

Level of Fear, Depression, And Coping Strategies Among Frontline Healthcare Workers in Two Covid-19 Isolation Centers, Lagos - State, Nigeria

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Abstract:

Fear and depression are some of the psychological problems experienced by frontline healthcare workers caring for COVID-19 patients in isolation centres. The objective of this study was to study the level of fear, depression, and coping strategies among frontline healthcare workers in two COVID-19 isolation centres. The study implemented a cross sectional descriptive research design. One hundred and eighty-one frontline health care workers were selected in two COVID-19 isolation centres with convenience sampling technique. A validated questionnaire with Cronbach's alpha internal consistency of 0.65 to 0.89 was used for data collection. Questionnaire was sent online to respondent through Whatsapp group platform to the two COVID-19 isolation centres. Data collected was analysed using descriptive and inferential statistics. Statistical test was set at 5% level of significance. The result showed that fifty-seven (31.5%) agreed that COVID-19 is a new disease and not much is known about it and because of this, they were afraid. Sixty-nine (38.1%) agreed that despite all the precautionary measures they were still afraid of being infected. Sixty-four (35.4%) strongly agreed that they were afraid because there are a lot of people dying of COVID-19 especially

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healthcare workers. This result shows that the level of fear among frontline healthcare workers caring for patients with COVID-19 is high. Also, the result shows that the level of depression among frontline healthcare workers caring for patients with COVID-19 is low. In conclusion it is obvious that frontline healthcare workers were afraid of COVID-19 and because of this few of the frontline healthcare workers were depressed which is a cause for concern. It is therefore recommended that psychological support for healthcare workers should be available whenever a pandemic arises.

Keywords: Covid-19, Depression, Fear, Frontline Healthcare Workers,



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Introduction

Corona virus disease 2019 (COVID-19) is a severe acute respiratory syndrome that has become a global pandemic. It began in December, 2019 in Wuhan, China and it has already spread all over the world. Now the globe has found itself in a novel area that it has not seen in several decades. This has affected individuals, families, society and the world at large. It has affected both low and high income countries and this has made governments of various countries to pronounce lock downs and other precautions which have influenced the nation's economy. As a result of the lockdown, residents were unable to go out to work; finance was limited, affecting food supply and other life support commodities. Many governments had to institute measures to help the populace to curb hunger and other challenges (Ornell, et al, 2020; Pan, et al., 2020).

One serious consequence of COVID-19 is the establishment of quarantine and isolation centres. In order to limit the spread of the virus, government created these isolation centres for the people infected with the virus. These centres are manned by medical doctors, nurses, and hygienists. There is need for these healthcare personnel's in this isolation centres to care and manage patients suspected or diagnosed to have COVID-19. The healthcare workers recognized that for them to manage COVID-19 patients, they might get infected with the virus which might also lead to their own deaths. However, because they have selected this profession, they gladly accept to care for these COVID-19 patients. These healthcare workers who have found themselves in the frontline of caring for individuals diagnosed with COVID-19 will experience some psychological issues. The researcher therefore is interested in the psychological problems that might affect them while caring for individuals admitted to these isolation centres. Some of these psychological problems that they may encounter are fear and anxiety. They may become fearful about them or their family members been infected (Shyrock, 2020).

It has been well-founded that the statistics of confirmed cases and mortalities can lead health care workers and general populace to experience psychological problems, including fear, anxiety, depression and stress (Kang, et al, 2020). Studies also revealed that frontline healthcare workers present lower vicarious traumatization scores than non-frontline healthcare workers and even the general public. This might possibly be due to less intensive training on the use of personal protective equipment (PPE) and infection control measures, their reduced access to formal psychological support, less first-hand medical information on the outbreak. However, a survey of 500 health care workers in China showed that 6.6% screened positive for stress 14.5% for anxiety, 8.9% for depression, and 7.7% for clinical posttraumatic stress disorder (Tan, et al. 2020).

The researcher observed that during the pandemic, frontline healthcare workers were exposed to Covid-19, the consequence of Covid-19 on healthcare workers can lead to depression, fear, anxiety, and they could be stigmatized by their co-workers. Also during this pandemic, there was shortage of Personal Protective Equipment (PPE). The state government mandated frontline health workers to use one N95 mask for 2-3weeks, which could lead to fear and anxiety among frontline healthcare. These frontline healthcare workers are unable to have access to their families; and this could result in social isolation, depression, anxiety, stress, and concerns about their families.



