

Influence of COVID-19 on the Mental Health of Nurses dealing with COVID-19 Patients (A Study on Nurses within Karachi)

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ABSTRACT

Background: Globally Corona virus (COVID-19) has become a huge challenge for all of the population. In South Asia, country Pakistan city Karachi the 1st case of this breakdown was identified on 26th February 2020 (Waris et al., 2020). This disease has developed psychological distress among all the population. COVID virus is one of the leading threats to all the healthcare organizations and due to increase rate of patients day by day, it has given enormous burden to all healthcare workers especially nurses the front line fighters who are always ready to give care towards the patient whom they encountered so it's very crucial part to assess the impact of COVID -19 on the mental health of the nurses.

Objective: The objective of the study is to identify the frequency level of stress, anxiety and depression among nurses while dealing with those patients who were admitted in various hospitals in Karachi for treatment of COVID-19.

Method: A cross-sectional study was conducted from 20th November to 31st December 2020 from different hospitals in Karachi, Pakistan. Those Registered nurses who were assigned in isolation ward of Covid-19 were the part of the study. For data collection survey form was designed based on Depression Anxiety Stress scale (DASS-21) scale (Lovibond & Lovibond 1995).

Results: The total mean score of depression among nurses was 50 (68%), Anxiety was 32 (43%) and stress was 34 (46%). 50 nurses suffered from moderate depression, 24 nurses reported from extremely severe anxiety and 50 nurses suffered from moderate stress level. From 74 participants 41(55.4%) were females and 33 (44.6%) were males. Furthermore, it shows that 25 (76%) males and 25 (61%) females suffered from moderate depression, 32 nurses 14 (42%) male and 18(43.90%) females reported from extremely severe anxiety.

Conclusion: This pandemic is highly complex, contagious and vulnerable. The study results portrait that nurses working with COVID-19 patients have affected a lot of various psychological distress such as anxiety, stress, and depression. It is very vital for higher management to take major steps and take preventive intervention which would be beneficial towards their mental health in decreasing negative psychological outcomes, because they all are working under pressure environment.

Key Words: Stress, Anxiety, Depression, Pandemic, Registered Nurse

INTRODUCTION

Background: We are living in the highly advanced technological world of 21st century; however we are still too behind fighting a pandemic disease i.e. novel Corona virus COVID-19. Although it's a challenging disease not only for Pakistan but, all around the world healthcare system (1). COVID-19 Pandemic originated from Wuhan the China City, in December 2019. Later on this virus captured other countries like China, Spain, Italy, France, UK, USA and Pakistan etc. In South Asia country Pakistan the 1st case of this breakdown was identified on 26th February 2020 (2). The World Health Organization (WHO) has declared that COVID-19 as a Pandemic on March 11, 2020 due to speedily spread of the virus all over the world. The Government announced lock down intervention in areas so that minimum public interaction occurs and also decline the transmission of disease from one person to another, so that prevalence of new cases will be minimized by maintaining social distancing (3).

As, due to pandemic it gives burden to all healthcare workers especially nurses the front line fighters who are

always ready to give care to patient which they encountered. Due to this pandemic the place of work affects them a lot. The nurses unluckily left exposed by putting their lives at risk in the course of their responsibilities (4). At first, nurses face challenges due to ambiguity, stress and negative image (5). Their mental health impaired due to assigning additional responsibilities by allotting more patients as well as increase long working hours (6). Inadequate provision of personal protection equipment (PPE) which is essential to keep them safe from the infected patients as well as from

Virus (7). This creates nurses face lesions, distress and breathing issues. There is also a threat of transmitting the disease to their family, friends and relatives (7). This anxiety leads to social distance, distress, decrease in participating with family members, and also detach themselves from their regular schedules of their home due to keep everyone limited contacted from her (8).

There is no doubt that all above challenges effects on the mental health of nurses. Previous studies also revealed that in past other breakdown like severe acute respiratory

syndrome (SARS), Middle East respiratory symptom (MERS) diseases has also impact a lot on the mental health of nurses i.e. stress, anxiety, depression. The experiences which they undergone while giving care towards these infected patients leftover in their mind this create the nurses mental status impaired, due to this depression, anxiety, stress and post-traumatic stress disorder (PTSD) among nurses identified (9).

