

Prevalence of Psychological Distress and Post-Traumatic Stress Disorder among Nursing Staff during COVID-19 Epidemic

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Abstract

Background: COVID-19's deadly nature and high infection rate, increasing cases, a lack of personal protective equipment, extremely demanding workloads, and a lack of appropriate therapies to save lives can all contribute to psychological distress and can induce post-traumatic stress disorders among healthcare personnel. **Aim of the study:** To estimate the prevalence of psychological distress and posttraumatic stress disorder among nurses caring for COVID 19 patients. **Setting:** The study was undertaken at Mansoura University Hospital. **Design:** A descriptive cross-sectional was used. **Subjects:** An online Google Form was used to collect a convenience sample of all duty nurses caring for COVID 19 infected patients from June to September 2020. **Tools:** Included three tools: Demographic data, Arabic Version of Davidson Trauma Scale, 17 items, and Arabic Version Kessler Psychological Distress Scale. **Results:** 264 nurses were analysed. The findings revealed that (91.3%) of the nurses investigated experienced psychological distress, with (59.1%) were experiencing severe distress. More than two third (68.9%) suffered from post-traumatic stress disorder. **Conclusions:** The majority of the studied nurses had psychological distress with more half of them experiencing severe distress and more than two third had posttraumatic stress disorder with less than half of them had severe level. **Recommendations:** Monitoring the short- and long-term implications of the COVID-19 pandemic, as well as implementing early intervention strategies is critical.

Keywords: Nurses, COVID 19, Posttraumatic stress disorders, and Psychological Distress

Introduction

The Coronavirus Disease 2019 (COVID-19) epidemic underlined the necessity of paying attention to first-line health care workers' (HCW) mental health, especially when preparing for multiple waves of the pandemic (Gupta and Sahoo 2020). The demand for healthcare staff is increasing when major epidemic outbreaks occur. The constant increase in infected cases, the incidence of mortality, the lack of any specific medicine or vaccine, considerable media coverage, tremendous workload, a lack of personal protective equipment, and feelings of inadequate support can all add to the mental stress of these health care workers (Vizheh et al. 2020).

Egypt adopted a unique care paradigm under the supervision of the World Health Organization (WHO) in response to the COVID-19 outbreak, in which selected hospitals were designated as COVID-19 "quarantine hospitals." Medical teams on operational duty stay in the hospital for a total of 14 days. Health-care workers were released for self-isolation at home for further 14 days

after a negative SARS-CoV-2 test. Positive-swab doctors (if any) were admitted to the same quarantine hospital (Youssef et al. 2020). Nurses are one of the most involved members of the health-care team in the fight against COVID-19. From the moment of admission till release, they are in regular contact with patients. As a result, compared to other health workers, nurses are more vulnerable to psychological distress during the epidemic (Blake et al. 2020). Nurses also confront difficulties associated to taking responsible for another person's life while caring for a large number of patients who are sick or in pain. Regular stressors become acute and exacerbated (i.e., more patients, longer work shifts, risk of infection, etc., whereas there was a shortage of resources and lack of training or experiences for kind of these situations (Lorente, Vera and Peiro 2020). During earlier epidemics, nurses delivering intensive and continuing health services were observed to have the highest level of job stress and emotional discomfort when compared to other treatment professionals (Galehdar et al. 2020).

Psychological distress, such as depression and anxiety, has been reported among health workers fighting COVID-19 on the front lines during the outbreak. (Blake et al. 2020). Moreover, the COVID 19 pandemic is classified as a traumatic event of the exceptional size that goes beyond the scope of normal human experience and exposes people to the risk of death. These factors can lead to psychopathologies including acute stress disorder (ASD) and posttraumatic stress disorder (PTSD) (Benfante et al. 2020).

According to a recent COVID-19 study conducted in Singapore, estimates of PTSD symptoms among healthcare professionals ranged from 6–10%, 18% among nurses working in hospitals in general, and 20% due to the SARS pandemic. As a result, during pandemics, PTSD symptoms were more common than during other periods. As seen in earlier pandemics like SARS and Middle East Respiratory Syndrome, working closely with sick patients had been related to considerable levels of PTSD symptoms and anxiety. Working with COVID-19 patients more closely and intensely has been linked to increased mental distress, according to previous research (Johnson, Ebrahimi, and Hoffart 2020).

