exposure to the patients which largely affect psychologically.

Moreover, the healthcare professionals in emergency room is clearly the one that shows symptoms of depression. This is due the facts they are the first-hand to administer treatment to the COVID19 patients. On the previous meta-analysis study about depression among healthcare workers in the Eastern Mediterranean Region, they found that emergency medicine HCWs who primarily work in the emergency room were the highest risk of suffering from depression. They found a 53.34% prevalence compared with other specialties while radiologists were found to have the lowest pooled prevalence of depression at 2.22%.<sup>22</sup>

On the level of anxiety, age is a factor on the impact of COVID19 in psychological status of the healthcare professionals. Anxiety becomes more common with older age and most common among middle-aged adults. He elaborated that several factors like changes in the brain and nervous system and being more likely to experience stressful life events that triggers anxiety.<sup>23</sup> Like depression, the same age group 26-28 years old garnered the highest number of respondents with depressive symptoms. For educational attainment, all levels were affected by the COVID19. In contrast, study found that higher educated participants reported lower levels of depression compared to lower education. He concluded that educational level is an important factor for predicting depression but not for predicting anxiety.<sup>24</sup> Unlike depression, anxiety greatly affect the professionals that work in the ICU. Further, the proportion of HCWs reporting stress increased. Working long hours was associated with higher odds while teamwork and feeling appreciated at work were associated with lower odds, of stress, and anxiety.<sup>25</sup>

## **V. Conclusion and Recommendation**

### **Conclusion**

Overall, this study shows a clinically elevated anxiety and depressive symptoms among health care practitioners during the emergence of COVID19 new variants. While this study determines the psychological status of the healthcare practitioners, it also highlights individual differences on demographic characteristics to be considered when determining intervention in relation to the implications of COVID19 to the psychological status of the healthcare practitioners.

### **Recommendation**

This study recommends the following: the hospital should continue conducting a psychological test on healthcare workers; a similar study on the status of mental health of the health professionals should be conducted on the epidemic stage of COVID19; the hospitals should provide timely mental counseling and establish programs to improve the psychological health.

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