Hence, the study explore that the nurses who are having threats and fears are more vulnerable to suffer from anxiety, depression and stress in this pandemic. On their need basis help must be provided in order to identify the causes which are responsible for their stress. Therefore, healthy work place is important for the nurses to provide support in order to improve their mental wellbeing within COVID-19 pandemic.

Methodology

A cross-sectional study was conducted from 20th November to 31st December 2020 from different hospitals in Karachi, Pakistan. Total 74 Registered nurses participate in this study. All the nurses who were assigned in caring of Covid-19 patients were the part of the study. All those nurses who are not encountering these patients are excluded from this study.

For data collection Closed ended questionnaire, Depression, Anxiety and Stress Scale-21 (DASS-21) scale was established. Initially form was prepared on google.com and delivers the questionnaire via What App group. Very few responders' response received through this platform so finally questionnaire form was handed over to different hospital isolation staffs dead line was given and through frequent visits data was collected. This data helps to analyze the level of depression, anxiety and stress in nurses who are dealing with Covid-19 patients.

Statistical Analysis: Descriptive Analysis was carried out to measure socio demographic characteristics as well as to measure normality and reliability. Frequency and percentages have calculated via Depression, Anxiety and Stress Scale-21 (DSSA-21) scale. All statistical analysis was accomplished via Microsoft Excel software. Data will be calculated via SPSS version 20 and the results were presented in the form of charts.

RESULTS

The study emphasizes on the "Impact of COVID-19 on the mental health of nurses while dealing with Covid-19 patients". For this study, 74 nurses participated in the study, from 18th November to 31st December 2020. Over all Reliability Analysis was carried in the Table 4. 1 which portrays over all Cronbach's Alpha values with the number of items 21.

Table 1: Over all Reliability

Cronbach's Alpha	No. of Items
0.866	21

Whereas below Table 4.2 shows that the highest Cronbach's Alpha value is for Depression (α 0.806, Table Mean=1.41, SD=.440) and the lowest for Stress (α 0.603, Mean=1.53, SD=.375). Since all the Cronbach's Alpha values are greater than 0.60, therefore, it can be safely

assumed that the constructs have adequate internal consistency (Leech, Barrett & Morgan, 2014).

Table 2: Reliability

Cronbach's Alpha		No of items
Stress	0.603	7
Anxiety	0.714	7
Depression	0.806	7

Descriptive Analysis was carried out to measure the univariate normality. The below Table 4.3 results shows that the highest skewness value was for Depression (SK=1.390, Mean = 1.41, SD= .440) and the lowest for Stress (SK= .444, Mean= 1.53, SD= .375). Similarly the highest kurtosis value is for Anxiety and lowest for Stress. Since all the skewness and kurtosis values ranged from between (\pm 3.5) therefore, the constructs fulfill the requirements of univariate normality (Joanes& Gill,1998).

Table 3: Descriptive Analysis

	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic
stress	1.53	.375	.444	-.244
anxiety	1.43	.370	1.253	1.915
depression	1.41	.440	1.390	1.426

Figure 1 represent that 41 were female (55.4%) and 33 were male (44.6%).

Table 4: Gender wise distribution

	Frequency	Percentage
Female	41	55.4
Male	33	44.6
Total	74	100.0

Years of nurses working experience ranging from 1 to 20 years. 31 Registered nurses have worked between 1-4 hours, 30 Registered nurses have worked between 5 to 8 years and 7 Registered nurses has worked between 9 to 12 years. (Table 6)

25-29 age group the study shows 35 RNs are working whereas, 30 -34 age group the study shows 27 Register nurses are working. (Table 7)

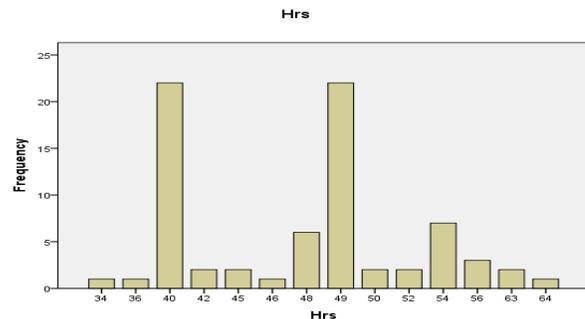


Figure 1: Illustrated that the working hours of the registered nurses minimum 40-49 hours 22 nurses are working.