Although many studies showed that practically all persons experience intrusive and repetitive symptoms after being subjected to extreme stress, only a small minority developed avoidance and hyper-arousal symptoms. Most people who got PTSD symptoms after witnessing a traumatic event recovered in a matter of weeks or months. However, 10%–25% of people would acquire persistent PTSD, which could last for months, years, or even a lifetime (Shi et al. 2017).

The significance of the study:

Exploring the issues that nurses experience in caring for patients with COVID-19 will help improve nurse and hospital readiness in response to the crisis, as well as strengthen preparedness and recovery from the crisis. Therefore, this study aimed to estimate the prevalence of psychological distress and posttraumatic stress disorder symptoms among nurses caring for COVID 19 patients at Mansoura University Hospitals.

The aim of the study:

The current study aimed to estimate the prevalence of psychological distress and posttraumatic stress disorder symptoms among nurses caring for COVID 19 patients at Mansoura University Hospitals.

Research Questions

- Are the nurses taking care of COVID 19 patients experiencing psychological distress?
- What is the severity of psychological distress the nurses suffer from?
- Are the nurses taking care of COVID 19 patients experiencing post-traumatic stress disorder symptoms?

Subject and Methods

Research design:

Descriptive cross-sectional research design was undertaken among nurses who cared for COVID 19 patients.

A- Setting:

The research was carried out at Mansoura University Hospitals. It is one of the largest hospitals preparing to handle COVID 19 infected patients. That includes 27 units and departments in different specialties Operations, Cardiothoracic surgery, Fertility Care unit, Anesthesia, Obstetrics and Gynecology General Surgery, Rheumatology and Rehabilitation, Ear, Nose, and Throat, Neurosurgery, Mental illness, Orthopedic surgery, Batinah, Intensive care Centers, Internal Medicine Specialist Hospital Dermatologists and Andrology, Neuro ethics, Free zones medicine unit, and Chest diseases, Diagnostic radiology, and Ophthalmology

B- Subjects:

The study sample included all nurses on duty working with COVID-19 patients at Mansoura University Hospitals at the time of study from June 2020 to Sept 2020; these participants had to meet the following criteria:

- The nurses have at least 2 weeks of working experience in taking care of patients with COVID-19.

- Nurses willing to participate in the study voluntarily.

Exclusion criteria:

- Nurses previously admitted to a psychiatric ward of any description excluded.

Based on data from the literature (Hamed, Abd Elaziz, and Ahmed 2020), to calculate the sample size with precision/absolute error of 5% and type 1 error of 5%, Sample size = $[(Z_{1-\alpha/2})^2 \cdot P(1-P)]/d^2$, where, $Z_{1-\alpha/2}$ at 5% type 1 error ($p < 0.05$) is 1.96, P is the expected proportion in population-based on previous studies and d is the absolute error or precision. Therefore, sample size = $[(1.96)^2 \cdot (0.199) \cdot (1-0.199)] / (0.0624)^2 = 244.9$. Based on the formula, the sample size required for the study is 245.

Tools for data collection

Three tools were used to collect the study data, including:

I- Demographic data: Including gender, age, marital status, place of residence, income, having children, education, work experience, a position held in a department.

II-Davidson Trauma Scale (DTS):

This scale was established by Davidson et al. (1997) and adopted by Thabit, et al (2006). Arabic version was used, and it consisted of 17 items as a self-rating scale for measuring the frequency and severity level of (PTSD) symptoms, grouped into three clusters: intrusion, avoidance, and hyperarousal. Items scored on a 5-point frequency scale (0 = "not at all" to 4 = "every day") and a severity scale (0 = "not at all distressing" to 4 = "very distressing"). The DTS produced a frequency score (from 0 to 68), a severity score (from 0 to 68), and a total score (ranging from 0 to 136). To be diagnosed with PTSD, you must have one intrusion symptom, three avoidance symptoms, and one hyperarousal symptom. The Cronbach's alpha value for the reliability of PTSD Scale score in terms of frequency was 0.922, in terms of severity was 0.903 and for the total posttraumatic stress disorder scale score was 0.884 (Thabit, Karim, and Vostains, 2006).