Responding to COVID-19 pandemic in a country with a population estimated to be about 200 million people with a healthcare system that is overstretched from staff to equipment poses a serious challenge to the wellbeing of healthcare workers. For instance, in less than a month, Nigerian doctors went on strike twice due to lack of protective equipment and poor welfare. The doctors, represented by the Nigerian Medical Association (NMA), went on strike on May 20th and 15th of June, 2020. The medical professional body instructed its members to stay away from work because it had become unsafe for them to continue to provide health care services. As at 4th of September, 2020, the body threatened to begin another nationwide strike starting from September 7, 2020 because the 21-day ultimatum given to the Federal Government expired on August 17, 2020 (Aljazeera News, 2020). As part of its demands, the doctors asked the Federal government to provide adequate personal protective equipment (PPE) such as N95 respirators, gloves, gowns etc. to all healthcare workers, as well as payments of outstanding COVID-19 related allowances they were promised three months before the first case of COVID-19 was reported in Nigeria. It also called for the payment of arrears owed to its members at both federal and state tertiary health institutions in line with Nigeria's new minimum wage.

Similarly, the Joint Health Sector Union (JOHESU) which consists of five registered healthcare professional unions such as the National Association of Nigerian Nurses and Midwives (NANNM), and the Nigeria Union of Allied Health Professionals (NUAHP) on September, 13, 2020, embarked on a nationwide seven-day warning strike as the government failed to meet its demands, which included payment of COVID-19 hazard allowance, failure of the government to address the inadequate infrastructure in the healthcare sector and discrimination of the body in the payment of allowances (Premium Times, 2020).

As pressure increased on health facilities, so did the risk of infection of COVID-19 among healthcare workers resulting in long working hours, reduced rest period and increased workloads. Furthermore, the fears of contacting the virus and passing it to family members coupled with the loss of colleagues have the potential to affect the mental wellbeing of these frontline healthcare workers. It is on the basis of the foregoing that the researcher became interested in looking at the level of fear, depression, and coping strategies among frontline healthcare workers in two COVID-19 isolation centres, Lagos - State, Nigeria.

The main objective was to examine the level of fear, depression, and coping strategies among frontline healthcare workers in two COVID-19 isolation centres, Lagos State, Nigeria. This study specifically:

1. investigated the level of fear among frontline healthcare workers caring for patients with COVID-19;
2. examined the level of depression among frontline healthcare workers caring for patients with COVID-19; and
3. identified the coping strategies used by the frontline healthcare workers caring for patients with COVID-19.

Research Questions

The following research questions were raised for this study:

1. What was the level of fear among frontline healthcare workers caring for patients with COVID-19?



2. What was the level of depression among frontline healthcare workers caring for patients with COVID-19?
3. What were the coping strategies used by frontline healthcare workers caring for patients with COVID-19?

Research Hypothesis

This hypothesis was postulated for this study:

1. There is no significant association between level of fear and that of depression among frontline healthcare workers caring for patients with COVID-19

Methodology

The design for the study is quantitative using a cross sectional descriptive research method. The settings used for this study was Gbagada General Hospital Isolation Center and Mainland Hospital, Yaba. The Population for the study were frontline healthcare workers in two COVID-19 isolation centers in Lagos state (Gbagada General Hospital Isolation center and Mainland Hospital Yaba). The frontline healthcare workers are Medical Doctors, Nurses, and Hygienists. The total frontline healthcare workers in Gbagada General Hospital Isolation center were 90 while in Mainland Hospital Yaba, were 150. The total population was 240 frontline healthcare workers in the study. The total sample size was 181 frontline healthcare workers in the two selected isolation centers in Lagos State. Convenient sampling technique was used.

A self-structured questionnaire was used for data collection. The instrument was given to experts in the field of Nursing Science for face and content validity to critically assess the relevance of the content, clarity of statement and logical accuracy of the instrument. Corrections made were effected and used to modify the final instrument before data collection. The reliability of the instrument was determined by carrying out a pilot test on 24 frontline healthcare workers (10% of the sample size) in Armoured shield Isolation Centre, Victoria Island Lagos. The questionnaire was coded and analysed using Cronbach's Alpha with the aid of Statistical Package for Social Sciences (SPSS) version 20. The result showing equal or greater than 0.60 is said to be reliable. Cronbach's alpha score were generated for individual construct (socio-demographic characteristics = 0.655, fear = 0.895, depression state = 0.855, coping mechanisms = 0.815).