The below tables 8 and 9 total mean score of depression among nurses was 50 (68%), Anxiety was 32 (43%) and stress was 34 (46%). 50 nurses suffered from moderate depression, 24 nurses reported from extremely

severe anxiety and 50 nurses suffered from moderate stress level From 74 participants 41(55.4%) were females and 33 (44.6%) were males. Furthermore, it shows that 25 (76%) males and 25 (61%) females suffered from moderate depression, 32 nurses 14 (42%) male and 18(43.90%) females who reported from extremely severe anxiety and 34 nurses 19 (58%) males and 15(37%) females suffered from moderate stress level.

Table 6: working experience

	Frequency	Percentage
Between 1 to 4 years	31	41.9
Between 5 to 8 years	30	40.5

Table 7: Age wise distribution

	Frequency	Percentage
Between 9 to 12 years	7	9.5
Between 13 to 16 years	3	4.1
More than 20 years	3	4.1
Total	74	100.0

	Frequency	Percentage
20-24	5	6.8
25-29	35	47.3
30-34	27	36.5
35-39	3	4.1
40-44	2	2.7
45-49	1	1.4
50 or above	1	1.4
Total	74	100.0

Table 8: Depression, anxiety, and stress among male and females

DASS-21	Depression				Anxiety				Stress			
	Male	%	Female	%	Male	%	Female	%	Male	%	Female	%
Sample =n	33		41		33		41		33		41	
Normal	0	0%	0	0%	0	0%	0	0.00	2	6%	10	24%
Mild	0	0%	0	0%	0	0%	0	0.00	5	15%	5	12%
Moderate	25	76%	25	61%	8	24%	10	24.39	19	58%	15	37%
Severe	6	18%	11	27%	11	33%	13	31.71	6	18%	11	27%
Extremely Severe	2	6%	5	12%	14	42%	18	43.90	1	3%	0	0%

Table 9: Overall DASS-21 among all the participants

DASS-21	Depression		Anxiety		Stress	
		%		%		%
	74		74		74	
Normal	0	0%	0	0%	12	16%
Mild	0	0%	0	0%	10	14%
Moderate	50	68%	18	24%	34	46%
Severe	17	23%	24	32%	17	23%
Extremely Severe	07	9%	32	43%	01	1%

DISCUSSION

The emotional response of front line nurses to an epidemic could be dependent on many factors which may cause anxiety and stress such as feeling exposed to infection, lack of control over the situation, the spread of the virus, health of their family, and being isolated (10). Other factors may also contribute to stress and anxiety among front line nurses such as shortage of PPEs, medicines, etc. and an increasing number of actual and suspected cases (11). These factors may contribute to various levels and severity of psychological pressure, which may lead to a feeling of

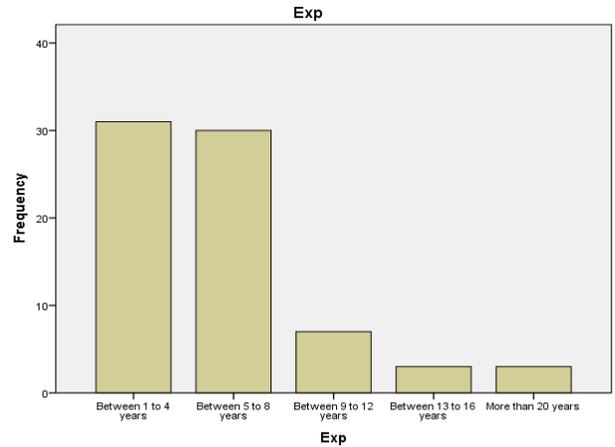


Figure 2: Marital Status

The marital status of the participants is portrayed in figure 4.9 which shows that 44 (59.5%) were married whereas 30 (40.4%) were unmarried.

	Frequency	Percentage
Married	44	59.5
Un-married	30	40.5
Total	74	100.0

loneliness and helplessness and may result in stress, anxiety, and depression (8).