III- Kessler Psychological Distress Scale (K10):

This scale was established by Kessler et al., (2003) and adopted by Easton, et al (2017).

Arabic version scale was used. The scale was created to assess psychological distress. It comprised ten emotional-state questions, each with a five-point response scale. It was rated on a scale of one to five, with one indicating "none of the time" and five indicating "all of the time". The scores of ten elements then added together to get a minimum score of 10 and a maximum score of 50. Low scores indicate low levels of psychological distress, whereas high scores indicate significant levels of psychological distress. Scores ranged from 10 to 19, with 10 indicating well, 20 indicated a mild disorder, 25 indicated a moderate disorder, and 30 indicated a severe disorder. The Cronbach's alpha value for the reliability score was 0.927 (Kessler et al., 2003 & Easton, Safadi, Wang, & Hasson, 2017).

Methodology

Pilot Study

The pilot study was carried out on 10% of the total study subjects (27 nurses). It was conducted to evaluate the applicability and clarity of the tools, assess the feasibility of fieldwork, and detect any possible obstacles that might face the researcher and interfere with data collection.

Field work

The researchers distributed the Google form link to nurses via what's up. The researchers outlined the study's goal as well as the aspects of the collected tools linked to "Psychological Distress and PTSD among Nurses Working with COVID-19 Patients at Mansoura University Hospital." The researchers acquired informed consent from the individuals online. Participants were assured of their confidentiality and told them that there were no correct or incorrect answers. Used tools took about 10-15 minutes to complete. Participation was entirely voluntary. Nurses received no monetary compensation for their participation.

Ethical considerations:

This study was carried out at Mansoura University Hospitals after getting approval from the Ethical Committee (like the IRB) and the manager of Mansoura University hospitals consent and permission of the author who developed the tools utilized in the study. Nurses that were recruited completed the questionnaire online in a Google-style format.

Statistical Analysis

All statistical analyses were performed using SPSS for windows version 24.0 (SPSS, Chicago, IL). All continuous data were normally distributed and expressed in mean \pm standard deviation (SD). Categorical data were expressed in number and percentage. Independent sample nurses T- test was used for comparison between variables with continuous data. Chi-square test was used for comparison of variables with categorical data, the reliability (internal consistency) test for the tools used in this study was calculated. Statistical significance was set at $p < 0.05$.

Result

Table (1): shows that the data of 264 nurses were examined. The study's participants had an average age of 28.2 ± 5.2 years. Less than two thirds of the participants (64.8%) were under the age of 30. Most of them (83%) had less than ten years of experience. Females made up (68.2%) of the study participants, and half of them were married (50%). More than half of the participants (51.5%) held a bachelor's degree in nursing or higher. Three-quarters of the studied nurse were infected with COVID 19 (75.4%). (57.2%) lived in rural regions and (23.1%, 24.6%) of them were working in ICU and medical-surgical ward respectively.

Table (2) indicates that there was no statistically significant relation between the studied nurses' demographic data and Kessler psychological distress level ($P > 0.05$).

Table (3) replays that there was a highly statistically significant relation between demographic data and severity of PTSD expect the number of with infection, marital status. On the other hand, there was highly statistically significant relation PTSD frequency and gender, education level, residence, department, and having organic disease.

Table (4) illustrates that there was a highly statistically significant relation between psychological distress level and PTSD frequency and severity among studied nurses $p < 0.001$.

Figure (1) represents that more than half of participants (59.1%) were suffered from severe psychological distress as a result of caring for COVID 19-infected patients. Mild to moderate psychological distress was experienced by 18.9% and 13.3% of nurses, respectively.

Figure (2) reveals that approximately half of the studied nurses (48.9%) suffered from severe PTSD, while 31.1% did not experience PTSD.