After obtaining ethical clearance, online link for the questionnaire was sent to the head of admin of the Whatsapp groups of each institution, Mainland hospital (150) and Gbagada Isolation center (90) respondents. The head of admin of each institution sent the online link to the Whatsapp groups. On clicking the link, participants were auto directed to the questionnaire. The first information was on respondents consent to answer the questionnaire. The respondents were informed that they were free to opt out of the survey at any time they wanted. Data collected were entered into the computer and subjected to descriptive and inferential statistical analysis at $p < 0.05$. The information obtained were summarized and presented in a table. Descriptive statistics such as mean and standard deviation were used to generate summaries and inferential statistics (t-test) was used to validate the hypothesis.



Results

Research Question 1: What was the level of fear among frontline healthcare workers caring for patients with COVID-19?

Table 1a: Measure of fear

S/N	STATEMENTS	SA %	A %	N %	D %	SD %	Mean	SD.
1.	COVID-19 is a new disease and not much is known about it and because of this, I am afraid.	50 27.6	57 31.5	8 4.4	44 24.3	22 12.2	2.62	1.419
2.	Despite all the precautionary measures I am still afraid of being infected.	51 28.2	69 38.1	24 13.3	21 11.6	16 8.8	2.35	1.250
3.	I am afraid because COVID-19 has no cure	45 24.9	44 24.3	7 3.9	53 29.3	32 17.7	2.91	1.497
4.	I am afraid because there are a lot of people dying of COVID-19 especially healthcare workers.	64 35.4	61 33.7	8 4.4	36 19.9	12 6.6	2.29	1.310
5.	When watching news and stories about COVID-19, I become afraid.	49 27.1	56 30.9	29 16.0	31 17.1	16 8.8	2.50	1.294
6.	COVID-19 has caused fear in the society.	95 52.5	77 42.5	4 2.2	1 0.6	4 2.2	1.57	0.768
7.	The negative impact of COVID-19 on the current economy makes me afraid.	72 39.8	56 30.9	28 15.5	16 8.8	9 5.0	2.08	1.164

Source: Online Survey, 2021.

Table 1b: level of fear among frontline healthcare workers caring for patients with COVID-19

level of fear	Category of scores	Control	
		F	%
Below average	1-9	28	15.5
Average	10-18	42	23.2
Above average	19-28	111	61.3
Total		181	100.0
Mean ± SD (%)		21.3 ± 5.59 (76.1%)	
Maximum score		28	
Minimum score		10	

Table 1b shows the level of fear among frontline healthcare workers caring for patients with COVID-19. One hundred and eleven (61.3%) participants had above average score, 42 (23.2%) and 28 (15.5%) had scores at average and below average respectively. The level of fear among frontline healthcare workers caring for patients with COVID-19 has a weighted mean score of 21.3±5.59 (76.1%). This result shows that the level of fear among frontline healthcare workers caring for patients with COVID-19 is high.



Research Question 2: What was the level of depression among frontline healthcare workers caring for patients with COVID-19?

Table 2a: Measure of depression

S/N	STATEMENTS	SA %	A %	N %	D %	SD %	Mean	SD.
1.	You are feeling down or hopeless	16 8.8	22 12.2	40 22.1	88 48.6	15 8.3	3.35	1.084
2.	You have lost interest in all things that were important to you once upon a time	4 2.2	35 19.3	26 14.4	93 51.4	23 12.7	3.53	1.014
3.	You have been feeling guilty for everything you do	3 1.7	8 4.4	17 9.4	106 58.6	47 26.0	4.03	0.826
4.	You have been feeling very fatigued	27 14.9	62 34.3	9 5.0	55 30.4	28 15.5	2.97	1.368
5.	You are having lack of sleep	15 8.3	49 27.1	14 7.7	67 37.0	36 19.9	3.33	1.291
6.	You have lost or gained weight without any diet program	2 1.1	64 35.4	25 13.8	69 38.1	21 11.6	3.24	1.092
7.	You are having loss of appetite	7 3.9	18 9.9	15 8.3	107 59.1	34 18.8	3.79	0.989
8.	You are having trouble in all your relationships (home as well as professional)	8 4.4	19 10.5	23 12.7	88 48.6	43 23.8	3.77	1.065