The present study was conducted using DASS-21 scale to measure the intensity of depression, anxiety and stress on mental health of nurses working during COVID 19. This scale has been widely used by the researchers to find the level of depression, anxiety and stress among medical professionals. Present study contributed to growing literature regarding the impact of the Covid-19 lockdown on mental health of front line nurses working in hospitals of Karachi. In the present study, both genders were enrolled (n=74) including male and females.

Front-line nurses working in the metropolitan city Karachi reported moderate levels of depression and stress whereas the level of anxiety was found extremely severe during the COVID-19 pandemic. Moreover, the rate of depression and stress was observed high in male than female. On the contrary the level of anxiety was higher in females than male in COVID-19.

The level of depression and stress of front-line nurses in the current study was moderate. This finding is in accordance with international studies that identified nurses

working in hospitals as having moderate levels of to develop stress, anxiety, helplessness (12). Studies also shown that the previous disease break down such as (SARS) which looks like the epidemic virus have given a heavy emotional burden among nurses such as depression, stress and anxiety (13). Front line nurses endure issues due to any natural disaster occur. When nurses experienced a high level of work stress at their work place they have the feeling of illness, headache, nausea, insomnia and depression (14). Recently, study reported that the prevalence of highest anxiety experience among nurses is (91.3%)(15). The major cause of anxiety in nurses found during outbreak was having fear of being infected themselves as well as transmitting the infection to others. (16). Our study findings are similar to the previous studies which found that nurses not only face stress but also anxiety and major depression (17). As per (Ahorsu et al. 2020) emphasis that susceptibility to this outbreak creates stress and fear among nurses that probably affect their working environment and their mental health [18].

The results of this study identified that majority of the front line nurses are the victims of mental health illness caused by the COVID-19 pandemic. It can be also seen that many of the factors due to which front line workers suffer from these symptoms can be potentially modified, for example, such as availability of equipment's, PPEs to all nurses, encouraging to participate in awareness programs about COVID-19, and building better infrastructure to encourage flexible work hours can all be carried out by the policy makers and thus have a positive impact on the mental health of front line workers.

Limitations: There is a limited time constraints for collecting the data. The sample size was limited as the study only includes registered nurses who are involve in providing care to COVID-19 patients. It was very challenging to collect the data due to nature of the job nurses were reluctant to pass on the information due to hospital policy. The data can be generalized in the similar healthcare setting. If it had been compared to more hospitals, it could have given a more generalized result.

Strength of Study: This study focused on subject which was previously not touched upon extensively where very limited resource, data, literature was available. Through this study we have identified that at what level the frequency and percentages of depression, anxiety and stress are present among nurses who are dealing with Covid-19 patients.

Weakness of the study: This study is done over a month time period from 20th November to 31st December 2020. This study only considered registered nurses who are involved in providing care to COVID-19 patients. All other nurses who were not in direct contact with these COVID-19 patients were not the part of the study.

CONCLUSION

This pandemic is highly complex, contagious and vulnerable. The study results portrait that nurses working with Covid-19 patients have affected a lots of various psychological distress such as anxiety, stress, and depression. It is very crucial for higher management to take major steps and also take preventive intervention which would be beneficial towards their mental health in

decreasing negative psychological outcomes, because they all are working under pressure environment.

Recommendation: The findings of the present study exhibited that the nurses who are working in isolation wards of COVID-19 in different Karachi hospitals have high level of psychological distress i.e. Depression, anxiety and stress. The hospital management has to take strategies within their healthcare set up. They have to formulate Standardized organization policies (SOPs). Moreover, check and balance also done on daily basis to observe the nurses whether they are following the SOPs. Provided adequate accessories for nurses related to personal protective Equipment (PPE). Awareness, training sessions and workshops should be arranged more and more for these staff in order to learn how to release stress, anxiety and depression, give flexible time for their relaxation, hiring nursing staff for isolation ward dealing with Covid-19 patients, counseling sessions should be held for the staffs, they should be tested for corona-19 on hospital policy. Monetary allowance (rewards) should be given to these staffs it will enhance their motivation. Due to these strategies and implementation staff mental health turns into wellbeing and they will be more initiative in tackling such situation.

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