Figure (3): concerns PTSD severity level, nearly half of the participating nurses (49.6%) had severe PTSD whereas 28.4% did not experience PTSD.

Table (1): Number and Distribution of the demographic Characteristics of the studied Nurses (n= 264)

Demographic and clinical data of nurses	N	%
Age (Years)		
< 30	171	64.8
30 – 40	86	32.6
> 40	7	2.7
Gender		
Male	84	31.8
Female	180	68.2
Marital Status		
Married	132	50.0
Single	126	47.7
Divorced	6	2.3
Do you have children?		
No	139	52.7
Yes	125	47.3
Qualification		
Technical Nursing Institute	109	41.3
Diploma	19	7.2
Bachelor Nursing Degree or Above	136	51.5
Residence		
Urban	113	42.8
Rural	151	57.2

Demographic and clinical data of nurses	N	%
Experience Years		
< 10	219	83.0
> 10	45	17.0
Organic Dieses		
No	238	90.2
Yes	26	9.8
COVID19 infection history		
No	65	24.6
Yes	199	75.4
If yes, how many times? (n=199)		
< 2	152	76.4
> 2	47	23.6
Department		
Inpatient	14	5.3
Outpatient	9	3.4
Isolation	28	10.6
Chest disease	29	11.0
ICU units	61	23.1
Medical and surgical	65	24.6
Paediatric centre	16	6.1
OB/GYN	22	8.3
Operation	20	7.6

Table (2): Relation between demographic characteristics of the studied nurses and Kessler Psychological Distress level

Demographic and clinical data of nurses	None		Mild Disorder		Moderate Disorder		Severe Disorder		Chi-Square	
	N	%	n	%	n	%	n	%	X ²	P
Age (Years)										
< 30	14	60.9	30	60.0	19	54.3	108	69.2		
30 – 40	9	39.1	17	34.0	15	42.9	45	28.8		
> 40	0	0.0	3	6.0	1	2.9	3	1.9	6.481	0.372
Gender										
Male	6	26.1	18	36.0	8	22.9	52	33.3		
Female	17	73.9	32	64.0	27	77.1	104	66.7	2.212	0.530
Marital Status										
Married	13	56.5	27	54.0	19	54.3	73	46.8		
Single	9	39.1	20	40.0	16	45.7	81	51.9		
Divorced	1	4.3	3	6.0	0	0.0	2	1.3	7.353	0.289
Do you have children?										
No	10	43.5	22	44.0	18	51.4	89	57.1		
Yes	13	56.5	28	56.0	17	48.6	67	42.9	3.510	0.319
Qualification										
Technical Nursing Institute	6	26.1	27	54.0	19	54.3	65	41.7		
Diploma	3	13.0	1	2.0	5	14.3	10	6.4		
Bachelor Nursing Degree or Above	14	60.9	22	44.0	19	54.3	81	51.9	10.616	0.101
Residence										
Urban	8	34.8	24	48.0	17	48.6	64	41.0		
Rural	15	65.2	26	52.0	18	51.4	92	59.0	1.833	0.608
Experience Years										
< 10	18	78.3	37	74.0	27	77.1	137	87.8		
> 10	5	21.7	13	26.0	8	22.9	19	12.2	6.642	0.084
Organic Dieses										
No	20	87.0	46	92.0	28	80.0	144	92.3		
Yes	3	13.0	4	8.0	7	20.0	12	7.7	5.336	0.149
COVID19 infection history										
No	5	21.7	7	14.0	11	31.4	42	26.9		
Yes	18	78.3	43	86.0	24	68.6	114	73.1	4.461	0.216
If yes, how many times? (n=199)										
< 2	13	72.2	27	62.8	18	75.0	94	82.5		
> 2	5	27.8	16	37.2	6	25.0	20	17.5	6.933	0.074