Source: Online Survey, 2021

Table 2b: the level of depression among frontline healthcare workers caring for patients with COVID-19

Level of depression	Category of scores	Control	
		F	%
Low	1-11	106	58.6
Mild	12-22	58	32.0
Severe	23-32	17	9.4
Total		181	100.0
Mean \pm SD (%)		12.9 \pm 3.82 (40.3%)	
Maximum score		23	
Minimum score		10	

Table 2b shows the level of depression among frontline healthcare workers caring for patients with COVID-19. One hundred and six (58.6%) participants had low score, 58 (32.0%) and 17 (9.4%) had mild and severe scores respectively. The level of depression among frontline healthcare workers caring for patients with COVID-19 has a weighted mean score of 12.9 \pm 3.82 (40.3%). This result shows that the level of depression among frontline healthcare workers caring for patients with COVID-19 is low.

Research Question 3: What were the coping strategies used by frontline healthcare workers caring for patients with COVID-19?

Table 3: How were you coping with your assignment?

S/N	STATEMENTS	SA %	A %	N %	D %	SD %	Mean %	SD %
1.	Adhering to infection control procedures on COVID-19	110 60.8	64 35.4	7 3.9	0 0.0	0 0.0	1.43	0.570
2.	Staying informed about COVID-19	100 55.2	67 37.0	14 7.7	0 0.0	0 0.0	1.52	0.637
3.	Just accepting the risks of COVID-19	32 17.7	77 42.5	25 13.8	43 23.8	4 2.2	2.50	1.104
4.	Keeping a positive mindset about COVID-19	87 48.1	78 43.1	12 6.6	4 2.2	0 0.0	1.63	0.708
5.	Use of adequate Personal Protective Equipment	115 63.5	55 30.4	5 2.8	6 3.3	0 0.0	1.46	0.711
6.	My belief in God helps me cope with COVID-19	102 56.4	53 29.3	18 9.9	8 4.4	0 0.0	1.62	0.838
7.	Support from family and friends helps me cope with COVID-19	68 37.6	65 35.9	43 23.8	1 0.6	4 2.2	1.94	0.914
8.	Support from members of same faith helps me cope with COVID-19	65 35.9	78 43.1	27 14.9	7 3.9	4 2.2	1.93	0.929

Source: Online Survey, 2021

Test of Hypothesis

Hypothesis 1: There is no significant association between level of fear and that of depression among frontline healthcare workers caring for patients with COVID-19

Table 4.5 Paired Samples Test between level of fear and depression

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Level of Fear- Level of depression	- 15.365	6.766	.503	-16.357	-14.372	- 30.552	180	0.000

Discussion

Research question 1: *What was the level of fear among frontline healthcare workers caring for patients with COVID-19?*

It was revealed in the study that 57 (31.5%) of the respondents agreed that COVID-19 is a new disease and not much is known about it and because of this, they were afraid. The finding shows that 69 (38.1%) of the respondents agreed that despite all the precautionary measures they were still afraid of being infected. Similar to a study Liu, et al (2020) that despite the fear of getting infected, health care professionals still took up their charge, focused on their duties, and showed a spirit of dedication and unity during the current pandemic. The finding also shows that 53 (29.3%) of the respondents disagreed that they are afraid because COVID-19 has no cure. The study shows that 64 (35.4%) of the respondents strongly agreed that they are afraid because there are a lot of people dying of COVID-19 especially healthcare workers. This was similar to the study by Lai et al., (2020), Chen et al (2020) and Lasalvi et al (2021) that during the current crisis, thousands of healthcare workers were infected or died in China, Spain, Italy, France, Turkey, and other parts of the world.

The study also shows that 56 (30.9%) of the respondents agreed that when watching news and stories about COVID-19, they became afraid. Result shows that 95 (52.5%) of the respondents strongly agreed that COVID-19 has caused fear in the society. A study by Huang, et al (2020) showed the high prevalence rate of anxiety, fear, sadness and anger of nurses associated with COVID-19. Most 72 (39.8%) of the respondents strongly agreed that the negative impact of COVID-19 on the current economy makes them afraid. In line with the present study by Linton, et al (2019) regarding the SARS outbreak also revealed that more than 50% of the healthcare workers experienced fear.