Demographic and clinical data of nurses	None		Mild Disorder		Moderate Disorder		Severe Disorder		Chi-Square	
	N	%	n	%	n	%	n	%	X ²	P
Department										
Inpatient	1	4.3	2	4.0	5	14.3	6	3.8		
Outpatient	0	0.0	3	6.0	2	5.7	4	2.6		
Isolation	3	13.0	9	18.0	2	5.7	14	9.0		
Chest disease	4	17.4	6	12.0	4	11.4	15	9.6		
ICU units	9	39.1	2	4.0	8	22.9	42	26.9		
Medical and surgical	4	17.4	19	38.0	12	34.3	30	19.2		
Paediatric centre	0	0.0	6	12.0	0	0.0	10	6.4		
OB/GYN	0	0.0	3	6.0	0	0.0	19	12.2		
Operation	2	8.7	0	0.0	2	5.7	16	10.3	52.441	<0.001*

*Significant (P<0.05); ** highly Significant (P<0.001)

Table (3): Relation between demographic characteristics of the studied Nurses and Posttraumatic Stress Disorder frequency and severity mean score.

Demographic and clinical data of nurses	Posttraumatic stress disorder score (Frequency)	Posttraumatic stress disorder score (Severity)
	Mean ±SD	Mean ±SD
Age (Years)		
< 30	31.3±15.8	30.3±21.8
30 – 40	33.2±15.9	32.3±23.1
> 40	12.3±4.5	12.4±8.4
ANOVA Test	F=5.774, P=0.004*	F=8.769, P<0.001**
Gender		
Male	37.4±17.8	35.4±14.6
Female	28.6±12.7	28.2±10.7
T-Test	4.589, P<0.001**	4.513, P<0.001**
Marital Status		
Married	32.7±15.6	31.7±13.3
Single	30.3±14.1	29.5±11.3
Divorced	25.0±7.4	24.2±12.1
ANOVA Test	F=1.422, P=0.243	F=1.814, P=0.165
Do you have children?		
No	29.4±23.9	28.6±21.2
Yes	33.5±25.5	32.6±23.1
T-Test	2.265, P=0.024*	2.673, P=0.008**
Qualification		
Technical Nursing Institute	30.0±14.2	29.1±11.5
Diploma	19.2±9.2	19.9±8.6
Bachelor Nursing Degree or Above	34.2±15.4	33.0±12.8
ANOVA Test	F=9.691, P<0.001**	F=11.060, P<0.001**
Residence		
Urban	27.0±13.1	26.5±11.0
Rural	34.6±15.5	33.5±12.7
T-Test	4.207, P<0.001**	4.688, P<0.001**
Experience Years		
< 10	32.2±15.2	31.3±12.5
> 10	27.5±12.1	26.5±10.2
T-Test	1.950, P=0.052	2.414, P=0.016*
Organic Diseases		
No	30.1±14.7	29.3±12.2
Yes	43.3±21.3	41.6±19.4
T-Test	4.135, P<0.001**	4.559, P<0.001**
COVID19 infection history		
No	28.0±23.3	27.4±11.3
Yes	32.5±25.1	31.5±12.4
T-Test	2.145, P=0.033*	2.364, P=0.018*
If yes, how many times? (n=199)		
< 2	32.4±15.3	31.3±12.3
> 2	32.6±14.8	32.0±12.9

Demographic and clinical data of nurses	Posttraumatic stress disorder score (Frequency)	Posttraumatic stress disorder score (Severity)
	Mean ±SD	Mean ±SD
T-Test	0.078, P=0.937	0.337, P=0.736
Department		
Inpatient	29.6±7.1	30.9±14.7
Outpatient	12.9±6.1	15.2±7.1
Isolation	45.3±17.0	42.4±21.6
Chest disease	47.7±15.5	44.2±21.9
ICU units	42.9±13.0	41.4±20.2
Medical and surgical	22.3±8.0	22.5±7.4
Paediatric centre	13.2±6.0	13.0±5.0
OB/GYN	24.4±11.5	23.5±11.6
Operation	14.3±6.5	14.9±7.1
ANOVA Test	F=39.678, P<0.001**	F=17.536, P<0.001**

*Significant (P<0.05); ** highly Significant (P<0.001)

Table (4): Relation between Kessler Psychological Distress level and posttraumatic stress disorder frequency and severity mean score.

Kessler Psychological distress level	Posttraumatic stress disorder score (Frequency)								Posttraumatic stress disorder score (Severity)							
	None (n=82)		Mild PTSD (n=2)		Moderate PTSD (n=51)		Severe PTSD (n=129)		None (n=75)		Mild PTSD (n=4)		Moderate PTSD (n=54)		Severe PTSD (n=131)	
	n	%	n	%	N	%	n	%	n	%	n	%	n	%	n	%
None	0	0.0	2	100.0	1	2.0	20	15.5	0	0.0	2	50.0	1	1.9	20	15.3
Mild Disorder	32	39.0	0	0.0	2	3.9	16	12.4	31	41.3	0	0.0	3	5.6	16	12.2
Moderate Disorder	5	6.1	0	0.0	7	13.7	23	17.8	4	5.3	1	25.0	7	13.0	23	17.6
Severe Disorder	45	54.9	0	0.0	41	80.4	70	54.3	40	53.3	1	25.0	43	79.6	72	55.0
Chi-Square	X ² =73.932				P<0.001				X ² =63.831				P<0.001			

*Significant (P<0.05); ** highly Significant (P<0.001)

Figure (1): Number and percentage distribution of the Kessler Psychological Distress level among the studied nurses.

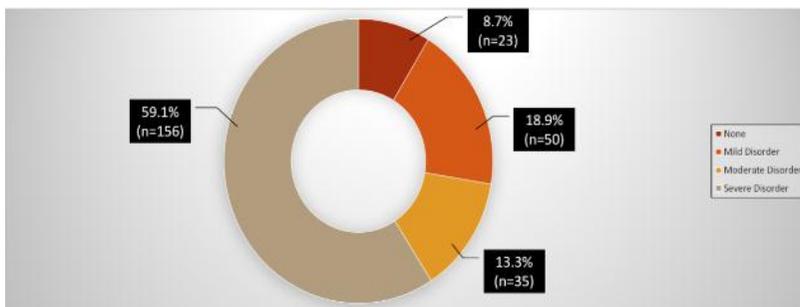


Figure (2): Frequency and percentage distribution of posttraumatic stress disorder frequency level among the studied nurses.

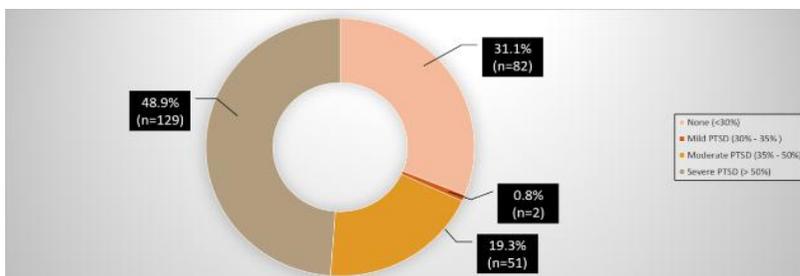
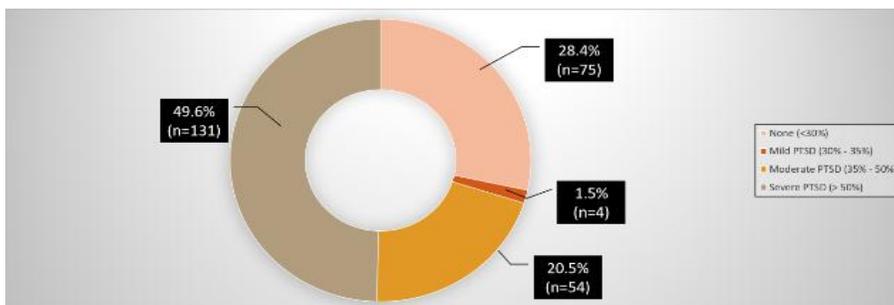


Figure (3): Frequency and percentage distribution of posttraumatic stress disorder severity level among the studied nurses.