Research Question 2: *What was the level of depression among frontline healthcare workers caring for patients with COVID-19?*

The result shows that 88 (48.6%) of the respondents disagreed that they were feeling down or hopeless. The result also shows that 93 (51.4%) of the respondents disagreed that they have lost interest in all things that were important to them once upon a time. The present study shows that 106 (58.6%) of the respondents disagreed that they have been feeling guilty for everything they do. Most 106 (51.4%) of the respondents disagreed that they were very irritated and angry recently. Majority 62 (34.3%) of the respondents agreed that they have been feeling very fatigued. The study shows that 67 (37.0%) of the respondents disagreed that they are having lack of sleep. The study also shows that 69 (38.1%) of the respondents disagreed that they have lost or gained weight without any diet program. This study shows that 107(59.1%) of the respondents disagreed that they are having loss of appetite. This study revealed that 88 (48.6%) of the respondents disagreed that they are having trouble in all their relationships (home as well as professional).

Research question 3: *What were the coping strategies used by frontline healthcare workers caring for patients with COVID-19?*

Evidence shows that 110 (60.8%) of the respondents strongly agreed that they are adhering to infection prevention control procedures on COVID-19. The study revealed that 100 (55.2%) of the respondents strongly agreed that they were staying informed about



COVID-19. The study also revealed that 77 (42.5%) of the respondents agreed that they were just accepting the risks of COVID-19. Most 87 (48.1%) of the respondents strongly agreed that they are keeping a positive mindset about COVID-19. In a study by Khalid (2016) of 117 Healthcare workers found that positive attitudes in the workplace helped them through the epidemic.

The finding revealed that 115 (63.5%) of the respondents strongly agreed that they use adequate Personal Protective Equipment. According to Liu et al., (2020) hospitals should play a role in providing a safe working atmosphere along with the provision of sufficient protective supplies. Also, interpersonal communication hindered by N95 masks and protection suits may induce bad tempers or suppressed emotions. The finding also revealed that 102 (56.4%) of the respondents strongly agreed that their belief in God helped them cope with COVID-19. Majority (37.6%) of the respondents strongly agreed that the support from family and friends helped them cope with COVID-19. The study revealed that 43.1% of the respondents agreed that the support from members of same faith helps them cope with COVID-19.

Hypothesis 1: *There is no significant association between level of fear and depression among frontline healthcare workers caring for patients with COVID-19*

From the results, fear and level of depression were correlated ($r=0.522$, $p>0.000$). There was significant association between fear and level of depression ($t_{180} = -30.552$, $p<0.000$) while on average, fear was 15.4 points lower than the level of depression scores (95% CI (-16.36, 14.37)). Hence, there is significant association between fear and level of depression among frontline healthcare workers caring for patients with COVID-19. This was supported by Yuan, et al (2019) who correlated fear and depression status of medical staff. Also, according to study revealed by Adewole and Ajala (2020) that fear and depression were strongly associated with each other ($r=0.64$).

Conclusion

The study revealed that few of the participants felt down or hopeless, lost interest in all things that were important to them once upon a time, felt guilty for everything they did, felt very fatigued due to lack of sleep, lost or gained weight without any diet program, loss of appetite and had trouble in all their relationships (home as well as professional). Fear and depression are part of the most common hazards faced by frontline healthcare workers caring for patients during pandemics and it should not be neglected, as they are not only affecting their own health but also affects patients care. During COVID-19 outbreak, frontline healthcare workers are likely to develop fatigue, burnout, phobias and many more negative emotions due to the ultimate fear of contagion and uncertainty of spread.

Recommendations

In light of the present findings, recommendations are stated below:

1. To initiate frontline healthcare workers wellness programs to address primary and secondary causes of fear, anxiety, stress, depression and should include counseling and psychological service for frontline healthcare workers.
2. To include stress management training for all frontline healthcare workers on yearly basis.



3. To encourage social support from immediate line managers, supervisors and peers in order to create positive practice environment.
4. On the basis of current findings, the frontline healthcare workers who already have clinical level of fear, depression and psychological distress should be further assessed by using a structured clinical interview to confirm the respective diagnosis and if confirmed should be treated as soon as possible to ensure their mental wellbeing.

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