Discussion

It is critical for nurses to maintain their psychological and mental wellbeing in order to effectively play their role during this epidemic; nevertheless, research indicated that the introduction of COVID-19 had a substantial impact on nurses' psychological. Moreover, (PTSD) is a common psychological response to a traumatic incident. Thus, this study aimed to estimate the prevalence of psychological distress and post-traumatic stress disorder among nurses caring for COVID-19 patients at Mansoura University.

In this current study findings, the participants were mostly females, had a bachelor's degree, and were under the age of 30 with experience less than 10 years. Also, the study result revealed that more than half of nurses were experiencing severe psychological distress. This in line with Hamed et al. (2020) study, who found that nurses are more likely than the general population to experience mental symptoms, with 79 percent reporting depression and 64.6 percent expressing anxiety. Khalaf, Khalil, and Abd elmaksoud (2020) found that most physicians experienced severe or extremely severe depression, while 77.6% had extremely severe anxiety in a convenient sample of Egyptian physicians. In contrast, El-Abasiri et al. (2020) reported that 51.9 percent of HCWs suffered mild to moderate psychological distress throughout the COVID-19 pandemic's early phases and before its peak, from May 1 to May 20, 2020. These findings could be explained by the fact that most of the nurses in this study were female, young, and lacked experience. Furthermore, they may be distressed as a result of a lack of enough protective equipment or training, a staff shortage,

lengthy work hours, and a worry of becoming ill or passing infection to their families.

According to the present study findings, perceived stress and PTSD had a strong link, more than two thirds of the participant nurses had PTSD, with half of them were having severe PTSD. According to Lai et al., (2020), reported that 71.5 percent of the 1257 hospital physicians and nurses who worked with COVID-19 patients experienced mild to severe PTSS. In addition, frontline HCWs in Wuhan, Hubei, had higher levels of anxiety, depression, and PTSS than second line HCWs (China). Hamed et al. (2020) discovered that 19.9% of 181 nurses had PTSD, and they confirmed that nurses with PTSD also experienced positive burnout syndrome. Several studies have shown an increased risk of developing trauma or stress-related disorders, depression, and anxiety in HCWs. Fear of the unknown or becoming infected were among the most difficult mental obstacles to overcome. Being a nurse plus being a woman appeared to put you at a higher risk (Cabarkapa et al. 2020).

Our findings indicated that there was no significant relation between demographic characteristics and psychological distress level among the studied nurses. This could be explained by the fact that most of the nurses in the study experienced psychological distress at various levels, which could be attributed to a lack of social support and being separated from her family for 14 days. This finding is contradicted with **Rodríguez et al. (2020)** were stated that during the COVID-19 crisis, a number of socio-demographic characteristics, including gender, age, educational attainment, and employment status, appeared to be variably associated with levels of experienced stress and they also confirmed that people under 40, particularly those

under 25, women, and those on low incomes, reported higher rates of confinement stress. People's stress responses were also influenced by where they lived and what they did for a living during their confinement, though to a lesser extent.

Our data revealed that, except for marital status and the number of COVID 19 infections, there was a strong relation between demographic factors and PTSD severity and frequency mean score. These findings are consistent with those of Cabarkapa et al. (2020), who found that gender is a key determinant in COVID 19 unfavourable consequences. Males had a higher prevalence of PTSD. Flesia et al. (2020) reported that Women, individuals with lower incomes, and people living with others were experienced higher levels of distress.

Conclusions

Most of the studied nurses had psychological distress with more half of them experiencing severe distress and more than two third had posttraumatic stress disorder with less than half of them had severe level

Recommendations

Health Care Workers should have easy access to psychiatric care, as promoting their mental health is just as vital as fighting the pandemic. To provide early and appropriate interventions, comprehensive surveys of the psychological impact of the COVID-19 pandemic on HCWs of various levels and positions are required and the findings of this study might be integrated with those of future studies to compare PTSD prevalence through time.

A broad survey is recommended to acquire a thorough picture of the nurses' mental health amid the recent pandemic to generalize the study result.

Limitations

The research was carried out at a single hospital; therefore, its generalizability is always questioned. The sample size was small, and the large number was female with young age.

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